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01 March 2025
Version 1.29

Title word cross-reference

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[1431, 1557]. **Use** [923, 1634, 2044, 1010, 746, 1619, 995, 764, 404, 246, 1264,
1481, 1103, 661, 1047, 1453, 1418, 577, 834, 1358, 945, 214, 663, 715, 368, 443,
1080, 837, 608, 464, 1272, 727, 722, 773]. **Used** [535, 956]. **Useful** [1654, 109].
Usefulness [1244]. **Useless** [1852]. **Uses** [659, 38, 1981, 532]. **Using**
[2061, 1186, 2017, 1369, 1487, 1712, 1866, 1926, 1280, 385, 1526, 1860, 534,
1366, 460, 557, 56, 383, 1421, 230, 2049, 1322, 1751, 1188, 1279, 742, 57, 1782,
276, 1261, 1249, 1133, 88, 1271, 846, 1985, 1406, 967, 1787, 1775, 492, 382,
1867, 342, 1173, 1124, 413, 546, 1802, 1375, 1226]. **Utilising** [562]. **Utility**
[621, 1665, 712]. **Utilization** [602]. **Utilizing** [1549, 759]. **Utopian** [1220].

V [998, 710]. **Vaccine** [1618]. **Vaccines** [1915, 1883, 1889]. **Vale** [408].
Validated [2059]. **Validation** [1228, 426, 2005]. **Validity** [1494]. **Valleys**
[1427]. **Value**
[1252, 1613, 1909, 1313, 1170, 1794, 787, 1067, 2068, 1497, 836, 1457, 1961, 871].
Value-Free [1067]. **Value-Ladenness** [1170]. **Values** [263, 1170, 414, 478,
517, 1684, 271, 1545, 792, 266, 1530, 2039, 2068, 212, 1527, 1144, 3]. **Vantage**
[579]. **Vantages** [712]. **Variance** [1094]. **Variation** [841, 1198, 1751].
Variety [1515]. **Varying** [226]. **VASS** [258]. **Vasso** [1245]. **Vaughan** [1789].
Vehicle [533, 818, 1697]. **Velocity** [584, 1107]. **Venus** [774]. **Vermeer**
[1566]. **Vernacular** [654]. **Versions** [1907]. **Versuche** [1302]. **Versus**
[1103, 1165, 1352, 1364, 1469, 657]. **Vessel** [900]. **VI** [711]. **via** [1992].
Victorian [880, 973, 680]. **Victorians** [974]. **Videira** [959]. **Videos** [1525].
Vienna [879, 761, 1451, 506]. **View**
[1112, 1286, 2032, 1010, 670, 1064, 603, 420, 444, 1731, 471, 760, 1801].
Viewpoint [1132]. **Views** [1715, 1840, 1078, 1975, 1635, 595, 1881, 1953,
1228, 700, 1143, 1941, 362, 383, 1859, 670, 1631, 1938, 2035, 1506, 1810, 451,
1522, 1027, 1716, 1969, 1563, 1042, 702, 1665, 434, 1285, 1365, 642, 894, 797,
1952, 1459, 1562, 2002, 1976, 1774, 1176, 1569, 1100, 946]. **VII** [712].
Vintiadis [1764]. **Virginia** [1268]. **Virtual** [1005, 83]. **Virtue** [1820, 1994].
Visible [746]. **Vision** [601, 1679, 1549]. **Visions** [1486]. **Visual** [896, 1420].
Visualization [2004]. **Vital** [1324]. **Vitalism** [983]. **Volta** [363]. **Voltage**
[1148, 1341]. **Volume**
[1357, 1320, 217, 446, 503, 502, 1766, 1853, 1984, 1108, 881, 107]. **Vosniadou**
[883]. **Voyage** [1183]. **Vries** [1304]. **Vs** [1498, 947, 1968, 597, 47, 939].
Vygotsky [592, 354].

W [123, 1051]. **Wake** [507]. **Wales** [774]. **Walking** [1185]. **War** [751, 1321].
Warfare [457]. **Warrants** [442]. **Warriors** [457]. **Wars** [1677]. **Was**

[1192, 372]. **Waste** [1963]. **Water** [1072, 865, 675, 572, 1130]. **Watson** [1299]. **Wave** [1913, 1236, 1352, 932, 1135]. **Way** [1803, 767, 321, 737, 1146, 835]. **Ways** [770, 1367, 2012]. **Weber** [1399]. **Wegener** [1431, 1431]. **Weighing** [394]. **Weight** [1455]. **Weinert** [902]. **Well** [296, 1528]. **Wells** [707]. **Werner** [1328]. **Western** [138, 65, 1462]. **Wexler** [1554]. **Whatever** [701]. **Wheel** [1952]. **where** [206, 1083]. **Which** [429, 321, 768]. **While** [1361, 833]. **Whimsical** [1745]. **Whiskers** [288, 289]. **White** [679, 1500]. **Who** [1893, 2056, 1967, 978, 1429, 1744, 1477, 752]. **Whole** [1951]. **Whom** [1050]. **Whose** [785]. **Whys** [1188]. **Wicked** [2061]. **Wigner** [1235]. **Wilhelm** [710]. **Wilkins** [1036, 1327]. **William** [1556, 583, 1556, 774]. **Wilson** [1552]. **Window** [1513]. **Wing** [1796, 1851]. **Winning** [1784]. **wirkenden** [1052]. **Wissenschaftlern** [1052]. **Within** [1709, 1631, 1353, 1942, 458]. **Without** [1089, 485, 293, 677, 1892, 1216]. **Wittgenstein** [17]. **Wittje** [999]. **Women** [1807, 731, 732, 1310, 1381]. **Wonder** [1326]. **Wonderful** [614]. **Wonderfull** [1326]. **word** [2015]. **Work** [206, 1175, 1306, 423, 842, 1251, 276, 671, 1544, 599, 1869, 12, 23, 959]. **Working** [1484, 1252]. **Works** [1244, 1317, 1140]. **Workshop** [1101]. **World** [1299, 585, 311, 482, 1652, 220, 430, 937, 1887, 1356, 784, 506, 2006, 690, 1624, 989]. **World-Conception** [506]. **Worlds** [1461]. **Worldview** [782, 780]. **Worldview-Making** [782]. **Worldviews** [786, 790, 779, 785, 781, 787, 791, 778, 784]. **Worth** [1735, 1345, 1444, 1293, 123, 24]. **Worthy** [795]. **Wrestling** [1085]. **Write** [1154]. **Writing** [1846, 1207, 1279, 856, 1752, 469]. **Writings** [1465]. **Written** [1402, 1408, 1943]. **Wrong** [1307, 1669, 1192]. **Wundt** [710, 1492]. **Wykes** [843].

X [466]. **Xenotransplantation** [834]. **XVII** [624]. **XVIII** [624, 1461].

Year [1698, 1765, 1836, 699, 1681, 695, 722]. **year-olds** [722]. **Years** [2021, 288, 372, 1197, 1343, 1992, 160, 1139]. **Yellow** [1555]. **Yishayahu** [494]. **York** [1556]. **Young** [1195, 1938, 1197, 974, 794, 753].

Z [1159]. **Zealand** [517]. **Zoltán** [165, 242].

References

Matthews:1992: Ea

- [1] Michael R. Matthews. Editorial. *Science & Education (Springer)*, 1(1): 1–9, March 1992. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Matthews:1992: HPS

- [2] Michael R. Matthews. History, philosophy, and science teaching: The

present rapprochement. *Science & Education (Springer)*, 1(1):11–47, March 1992. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Cordero:1992:SOM

- [3] Alberto Cordero. Science, objectivity and moral values. *Science & Education (Springer)*, 1(1):49–70, March 1992. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Schecker:1992:PCM

- [4] Horst P. Schecker. The paradigmatic change in mechanics: Implications of historical processes for physics education. *Science & Education (Springer)*, 1(1):71–76, March 1992. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

deBerg:1992:MSR

- [5] Kevin C. de Berg. Mathematics in science: The role of the history of science in communicating the significance of mathematical formalism in science. *Science & Education (Springer)*, 1(1):77–87, March 1992. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Ernest:1992:NMT

- [6] Paul Ernest. The nature of mathematics: Towards a social constructivist account. *Science & Education (Springer)*, 1(1):89–100, March 1992. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:1992:BNa

- [7] Anonymous. Book notes. *Science & Education (Springer)*, 1(1):101–103, March 1992. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:1992:N

- [8] Anonymous. News. *Science & Education (Springer)*, 1(1):104–106, March 1992. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Davson-Galle:1992:SHS

- [9] Peter Davson-Galle and Professor Martin Eger. Second HPS & science teaching conference. *Science & Education (Springer)*, 1(1):107–108, March 1992. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:1992:Ca

- [10] Anonymous. Contributors. *Science & Education (Springer)*, 1(1):109, March 1992. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:1992:A

- [11] Anonymous. Announcement. *Science & Education (Springer)*, 1(1):110, March 1992. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Hodson:1992:APW

- [12] Derek Hodson. Assessment of practical work. *Science & Education (Springer)*, 1(2):115–144, June 1992. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Hendrick:1992:RHT

- [13] Robert M. Hendrick. The role of history in teaching science — a case study. *Science & Education (Springer)*, 1(2):145–162, June 1992. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Silverman:1992:RQP

- [14] M. P. Silverman. Raising questions: Philosophical significance of controversy in science. *Science & Education (Springer)*, 1(2):163–179, June 1992. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Ohlsson:1992:CST

- [15] Stellan Ohlsson. The cognitive skill of theory articulation: A neglected aspect of science education? *Science & Education (Springer)*, 1(2):181–192, June 1992. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Lühl:1992:TSP

- [16] Jutta Lühl. Teaching of social and philosophical background to atomic theory. *Science & Education (Springer)*, 1(2):193–204, June 1992. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Carmesin:1992:BWR

- [17] Hans-Otto Carmesin. Beyond Wittgenstein's remarks on the foundation of mathematics: Explication of Piaget's suggestion of a biological foundation. *Science & Education (Springer)*, 1(2):205–215, June 1992. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:1992:BNb

- [18] Anonymous. Book notes. *Science & Education (Springer)*, 1(2):217–218, June 1992. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Hawkins:1992:L

- [19] David Hawkins and Tom Russell. Letters. *Science & Education (Springer)*, 1(2):219–220, June 1992. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:1992:Cb

- [20] Anonymous. Contributors. *Science & Education (Springer)*, 1(2):221, June 1992. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Suchting:1992:CD

- [21] W. A. Suchting. Constructivism deconstructed. *Science & Education (Springer)*, 1(3):223–254, September 1992. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). See [33].

Franco:1992:GEH

- [22] Creso Franco and Dominique Colinvaux-De-Dominguez. Genetic epistemology, history of science and science education. *Science & Education (Springer)*, 1(3):255–271, September 1992. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kirschner:1992:EPW

- [23] Paul A. Kirschner. Epistemology, practical work and academic skills in science education. *Science & Education (Springer)*, 1(3):273–299, September 1992. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Machold:1992:PWT

- [24] Dolf K. Machold. Is physics worth teaching? *Science & Education (Springer)*, 1(3):301–311, September 1992. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Hallez:1992:THR

- [25] Maryvonne Hallez. Teaching Huygens in the rue Huygens: Introducing the history of 17th-century mathematics in a junior secondary school. *Science & Education (Springer)*, 1(3):313–328, September 1992. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:1992:BNc

- [26] Anonymous. Book notes. *Science & Education (Springer)*, 1(3):329–330, September 1992. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Aikenhead:1992:L

- [27] Professor Glen Aikenhead, Professor Stephen G. Brush, and Dr R. F. Price. Letters. *Science & Education (Springer)*, 1(3):331–332, September 1992. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:1992:Cc

- [28] Anonymous. Contributors. *Science & Education (Springer)*, 1(3):333, September 1992. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Matthews:1992:Eb

- [29] Michael R. Matthews. Editorial. *Science & Education (Springer)*, 1(4):335–336, December 1992. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Eger:1992:HSE

- [30] Martin Eger. Hermeneutics and science education: An introduction. *Science & Education (Springer)*, 1(4):337–348, December 1992. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kragh:1992:SHH

- [31] Helge Kragh. A sense of history: History of science and the teaching of introductory quantum theory. *Science & Education (Springer)*, 1(4):349–363, December 1992. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Swetz:1992:FSC

- [32] Frank Swetz. Fifteenth and sixteenth century arithmetic texts: What can we learn from them? *Science & Education (Springer)*, 1(4):365–378, December 1992. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

vonGlaserfeld:1992:CRR

- [33] Ernst von Glasersfeld. Constructivism reconstructed: A reply to Suchting. *Science & Education (Springer)*, 1(4):379–384, December 1992. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). See [21, 194, 211].

Scheffler:1992:PC

- [34] Israel Scheffler. Philosophy and the curriculum. *Science & Education (Springer)*, 1(4):385–394, December 1992. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Vicentini:1992:L

- [35] M. Vicentini and Edgar Jenkins. Letters. *Science & Education (Springer)*, 1(4):395–398, December 1992. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:1992:Cd

- [36] Anonymous. Contributors. *Science & Education (Springer)*, 1(4):399–400, December 1992. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Eger:1993:HASa

- [37] Martin Eger. Hermeneutics as an approach to science: Part I. *Science & Education (Springer)*, 2(1):1–29, March 1993. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Jung:1993:UCS

- [38] W. Jung. Uses of cognitive science to science education. *Science & Education (Springer)*, 2(1):31–56, March 1993. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Siegel:1993:NPS

- [39] Harvey Siegel. Naturalized philosophy of science and natural science education. *Science & Education (Springer)*, 2(1):57–68, March 1993. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Thomaidis:1993:ANN

- [40] Yannis Thomaidis. Aspects of negative numbers in the early 17th century. *Science & Education (Springer)*, 2(1):69–86, March 1993. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Ernest:1993:CPL

- [41] Paul Ernest. Constructivism, the psychology of learning, and the nature of mathematics: Some critical issues. *Science & Education (Springer)*, 2(1):87–93, March 1993. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Oldroyd:1993:BR

- [42] David Oldroyd. Book review. *Science & Education (Springer)*, 2(1):95–101, March 1993. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:1993:BNa

- [43] Anonymous. Book notes. *Science & Education (Springer)*, 2(1):103–104, March 1993. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:1993:Na

- [44] Anonymous. News. *Science & Education (Springer)*, 2(1):105–106, March 1993. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Suchting:1993:L

- [45] Dr. W. A. Suchting, Jonathan S. Wolf, Dr. Ana M. Morais, and Dr. Margaret Rutherford. Letters. *Science & Education (Springer)*, 2(1):107–109, March 1993. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Rowell:1993:DBI

- [46] J. A. Rowell. Developmentally-based insights for science teaching. *Science & Education (Springer)*, 2(2):111–136, June 1993. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kitchener:1993:PES

- [47] Richard F. Kitchener. Piaget’s epistemic subject and science education: Epistemological vs. psychological issues. *Science & Education (Springer)*, 2(2):137–148, June 1993. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Buchdahl:1993:SST

- [48] G. Buchdahl. Styles of scientific thinking. *Science & Education (Springer)*, 2(2):149–167, June 1993. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Nielsen:1993:ES

- [49] Henry Nielsen. The endless spiral. *Science & Education (Springer)*, 2(2):169–181, June 1993. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kleiner:1993:FHP

- [50] Israel Kleiner. Functions: Historical and pedagogical aspects. *Science & Education (Springer)*, 2(2):183–209, June 1993. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Lindqvist:1993:RDH

- [51] Svante Lindqvist. Review of the Danish history of technology. *Science & Education (Springer)*, 2(2):211–216, June 1993. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:1993:BNb

- [52] Anonymous. Book notes. *Science & Education (Springer)*, 2(2):217–218, June 1993. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:1993:Nb

- [53] Anonymous. News. *Science & Education (Springer)*, 2(2):219–221, June 1993. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Ciparick:1993:L

- [54] Joseph D. Ciparick. Letters. *Science & Education (Springer)*, 2(2):223–224, June 1993. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Giannetto:1993:ITB

- [55] Enrico Giannetto. The impetus theory: Between history of physics and science education. *Science & Education (Springer)*, 2(3):227–238, September 1993. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Galdabini:1993:UHP

- [56] Silvana Galdabini and Ornella Rossi. Using historical papers in ordinary physics teaching at high school. *Science & Education (Springer)*, 2(3):239–242, September 1993. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Katz:1993:UHC

- [57] Victor J. Katz. Using the history of calculus to teach calculus. *Science & Education (Springer)*, 2(3):243–249, September 1993. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Cohen:1993:SHS

- [58] I. Bernard Cohen. A sense of history in science. *Science & Education (Springer)*, 2(3):251–277, September 1993. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Matthews:1993:BR

- [59] Michael R. Matthews. Book review. *Science & Education (Springer)*, 2(3):279–284, September 1993. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Suchting:1993:BR

- [60] W. A. Suchting. Book review. *Science & Education (Springer)*, 2(3):285–291, September 1993. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:1993:BNc

- [61] Anonymous. Book notes. *Science & Education (Springer)*, 2(3):293–295, September 1993. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:1993:Nc

- [62] Anonymous. News. *Science & Education (Springer)*, 2(3):297, September 1993. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Thomas:1993:L

- [63] Robert Thomas. Letters. *Science & Education (Springer)*, 2(3):299, September 1993. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Eger:1993:HASb

- [64] Martin Eger. Hermeneutics as an approach to science: Part II. *Science & Education (Springer)*, 2(4):303–328, December 1993. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Pyenson:1993:IWR

- [65] Lewis Pyenson. The ideology of Western rationality: History of science and the European civilizing mission. *Science & Education (Springer)*, 2(4):329–343, December 1993. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Ebison:1993:NMA

- [66] Maurice G. Ebison. Newtonian in mind but Aristotelian at heart. *Science & Education (Springer)*, 2(4):345–362, December 1993. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Brickhouse:1993:PRS

- [67] Nancy W. Brickhouse, William B. Stanley, and James A. Whitson. Practical reasoning and science education: Implications for theory and practice. *Science & Education (Springer)*, 2(4):363–375, December 1993. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:1993:BNd

- [68] Anonymous. Book notes. *Science & Education (Springer)*, 2(4):377–378, December 1993. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:1993:Nd

- [69] Anonymous. News. *Science & Education (Springer)*, 2(4):379–380, December 1993. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

McColl:1993:L

- [70] Paul McColl. Letter. *Science & Education (Springer)*, 2(4):381–382, December 1993. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Suchting:1994:NCS

- [71] W. A. Suchting. Notes on the cultural significance of the sciences. *Science & Education (Springer)*, 3(1):1–56, January 1994. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Garrison:1994:SPA

- [72] Jim Garrison. Suchting's 'production account' of science: Implications for science education. *Science & Education (Springer)*, 3(1):57–68, January 1994. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Slezak:1994:SSR

- [73] Peter Slezak. Suchting and the sleep of reason. *Science & Education (Springer)*, 3(1):69–72, January 1994. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Martin:1994:SED

- [74] Jane Roland Martin. Suchting and the educational dangers of decontextualising science. *Science & Education (Springer)*, 3(1):73–75, January 1994. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kroon:1994:BR

- [75] Frederick William Kroon. Book review. *Science & Education (Springer)*, 3(1):77–85, January 1994. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Barton:1994:BR

- [76] Bill Barton. Book review. *Science & Education (Springer)*, 3(1):87–89, January 1994. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:1994:BNa

- [77] Anonymous. Book notes. *Science & Education (Springer)*, 3(1):91–93, January 1994. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:1994:ACP

- [78] Anonymous. Announcement and call for papers. *Science & Education (Springer)*, 3(1):94, January 1994. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:1994:Na

- [79] Anonymous. News. *Science & Education (Springer)*, 3(1):95–96, January 1994. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Jung:1994:TPS

- [80] Walter Jung. Toward preparing students for change: A critical discussion of the contribution of the history of physics in physics teaching. *Science & Education (Springer)*, 3(2):99–130, April 1994. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Stocklmayer:1994:HAE

- [81] Susan M. Stocklmayer and David F. Treagust. A historical analysis of electric currents in textbooks: A century of influence on physics education. *Science & Education (Springer)*, 3(2):131–154, April 1994. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Chandler:1994:PGI

- [82] Marthe Chandler. Philosophy of gravity: Intuitions of four-dimensional curved spacetime. *Science & Education (Springer)*, 3(2):155–176, April 1994. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Heilbron:1994:VOG

- [83] J. L. Heilbron. The virtual oscillator as a guide to physics students lost in Plato's cave. *Science & Education (Springer)*, 3(2):177–188, April 1994. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Drago:1994:MTT

- [84] Antonino Drago. Mach's thesis: Thermodynamics as the basic theory for physics teaching. *Science & Education (Springer)*, 3(2):189–198, April 1994. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Brown:1994:BR

- [85] Tony Brown. Book review. *Science & Education (Springer)*, 3(2):199–203, April 1994. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:1994:BNb

- [86] Anonymous. Book notes. *Science & Education (Springer)*, 3(2):205–207, April 1994. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:1994:Nb

- [87] Anonymous. News. *Science & Education (Springer)*, 3(2):209–211, April 1994. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Machamer:1994:MIS

- [88] Peter Machamer and Andrea Woody. A model of intelligibility in science: Using Galileo's balance as a model for understanding the motion of bodies. *Science & Education (Springer)*, 3(3):215–244, July 1994. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Tobin:1994:RCS

- [89] Kenneth G. Tobin, Deborah J. Tippins, and Karl Hook. Referents for changing a science curriculum: A case study of one teacher's change in beliefs. *Science & Education (Springer)*, 3(3):245–264, July 1994. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Slezak:1994:SSKa

- [90] Peter Slezak. Sociology of scientific knowledge and scientific education: Part I. *Science & Education (Springer)*, 3(3):265–294, July 1994. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). See [186].

Brabenec:1994:HDF

- [91] Robert L. Brabenec. Historical development of the foundations of mathematics: Course description. *Science & Education (Springer)*, 3(3):295–309, July 1994. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Davson-Galle:1994:PCN

- [92] Peter Davson-Galle. Philosophical criticism: Its nature and function. *Science & Education (Springer)*, 3(3):311–315, July 1994. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:1994:BNc

- [93] Anonymous. Book notes. *Science & Education (Springer)*, 3(3):317–318, July 1994. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:1994:Nc

- [94] Anonymous. News. *Science & Education (Springer)*, 3(3):319–320, July 1994. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Wolf:1994:L

- [95] Jonathan S. Wolf. Letter. *Science & Education (Springer)*, 3(3):321, July 1994. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Matthews:1994:E

- [96] Michael R. Matthews. Editorial. *Science & Education (Springer)*, 3(4):325–328, October 1994. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Slezak:1994:SSKb

- [97] Peter Slezak. Sociology of scientific knowledge and science education part 2: Laboratory life under the microscope. *Science & Education (Springer)*, 3(4):329–355, October 1994. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). See [186].

Martin:1994:PPS

- [98] Michael Martin. Pseudoscience, the paranormal, and science education. *Science & Education (Springer)*, 3(4):357–371, October 1994. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Blake:1994:RRR

- [99] Deborah D. Blake. Revolution, revision or reversal: Genetics — ethics curriculum. *Science & Education (Springer)*, 3(4):373–391, October 1994. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Cohen:1994:ICP

- [100] Robert Sonn e Cohen. Individuality and common purpose: The philosophy of science. *Science & Education (Springer)*, 3(4):393–407, October 1994. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Bechler:1994:C

- [101] Zev Bechler. Comment. *Science & Education (Springer)*, 3(4):409–411, October 1994. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). See reply [102].

Suchting:1994:RPB

- [102] W. A. Suchting. Reply: Professor Bechler on the conceptual structure of the scientific revolution. *Science & Education (Springer)*, 3(4):413–414, October 1994. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). See [101].

Anonymous:1994:BNd

- [103] Anonymous. Book notes. *Science & Education (Springer)*, 3(4):415–422, October 1994. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:1994:Nd

- [104] Anonymous. News. *Science & Education (Springer)*, 3(4):423–424, October 1994. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Suchting:1995:NST

- [105] W. A. Suchting. The nature of scientific thought. *Science & Education (Springer)*, 4(1):1–22, January 1995. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Smith:1995:FIE

- [106] Mike U. Smith, Harvey Siegel, and Joseph D. McInerney. Foundational issues in evolution education. *Science & Education (Springer)*, 4(1):23–46, January 1995. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

deBerg:1995:RPV

- [107] Kevin C. de Berg. Revisiting the pressure-volume law in history-what can it teach us about the emergence of mathematical relationships in science? *Science & Education (Springer)*, 4(1):47–64, January 1995. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

deCastro:1995:HAT

- [108] Ruth S. de Castro and Anna Maria Pessoa de Carvalho. The historic approach in teaching: Analysis of an experience. *Science & Education (Springer)*, 4(1):65–85, January 1995. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Rowell:1995:RAU

- [109] Jack A. Rowell and Judith M. Pollard. Raising awareness of uncertainty: A useful addendum to courses in the history and philosophy of science for science teachers? *Science & Education (Springer)*, 4(1):87–97, January 1995. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:1995:BNa

- [110] Anonymous. Book notes. *Science & Education (Springer)*, 4(1):99–103, January 1995. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:1995:Na

- [111] Anonymous. News. *Science & Education (Springer)*, 4(1):105–106, January 1995. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Crease:1995:SEH

- [112] Robert P. Crease. The sculpture and the electron: Hermeneutics of the experimental object. *Science & Education (Springer)*, 4(2):109–114, April 1995. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). See reply [118].

Bevilacqua:1995:HSE

- [113] Fabio Bevilacqua and Enrico Giannetto. Hermeneutics and science education: The role of history of science. *Science & Education (Springer)*, 4(2):115–126, April 1995. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). See reply [118].

Heelan:1995:QMS

- [114] Patrick A. Heelan. Quantum mechanics and the social sciences: After hermeneutics. *Science & Education (Springer)*, 4(2):127–136, April 1995. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Cushing:1995:HUQ

- [115] James T. Cushing. Hermeneutics, underdetermination and quantum mechanics. *Science & Education (Springer)*, 4(2):137–146, April 1995. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). See reply [118].

Ginev:1995:BEH

- [116] Dimitri Ginev. Between epistemology and hermeneutics. *Science & Education (Springer)*, 4(2):147–159, April 1995. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Suchting:1995:MAA

- [117] W. A. Suchting. Much ado about nothing: Science and hermeneutics. *Science & Education (Springer)*, 4(2):161–171, April 1995. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). See reply [133] and response [117].

Eger:1995:AIH

- [118] Martin Eger. Alternative interpretations, history, and experiment: Reply to Cushing, Crease, Bevilacqua, and Giannetto. *Science & Education (Springer)*, 4(2):173–188, April 1995. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). See [115, 112, 113].

Allchin:1995:BN

- [119] Douglas Allchin. Book notes. *Science & Education (Springer)*, 4(2):189–193, April 1995. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:1995:Nb

- [120] Anonymous. News. *Science & Education (Springer)*, 4(2):195–196, April 1995. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Cushing:1995:L

- [121] James T. Cushing. Letter. *Science & Education (Springer)*, 4(2):197, April 1995. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Nersessian:1995:SPP

- [122] Nancy J. Nersessian. Should physicists preach what they practice? *Science & Education (Springer)*, 4(3):203–226, July 1995. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Heffron:1995:KMW

- [123] John M. Heffron. The knowledge most worth having: Otis W. Caldwell (1869–1947) and the rise of the general science course. *Science & Education (Springer)*, 4(3):227–252, July 1995. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Mcnamara:1995:SLR

- [124] O. McNamara. Saussurian linguistics revisited: Can it inform our interpretation of mathematical activity? *Science & Education (Springer)*, 4(3):253–266, July 1995. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Mortimer:1995:CCC

- [125] Eduardo F. Mortimer. Conceptual change or conceptual profile change? *Science & Education (Springer)*, 4(3):267–285, July 1995. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Cobern:1995:SEE

- [126] William W. Cobern. Science education as an exercise in foreign affairs. *Science & Education (Springer)*, 4(3):287–302, July 1995. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:1995:BNb

- [127] Anonymous. Book notes. *Science & Education (Springer)*, 4(3):303–308, July 1995. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Giannetto:1995:L

- [128] Enrico Giannetto. Letter. *Science & Education (Springer)*, 4(3):309, July 1995. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Matthews:1995:E

- [129] Michael R. Matthews. Editorial. *Science & Education (Springer)*, 4(4):315–316, October 1995. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Thijs:1995:CFO

- [130] Gerard D. Thijs and Ed Van Den Berg. Cultural factors in the origin and remediation of alternative conceptions in physics. *Science & Education (Springer)*, 4(4):317–347, October 1995. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Sanmarti:1995:SPP

- [131] Neus Sanmarti, Merce Izquierdo, and Rod Watson. The substantialisation of properties in pupils' thinking and in the history of science. *Science & Education (Springer)*, 4(4):349–369, October 1995. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Lederman:1995:SNS

- [132] Norman G. Lederman. Suchting on the nature of scientific thought: Are we anchoring curricula in quicksand? *Science & Education (Springer)*, 4(4):371–377, October 1995. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Ohlsson:1995:EOM

- [133] Stellan Ohlsson. Epistemic obstacles and the marriage of fantasy to rigor: A response to Suchting. *Science & Education (Springer)*, 4(4):379–389, October 1995. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). See [117, 173].

Dewey:1995:SSM

- [134] John Dewey. Science as subject-matter and as method. *Science & Education (Springer)*, 4(4):391–398, October 1995. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Allchin:1995:BR

- [135] Douglas Allchin. Book reviews. *Science & Education (Springer)*, 4(4):399–402, October 1995. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:1995:BNc

- [136] Anonymous. Book notes. *Science & Education (Springer)*, 4(4):403–405, October 1995. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:1995:Nc

- [137] Anonymous. News. *Science & Education (Springer)*, 4(4):407–408, October 1995. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kawasaki:1996:CSJ

- [138] Ken Kawasaki. The concepts of science in Japanese and Western education. *Science & Education (Springer)*, 5(1):1–20, January 1996. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Krugly-Smolka:1996:SCM

- [139] Eva Krugly-Smolka. Scientific culture, multiculturalism and the science classroom. *Science & Education (Springer)*, 5(1):21–29, January 1996. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Jenkins:1996:BSF

- [140] Edward S. Jenkins. ‘Beyond the seventh fold’: A historical account of a natural product chemist. *Science & Education (Springer)*, 5(1):31–49, January 1996. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Tarsitani:1996:SMR

- [141] Carlo Tarsitani and Matilde Vicentini. Scientific mental representations of thermodynamics. *Science & Education (Springer)*, 5(1):51–68, January 1996. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Agassi:1996:BR

- [142] Joseph Agassi. Book review. *Science & Education (Springer)*, 5(1):69–77, January 1996. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Allchin:1996:BN

- [143] Douglas Allchin. Book notes. *Science & Education (Springer)*, 5(1):79–86, January 1996. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:1996:Na

- [144] Anonymous. News. *Science & Education (Springer)*, 5(1):87–88, January 1996. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:1996:E

- [145] Anonymous. Editorial. *Science & Education (Springer)*, 5(2):91–99, April 1996. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Mahner:1996:REC

- [146] Martin Mahner and Mario Bunge. Is religious education compatible with science education? *Science & Education (Springer)*, 5(2):101–123, April 1996. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). See [152] and reply [153].

Settle:1996:ASO

- [147] Tom Settle. Applying scientific openmindedness to religion and science education. *Science & Education (Springer)*, 5(2):125–141, April 1996. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Lacey:1996:RBS

- [148] Hugh Lacey. On relations between science and religion. *Science & Education (Springer)*, 5(2):143–153, April 1996. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Turner:1996:RIS

- [149] Harold Turner. Religion: impediment or saviour of science? *Science & Education (Springer)*, 5(2):155–164, April 1996. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Poole:1996:LMB

- [150] Michael Poole. ‘... for more and better religious education’. *Science & Education (Springer)*, 5(2):165–174, April 1996. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Woolnough:1996:FCR

- [151] Brian E. Woolnough. On the fruitful compatibility of religious education and science. *Science & Education (Springer)*, 5(2):175–183, April 1996. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Wren-Lewis:1996:BBN

- [152] John Wren-Lewis. On babies and bathwater: A non-ideological alternative to the Mahner/Bunge proposals for relating science and religion in education. *Science & Education (Springer)*, 5(2):185–188, April 1996. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). See reply [153].

Mahner:1996:ISR

- [153] Martin Mahner and Mario Bunge. The incompatibility of science and religion sustained: A reply to our critics. *Science & Education (Springer)*, 5(2):189–199, April 1996. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Slezak:1996:MGS

- [154] Peter Slezak. The mind of god: Science and the search for ultimate meaning. *Science & Education (Springer)*, 5(2):201–212, April 1996. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Birch:1996:BN

- [155] Charles Birch and John Stenhouse. Book notes. *Science & Education (Springer)*, 5(2):213–218, April 1996. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:1996:Ca

- [156] Anonymous. Contributors. *Science & Education (Springer)*, 5(2):219–220, April 1996. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Matthews:1996:Ea

- [157] Michael R. Matthews and László Kovács. Editorial. *Science & Education (Springer)*, 5(3):221–224, July 1996. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Marx:1996:MMG

- [158] George Marx. The myth of the Martians and the golden age of Hungarian science. *Science & Education (Springer)*, 5(3):225–234, July 1996. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://adsabs.harvard.edu/abs/1996Sc%26Ed...5..225M>.

Bevilacqua:1996:HPE

- [159] Fabio Bevilacqua and Enrico Giannetto. The history of physics and European physics education. *Science & Education (Springer)*, 5(3):235–

246, July 1996. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Stinner:1996:PCB

- [160] Arthur Stinner. Providing a contextual base and a theoretical structure to guide the teaching of science from early years to senior years. *Science & Education (Springer)*, 5(3):247–266, July 1996. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Holmberg:1996:DDO

- [161] Peter Holmberg. From dogmatic discussions to observations and planned experiments: Some examples from early *aurora borealis* research in Finland. *Science & Education (Springer)*, 5(3):267–276, July 1996. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kipnis:1996:HIA

- [162] Nahum Kipnis. The ‘historical-investigative’ approach to teaching science. *Science & Education (Springer)*, 5(3):277–292, July 1996. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Sakkopoulos:1996:EFA

- [163] Sotirios A. Sakkopoulos and Evagelos G. Vitoratos. Empirical foundations of atomism in ancient Greek philosophy. *Science & Education (Springer)*, 5(3):293–303, July 1996. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kovacs:1996:GEO

- [164] László Kovács. Great experiments and old apparatus in education. *Science & Education (Springer)*, 5(3):305–308, July 1996. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kovacs:1996:ZBE

- [165] László Kovács, Jr. Zoltán Bay on education and science teaching. *Science & Education (Springer)*, 5(3):309–311, July 1996. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

ebesta:1996:HNP

- [166] Juraj Šebesta. On the history of national physics in physics teaching. *Science & Education (Springer)*, 5(3):313–318, July 1996. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Vincze:1996:RTT

- [167] Ildikó J. Vincze and László Molnár. Recent trends in teaching astronomy. *Science & Education (Springer)*, 5(3):319–321, July 1996. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:1996:Nb

- [168] Anonymous. News. *Science & Education (Springer)*, 5(3):323–325, July 1996. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:1996:Cb

- [169] Anonymous. Contributors. *Science & Education (Springer)*, 5(3):327–328, July 1996. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Matthews:1996:Eb

- [170] Michael R. Matthews. Editorial. *Science & Education (Springer)*, 5(4):329–330, October 1996. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Hafner:1996:ESS

- [171] Robert Hafner and Sylvia Culp. Elaborating the structures of a science discipline to improve problem-solving instruction: An account of classical genetics' theory structure, function, and development. *Science & Education (Springer)*, 5(4):331–355, October 1996. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Silverman:1996:SDL

- [172] M. P. Silverman. Self-directed learning: Philosophy and implementation. *Science & Education (Springer)*, 5(4):357–380, October 1996. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Suchting:1996:MNS

- [173] W. A. Suchting. More on the nature of scientific thought: Responses to Professors Lederman and Ohlsson. *Science & Education (Springer)*, 5(4):381–390, October 1996. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). See [133, 117].

Koertge:1996:TIC

- [174] Noretta Koertge. Toward an integration of content and method in the science curriculum. *Science & Education (Springer)*, 5(4):391–406, October 1996. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:1996:Nc

- [175] Anonymous. News. *Science & Education (Springer)*, 5(4):407–409, October 1996. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:1996:Cc

- [176] Anonymous. Contributors. *Science & Education (Springer)*, 5(4):411–412, October 1996. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Matthews:1997:ICP

- [177] Michael R. Matthews. Introductory comments on philosophy and constructivism in science education. *Science & Education (Springer)*, 6(1–2):5–14, January 1997. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Geelan:1997:EAM

- [178] David R. Geelan. Epistemological anarchy and the many forms of constructivism. *Science & Education (Springer)*, 6(1–2):15–28, January 1997. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Bickhard:1997:CRS

- [179] Mark H. Bickhard. Constructivisms and relativisms: A shopper's guide. *Science & Education (Springer)*, 6(1–2):29–42, January 1997. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Grandy:1997:COD

- [180] Richard E. Grandy. Constructivisms and objectivity: Disentangling metaphysics from pedagogy. *Science & Education (Springer)*, 6(1–2):43–53, January 1997. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Nola:1997:CSS

- [181] Robert Nola. Constructivism in science and science education: A philosophical critique. *Science & Education (Springer)*, 6(1–2):55–83, January 1997. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Phillips:1997:CGR

- [182] D. C. Phillips. Coming to grips with radical social constructivisms. *Science & Education (Springer)*, 6(1–2):85–104, January 1997. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Matthews:1997:PPC

- [183] P. S. C. Matthews. Problems with Piagetian constructivism. *Science & Education (Springer)*, 6(1–2):105–119, January 1997. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Ogborn:1997:CML

- [184] Jon Ogborn. Constructivist metaphors of learning science. *Science & Education (Springer)*, 6(1–2):121–133, January 1997. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Hardy:1997:GRC

- [185] Michael D. Hardy. Von Glaserfeld’s radical constructivism: A critical review. *Science & Education (Springer)*, 6(1–2):135–150, January 1997. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Suchting:1997:RPS

- [186] W. A. Suchting. Reflections on Peter Slezak and the ‘sociology of scientific knowledge’. *Science & Education (Springer)*, 6(1–2):151–195, January 1997. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). See [90, 97].

Matthews:1997:BPC

- [187] Michael R. Matthews. A bibliography for philosophy and constructivism in science education. *Science & Education (Springer)*, 6(1–2):197–201, January 1997. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Carson:1997:SIL

- [188] Robert N. Carson. Science and the ideals of liberal education. *Science & Education (Springer)*, 6(3):225–238, May 1997. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Martin:1997:CEC

- [189] Michael Martin. Is Christian education compatible with science education? *Science & Education (Springer)*, 6(3):239–249, May 1997. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Albanese:1997:WDW

- [190] Alessandro Albanese and Matilde Vicentini. Why do we believe that an atom is colourless? Reflections about the teaching of the particle model. *Science & Education (Springer)*, 6(3):251–261, May 1997. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kvasz:1997:WDT

- [191] Ladislav Kvasz. Why don't they understand us? *Science & Education (Springer)*, 6(3):263–272, May 1997. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Patronis:1997:ASG

- [192] Tasos Patronis and Yannis Thomaidis. On the arithmetization of school geometry in the setting of modern axiomatics. *Science & Education (Springer)*, 6(3):273–290, May 1997. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Niaz:1997:CWI

- [193] Mansoor Niaz. Can we integrate qualitative and quantitative research in science education? *Science & Education (Springer)*, 6(3):291–300, May 1997. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Garrison:1997:AGSa

- [194] Jim Garrison. An alternative to von Glasersfeld's subjectivism in science education: Deweyan social constructivism. *Science & Education (Springer)*, 6(3):301–312, May 1997. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). See [33].

Matthews:1997:E

- [195] Michael Matthews. Editorial. *Science & Education (Springer)*, 6(4):323–329, July 1997. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Mellado:1997:PTC

- [196] Vicente Mellado. Preservice teachers' classroom practice and their conceptions of the nature of science. *Science & Education (Springer)*, 6(4):331–354, July 1997. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Tobin:1997:BAN

- [197] Kenneth Tobin and Campbell J. McRobbie. Beliefs about the nature of science and the enacted science curriculum. *Science & Education (Springer)*, 6(4):355–371, July 1997. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Roth:1997:ESS

- [198] Wolff-Michael Roth. From everyday science to science education: How science and technology studies inspired curriculum design and classroom

research. *Science & Education (Springer)*, 6(4):373–396, July 1997. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Meyling:1997:HCS

- [199] Heinz Meyling. How to change students' conceptions of the epistemology of science. *Science & Education (Springer)*, 6(4):397–416, July 1997. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Eichinger:1997:DGL

- [200] David C. Eichinger, Sandra K. Abell, and Zoubeida R. Dagher. Developing a graduate level science education course on the nature of science. *Science & Education (Springer)*, 6(4):417–429, July 1997. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Nola:1997:BR

- [201] Robert Nola. Book review. *Science & Education (Springer)*, 6(4):431–433, July 1997. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Matthews:1997:BN

- [202] Michael Matthews and Howard Sankey. Book notes. *Science & Education (Springer)*, 6(4):435–437, July 1997. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:1997:Ca

- [203] Anonymous. Contributors. *Science & Education (Springer)*, 6(4):439–440, July 1997. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Smith:1997:SDM

- [204] Erick Smith, Shawn Haarer, and Jere Confrey. Seeking diversity in mathematics education: Mathematical modeling in the practice of biologists and mathematicians. *Science & Education (Springer)*, 6(5):441–472, May 1997. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Allchin:1997:RPC

- [205] Douglas Allchin. Rekindling phlogiston: From classroom case study to interdisciplinary relationships. *Science & Education (Springer)*, 6(5):473–509, May 1997. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

DeBerg:1997:DCW

- [206] Kevin C. De Berg. The development of the concept of work: A case where history can inform pedagogy. *Science & Education (Springer)*, 6(5):511–527, May 1997. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Good:1997:BR

- [207] Ron Good. Book review. *Science & Education (Springer)*, 6(5):529–532, May 1997. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:1997:BN

- [208] Anonymous. Book notes. *Science & Education (Springer)*, 6(5):533–538, May 1997. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:1997:Cb

- [209] Anonymous. Contributors. *Science & Education (Springer)*, 6(5):539–540, May 1997. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:1997:E

- [210] Anonymous. Erratum. *Science & Education (Springer)*, 6(6):541, November 1997. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Garrison:1997:AGSb

- [211] Jim Garrison. An alternative to Von Glasersfeld's subjectivism in science education: Deweyan social constructivism. *Science & Education (Springer)*, 6(6):543–554, November 1997. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). See [33].

Tan:1997:MVS

- [212] Sok Khim Tan. Moral values and science teaching: A Malaysian school curriculum initiative. *Science & Education (Springer)*, 6(6):555–572, November 1997. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Albanese:1997:MSE

- [213] A. Albanese, M. C. Danhoni Neves, and M. Vicentini. Models in science and in education: A critical review of research on students' ideas about

the Earth and its place in the universe. *Science & Education (Springer)*, 6(6):573–590, November 1997. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

McKinney:1997:EUC

- [214] William J. McKinney. The educational use of computer based science simulations: Some lessons from the philosophy of science. *Science & Education (Springer)*, 6(6):591–603, November 1997. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:1997:B

- [215] Anonymous. Booknotes. *Science & Education (Springer)*, 6(6):605–606, November 1997. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:1997:Cc

- [216] Anonymous. Contributors. *Science & Education (Springer)*, 6(6):607–608, November 1997. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:1997:VC

- [217] Anonymous. Volume contents. *Science & Education (Springer)*, 6(6):609–612, November 1997. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Machamer:1998:PSO

- [218] Peter Machamer. Philosophy of science: An overview for educators. *Science & Education (Springer)*, 7(1):1–11, January 1998. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Stuewer:1998:HP

- [219] Roger H. Stuewer. History and physics. *Science & Education (Springer)*, 7(1):13–30, January 1998. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Coppola:1998:MCF

- [220] Brian P. Coppola and Douglas S. Daniels. Mea culpa: Formal education and the dis-integrated world. *Science & Education (Springer)*, 7(1):31–48, January 1998. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Gauld:1998:SPI

- [221] C. Gauld. Solutions to the problem of impact in the 17th and 18th centuries and teaching Newton's third law today. *Science & Education (Springer)*, 7(1):49–67, January 1998. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Chalmers:1998:RAS

- [222] Alan Chalmers. Retracing the ancient steps to atomic theory. *Science & Education (Springer)*, 7(1):69–84, January 1998. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Villani:1998:STR

- [223] Alberto Villani and Sergio M. Arruda. Special theory of relativity, conceptual change and history of science. *Science & Education (Springer)*, 7(1):85–100, January 1998. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:1998:BNa

- [224] Anonymous. Book notes. *Science & Education (Springer)*, 7(1):101–103, January 1998. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:1998:Ca

- [225] Anonymous. Contributors. *Science & Education (Springer)*, 7(1):105–106, January 1998. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Niaz:1998:LCC

- [226] M. Niaz. A Lakatosian conceptual change teaching strategy based on student ability to build models with varying degrees of conceptual understanding of chemical equilibrium. *Science & Education (Springer)*, 7(2):107–127, March 1998. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Gomez:1998:DPC

- [227] Enrique Jiménez Gomez and Eugenio Fernández Duran. Didactic problems in the concept of electric potential difference and an analysis of its philogenesis. *Science & Education (Springer)*, 7(2):129–141, March 1998. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Zell:1998:ESC

- [228] Stacy K. Zell. Ecofeminism and the science classroom: A practical approach. *Science & Education (Springer)*, 7(2):143–158, March 1998. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Gauld:1998:MMP

- [229] C. Gauld. Making more plausible what is hard to believe: Historical justifications and illustrations of Newton's third law. *Science & Education (Springer)*, 7(2):159–172, March 1998. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Gorman:1998:UHT

- [230] Michael E. Gorman and J. Kirby Robinson. Using history to teach invention and design: The case of the telephone. *Science & Education (Springer)*, 7(2):173–201, March 1998. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Crawford:1998:MFL

- [231] Elspeth Crawford. Michael Faraday on the learning of science and attitudes of mind. *Science & Education (Springer)*, 7(2):203–211, March 1998. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:1998:BNb

- [232] Anonymous. Book notes. *Science & Education (Springer)*, 7(2):213–217, March 1998. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:1998:Cb

- [233] Anonymous. Contributors. *Science & Education (Springer)*, 7(2):219–220, March 1998. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Matthews:1998:E

- [234] Michael R. Matthews and Juraj Šebesta. Editorial. *Science & Education (Springer)*, 7(3):221–223, May 1998. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Sebesta:1998:SET

- [235] Juraj Šebesta and Rudolf Zajac. Science and education in a totalitarian regime: The case of Slovakia. *Science & Education (Springer)*, 7(3):225–229, May 1998. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kragh:1998:SCG

- [236] Helge Kragh. Social constructivism, the gospel of science, and the teaching of physics. *Science & Education (Springer)*, 7(3):231–243, May 1998. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kipnis:1998:TMT

- [237] Nahum Kipnis. Theories as models in teaching physics. *Science & Education (Springer)*, 7(3):245–260, May 1998. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Seroglou:1998:HSI

- [238] Fanny Seroglou, Panagiotis Koumaras, and Vassilis Tselfes. History of science and instructional design: The case of electromagnetism. *Science & Education (Springer)*, 7(3):261–280, May 1998. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Gonzalez:1998:SQA

- [239] Antonio Moreno González. Science in quarantine: Academic physics in Spain (1750–1900). *Science & Education (Springer)*, 7(3):281–300, May 1998. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Vavrek:1998:BAS

- [240] Alexander Vavrek. The Bulgarian Academy of Sciences in transition from learned society to totalitarian academy (1944–1949). *Science & Education (Springer)*, 7(3):301–306, May 1998. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Constantinescu:1998:RUP

- [241] Bogdan Constantinescu and Roxana Bugoi. Romanian University physics teaching and research (1860–1940). *Science & Education (Springer)*, 7(3):307–311, May 1998. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kovacs:1998:ZBF

- [242] László Kovács. Zoltán Bay and the first Moon–radar experiment in Europe (Hungary, 1946). *Science & Education (Springer)*, 7(3):313–316, May 1998. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kostro:1998:AEH

- [243] Ludwik Kostro. Albert Einstein’s hypothetism. *Science & Education (Springer)*, 7(3):317–322, May 1998. CODEN SCEDE9. ISSN 0926-

7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/article/10.1023/A:1008661622142>.

Anonymous:1998:Cc

- [244] Anonymous. Contributors. *Science & Education (Springer)*, 7(3):323–325, May 1998. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Blanco:1998:BTG

- [245] Rafael Blanco and Mansoor Niaz. Baroque tower on a Gothic base: A Lakatosian reconstruction of students' and teachers' understanding of structure of the atom. *Science & Education (Springer)*, 7(4):327–360, July 1998. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Glas:1998:FUH

- [246] Eduard Glas. Fallibilism and the use of history in mathematics education. *Science & Education (Springer)*, 7(4):361–379, July 1998. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

McGinnis:1998:TAS

- [247] J. Randy McGinnis and J. Steve Oliver. Teaching about sound: A select historical examination of research. *Science & Education (Springer)*, 7(4):381–401, July 1998. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Mahner:1998:OFB

- [248] Martin Mahner. Operationalist fallacies in biology. *Science & Education (Springer)*, 7(4):403–421, July 1998. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:1998:Cd

- [249] Anonymous. Contributors. *Science & Education (Springer)*, 7(4):423, July 1998. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Otte:1998:LCK

- [250] M. Otte. Limits of constructivism: Kant, Piaget and Peirce. *Science & Education (Springer)*, 7(5):425–450, September 1998. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Bevilacqua:1998:NCN

- [251] F. Bevilacqua and S. Bordoni. New contents for new media: Pavia project physics. *Science & Education (Springer)*, 7(5):451–469, September 1998. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Bar:1998:SFA

- [252] V. Bar and B. Zinn. Similar frameworks of action-at-a-distance: Early scientists' and pupils' ideas. *Science & Education (Springer)*, 7(5):471–491, September 1998. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Thomsen:1998:HPD

- [253] Poul V. Thomsen. The historical–philosophical dimension in physics teaching: Danish experiences. *Science & Education (Springer)*, 7(5):493–503, September 1998. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:1998:Ce

- [254] Anonymous. Contributors. *Science & Education (Springer)*, 7(5):505, September 1998. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Lederman:1998:E

- [255] Norman G. Lederman, William F. McComas, and Michael R. Matthews. Editorial. *Science & Education (Springer)*, 7(6):507–509, November 1998. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

McComas:1998:NSS

- [256] William F. McComas, Hiya Almazroa, and Michael P. Clough. The nature of science in science education: An introduction. *Science & Education (Springer)*, 7(6):511–532, November 1998. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Loving:1998:CME

- [257] Cathleen C. Loving. Cortes' multicultural empowerment model and generative teaching and learning in science. *Science & Education (Springer)*, 7(6):533–552, November 1998. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Halloun:1998:IVD

- [258] Ibrahim Halloun and David Hestenes. Interpreting VASS dimensions and profiles for physics students. *Science & Education (Springer)*, 7(6):

553–577, November 1998. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Nott:1998:EID

- [259] Mick Nott and Jerry Wellington. Eliciting, interpreting and developing teachers' understandings of the nature of science. *Science & Education (Springer)*, 7(6):579–594, November 1998. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Lederman:1998:ANS

- [260] Norman G. Lederman, Philip D. Wade, and Randy L. Bell. Assessing the nature of science: What is the nature of our assessments? *Science & Education (Springer)*, 7(6):595–615, November 1998. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Robinson:1998:STN

- [261] James T. Robinson. Science teaching and the nature of science (orig. 1965). *Science & Education (Springer)*, 7(6):617–634, November 1998. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Robinson:1998:RST

- [262] James T. Robinson. Reflections on “Science teaching and the nature of science”. *Science & Education (Springer)*, 7(6):635–642, November 1998. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Allchin:1999:VSE

- [263] Douglas Allchin. Values in science: An educational perspective. *Science & Education (Springer)*, 8(1):1–12, January 1999. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Lacey:1999:SUC

- [264] Hugh Lacey. Scientific understanding and the control of nature. *Science & Education (Springer)*, 8(1):13–35, January 1999. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

McMullin:1999:MC

- [265] Ernan McMullin. Materialist categories. *Science & Education (Springer)*, 8(1):37–44, January 1999. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Machamer:1999:CSV

- [266] Peter Machamer and Heather Douglas. Cognitive and social values. *Science & Education (Springer)*, 8(1):45–54, January 1999. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Herfel:1999:SMA

- [267] William E. Herfel. On social and material aspects of technological control. *Science & Education (Springer)*, 8(1):55–62, January 1999. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Allchin:1999:SGS

- [268] Douglas Allchin. Science gone to seed? *Science & Education (Springer)*, 8(1):63–66, January 1999. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Cross:1999:SUL

- [269] Roger T. Cross. Scientific understanding: Lacey's 'critical self-consciousness' seen as echoes of J. D. Bernal. *Science & Education (Springer)*, 8(1):67–78, January 1999. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). See [264] and reply [271].

Loo:1999:SUC

- [270] Seng Piew Loo. Scientific understanding, control of the environment and science education. *Science & Education (Springer)*, 8(1):79–88, January 1999. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Lacey:1999:CSV

- [271] Hugh Lacey. On cognitive and social values: A reply to my critics. *Science & Education (Springer)*, 8(1):89–103, January 1999. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). See [264, 269].

Anonymous:1999:Ca

- [272] Anonymous. Contributors. *Science & Education (Springer)*, 8(1):105–106, January 1999. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Matthews:1999:E

- [273] Michael R. Matthews. Editorial. *Science & Education (Springer)*, 8(2):107–109, March 1999. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Machamer:1999:GRR

- [274] Peter Machamer. Galileo and the rhetoric of relativity. *Science & Education (Springer)*, 8(2):111–120, March 1999. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Teichmann:1999:SGS

- [275] Jürgen Teichmann. Studying Galileo at secondary school: A reconstruction of his ‘jumping-hill’ experiment and the process of discovery. *Science & Education (Springer)*, 8(2):121–136, March 1999. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kubli:1999:HAP

- [276] Fritz Kubli. Historical aspects in physics teaching: Using Galileo’s work in a new Swiss project. *Science & Education (Springer)*, 8(2):137–150, March 1999. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Carroll:1999:GIB

- [277] William E. Carroll. Galileo and the interpretation of the Bible. *Science & Education (Springer)*, 8(2):151–187, March 1999. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Finocchiaro:1999:GAJ

- [278] Maurice A. Finocchiaro. The Galileo Affair from John Milton to John Paul II: Problems and prospects. *Science & Education (Springer)*, 8(2):189–209, March 1999. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:1999:BN

- [279] Anonymous. Book notes. *Science & Education (Springer)*, 8(2):211–214, March 1999. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:1999:Cb

- [280] Anonymous. Contributors. *Science & Education (Springer)*, 8(2):215–216, March 1999. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Lombardi:1999:APC

- [281] Olimpia Lombardi. Aristotelian physics in the context of teaching science: A historical–philosophical approach. *Science & Education*

(*Springer*), 8(3):217–239, May 1999. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Rowlands:1999:CWS

- [282] Stuart Rowlands, Ted Graham, and John Berry. Can we speak of alternative frameworks and conceptual change in mechanics? *Science & Education (Springer)*, 8(3):241–271, May 1999. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Meichtry:1999:NSS

- [283] Yvonne J. Meichtry. The nature of science and scientific knowledge: Implications for a preservice elementary methods course. *Science & Education (Springer)*, 8(3):273–286, May 1999. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Justi:1999:HPS

- [284] Rosária Justi and John K. Gilbert. History and philosophy of science through models: The case of chemical kinetics. *Science & Education (Springer)*, 8(3):287–307, May 1999. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kovac:1999:PEC

- [285] Jeffrey Kovac. Professional ethics in the College and University science curriculum. *Science & Education (Springer)*, 8(3):309–319, May 1999. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:1999:Cc

- [286] Anonymous. Contributors. *Science & Education (Springer)*, 8(3):321–322, May 1999. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:1999:Ea

- [287] Anonymous. Editorial. *Science & Education (Springer)*, 8(4):323–325, July 1999. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Chalmers:1999:TYA

- [288] Alan Chalmers. Twenty years on: Adding the Cat’s whiskers. *Science & Education (Springer)*, 8(4):327–338, July 1999. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Worrall:1999:TCN

- [289] John Worrall. Two cheers for naturalised philosophy of science or: Why naturalised philosophy of science is not the cat's whiskers. *Science & Education (Springer)*, 8(4):339–361, July 1999. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Clarke:1999:ECE

- [290] Steve Clarke. Empiricism, capacities and experiments. *Science & Education (Springer)*, 8(4):363–374, July 1999. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Bamford:1999:WPA

- [291] Greg Bamford. What is the problem of ad hoc hypotheses? *Science & Education (Springer)*, 8(4):375–386, July 1999. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Sievers:1999:TDR

- [292] K. H. Sievers. Toward a direct realist account of observation. *Science & Education (Springer)*, 8(4):387–393, July 1999. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Musgrave:1999:HDI

- [293] Alan Musgrave. How to do without inductive logic. *Science & Education (Springer)*, 8(4):395–412, July 1999. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Chang:1999:HPS

- [294] Hasok Chang. History and philosophy of science as a continuation of science by other means. *Science & Education (Springer)*, 8(4):413–425, July 1999. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Nola:1999:PST

- [295] Robert Nola. On the possibility of a scientific theory of scientific method. *Science & Education (Springer)*, 8(4):427–439, July 1999. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Talmont-Kaminski:1999:DNI

- [296] Konrad Talmont-Kaminski. In defence of the naive inductivist: As well as some of their not-so-naive brethren. *Science & Education (Springer)*, 8(4):441–447, July 1999. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:1999:Cd

- [297] Anonymous. Contributors. *Science & Education (Springer)*, 8(4):449–450, July 1999. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:1999:Eb

- [298] Anonymous. Editorial. *Science & Education (Springer)*, 8(5):451–455, September 1999. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Schwitzgebel:1999:CTD

- [299] Eric Schwitzgebel. Children’s theories and the drive to explain. *Science & Education (Springer)*, 8(5):457–488, September 1999. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). See response [301] and reply [305].

Brewer:1999:STN

- [300] William F. Brewer. Scientific theories and naive theories as forms of mental representation: Psychologism revived. *Science & Education (Springer)*, 8(5):489–505, September 1999. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Hewson:1999:SSR

- [301] Peter W. Hewson and John Lemberger. Status and subscribing: A response to Schwitzgebel. *Science & Education (Springer)*, 8(5):507–523, September 1999. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). See [299] and reply [305].

Duschl:1999:DEP

- [302] Richard A. Duschl, Gedeon O. Deaák, Kirsten M. Ellenbogen, and Douglas L. Holton. Developmental and educational perspectives on theory change: To have and hold, or to have and Hone? *Science & Education (Springer)*, 8(5):525–542, September 1999. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Gilbert:1999:ECS

- [303] John K. Gilbert. On the explanation of change in science and cognition. *Science & Education (Springer)*, 8(5):543–557, September 1999. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Ohlsson:1999:TCI

- [304] Stellan Ohlsson. Theoretical commitment and implicit knowledge: Why anomalies do not trigger learning. *Science & Education (Springer)*, 8(5): 559–574, September 1999. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Schwitzgebel:1999:RCS

- [305] Eric Schwitzgebel. Reply to commentators: Scientific and everyday theories are of a piece. *Science & Education (Springer)*, 8(5):575–582, September 1999. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). See [299, 301].

Anonymous:1999:Ce

- [306] Anonymous. Contributors. *Science & Education (Springer)*, 8(5):583–584, September 1999. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Allchin:1999:E

- [307] Douglas Allchin. Editorial. *Science & Education (Springer)*, 8(6):585–587, November 1999. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Flannery:1999:CTC

- [308] Maura C. Flannery and Robert Hendrick. Co-teaching and cognitive spaces: An interdisciplinary approach to teaching science to nonmajors. *Science & Education (Springer)*, 8(6):589–603, November 1999. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Schwartz:1999:CCC

- [309] A. Truman Schwartz. Creating a context for chemistry. *Science & Education (Springer)*, 8(6):605–618, November 1999. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Allchin:1999:HSL

- [310] Douglas Allchin, Elizabeth Anthony, Jack Bristol, Alan Dean, David Hall, and Carl Lieb. History of science- with labs. *Science & Education (Springer)*, 8(6):619–632, November 1999. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Chambers:1999:SWG

- [311] David Wade Chambers. Seeing a world in a grain of sand: Science teaching in multicultural context. *Science & Education (Springer)*, 8(6):

633–644, November 1999. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Tewksbury:1999:BHD

- [312] Barbara J. Tewksbury. Beyond hazards and disasters — teaching students geoscience by probing the underlying influence of geology on human events. *Science & Education (Springer)*, 8(6):645–663, November 1999. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:1999:Cf

- [313] Anonymous. Contributors. *Science & Education (Springer)*, 8(6):665–666, November 1999. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:2000:E

- [314] Anonymous. Editorial. *Science & Education (Springer)*, 9(1–2):1–10, January 2000. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kuhn:2000:LP

- [315] Thomas S. Kuhn. On learning physics. *Science & Education (Springer)*, 9(1–2):11–19, January 2000. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Fuller:2000:CES

- [316] Steve Fuller. From Conant’s education strategy to Kuhn’s research strategy. *Science & Education (Springer)*, 9(1–2):21–37, January 2000. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Brush:2000:TKH

- [317] Stephen G. Brush. Thomas Kuhn as a historian of science. *Science & Education (Springer)*, 9(1–2):39–58, January 2000. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Sankey:2000:KOR

- [318] Howard Sankey. Kuhn’s ontological Relativism. *Science & Education (Springer)*, 9(1–2):59–75, January 2000. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Nola:2000:SKS

- [319] Robert Nola. Saving Kuhn from the sociologists of science. *Science & Education (Springer)*, 9(1–2):77–90, January 2000. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Andersen:2000:LOT

- [320] Hanne Andersen. Learning by ostension: Thomas Kuhn on science education. *Science & Education (Springer)*, 9(1-2):91-106, January 2000. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Levine:2000:WWT

- [321] Alexander T. Levine. Which way is up? Thomas S. Kuhn's analogy to conceptual development in childhood. *Science & Education (Springer)*, 9(1-2):107-122, January 2000. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

VanBerkel:2000:NSE

- [322] Berry Van Berkel, Wobbe De Vos, Adri H. Verdonk, and Albert Pilot. Normal science education and its dangers: The case of school chemistry. *Science & Education (Springer)*, 9(1-2):123-159, January 2000. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Shipman:2000:TKI

- [323] Harry L. Shipman. Thomas Kuhn's influence on astronomers. *Science & Education (Springer)*, 9(1-2):161-171, January 2000. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Ohlsson:2000:FAN

- [324] Stellan Ohlsson. Falsification, anomalies and the naturalistic approach to cognitive change. *Science & Education (Springer)*, 9(1-2):173-186, January 2000. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Loving:2000:ITK

- [325] Cathleen C. Loving and William W. Cobern. Invoking Thomas Kuhn: What citation analysis reveals about science education. *Science & Education (Springer)*, 9(1-2):187-206, January 2000. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Nott:2000:SRP

- [326] Mick Nott. Some reflections on the personal impact of Thomas Kuhn. *Science & Education (Springer)*, 9(1-2):207-211, January 2000. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:2000:BNa

- [327] Anonymous. Book notes. *Science & Education (Springer)*, 9(1–2):213–214, January 2000. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:2000:Ca

- [328] Anonymous. Contributors. *Science & Education (Springer)*, 9(1–2):215–218, January 2000. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Cobern:2000:NSR

- [329] William W. Cobern. The nature of science and the role of knowledge and belief. *Science & Education (Springer)*, 9(3):219–246, May 2000. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Cartier:2000:TNI

- [330] Jennifer L. Cartier and Jim Stewart. Teaching the nature of inquiry: Further developments in a high school genetics curriculum. *Science & Education (Springer)*, 9(3):247–267, May 2000. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Becker:2000:MMS

- [331] Barbara J. Becker. MindWorks: Making scientific concepts come alive. *Science & Education (Springer)*, 9(3):269–278, May 2000. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Niaz:2000:GIL

- [332] Mansoor Niaz. Gases as idealized lattices: A rational reconstruction of students' understanding of the behavior of gases. *Science & Education (Springer)*, 9(3):279–287, May 2000. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Southerland:2000:EUS

- [333] Sherry A. Southerland. Epistemic universalism and the shortcomings of curricular multicultural science education. *Science & Education (Springer)*, 9(3):289–307, May 2000. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Jacobs:2000:MPE

- [334] Struan Jacobs. Michael Polanyi on the education and knowledge of scientists. *Science & Education (Springer)*, 9(3):309–320, May 2000. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:2000:BNb

- [335] Anonymous. Book notes. *Science & Education (Springer)*, 9(3):321–322, May 2000. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:2000:Cb

- [336] Anonymous. Contributors. *Science & Education (Springer)*, 9(3):323–324, May 2000. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Riess:2000:E

- [337] Falk Riess and Telsche Nielsen. Editorial. *Science & Education (Springer)*, 9(4):325–326, July 2000. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Riess:2000:PGS

- [338] Falk Riess. Problems with German science education. *Science & Education (Springer)*, 9(4):327–331, July 2000. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Misgeld:2000:HGA

- [339] Wolf Misgeld, Karl Peter Ohly, and Gottfried Strobl. The historical-genetical approach to science teaching at the Oberstufen-Kolleg, Bielefeld. *Science & Education (Springer)*, 9(4):333–341, July 2000. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Ho-Ttecke:2000:HWC

- [340] Dietmar Ho-Ttecke. How and what can we learn from replicating historical experiments? a case study. *Science & Education (Springer)*, 9(4):343–362, July 2000. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Heering:2000:GST

- [341] Peter Heering. Getting shocks: Teaching secondary school physics through history. *Science & Education (Springer)*, 9(4):363–373, July 2000. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Tu:2000:EIR

- [342] Michael Barth Tu. Electromagnetic induction rediscovered using original texts. *Science & Education (Springer)*, 9(4):375–387, July 2000. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Sichau:2000:PHT

- [343] Christian Sichau. Practising helps: Thermodynamics, history, and experiment. *Science & Education (Springer)*, 9(4):389–398, July 2000. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Riess:2000:HPS

- [344] Falk Riess. History of physics in science teacher training in Oldenburg. *Science & Education (Springer)*, 9(4):399–402, July 2000. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Scerri:2000:FRH

- [345] Eric R. Scerri. The failure of reduction and how to resist disunity of the sciences in the context of chemical education. *Science & Education (Springer)*, 9(5):405–425, September 2000. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

PessoaDeCarvalho:2000:HPS

- [346] Anna Maria Pessoa De Carvalho and Andréa Infantsi Vannucchi. History, philosophy and science teaching: Some answers to “How?”. *Science & Education (Springer)*, 9(5):427–448, September 2000. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Forinash:2000:GML

- [347] Kyle Forinash, William Rumsey, and Chris Lang. Galileo’s mathematical language of nature. *Science & Education (Springer)*, 9(5):449–457, September 2000. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Bunge:2000:EBP

- [348] Mario Bunge. Energy: Between physics and metaphysics. *Science & Education (Springer)*, 9(5):457–461, September 2000. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://ui.adsabs.harvard.edu/#abs/2000Sc&Ed...9..459B>.

Elkana:2000:SPS

- [349] Yehuda Elkana. Science, philosophy of science and science teaching. *Science & Education (Springer)*, 9(5):465–487, September 2000. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:2000:Cc

- [350] Anonymous. Contributors. *Science & Education (Springer)*, 9(5):487–488, September 2000. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:2000:SIH

- [351] Anonymous. Sixth International History, Philosophy & Science Teaching Conference — Denver, Colorado, November 8–11, 2001. *Science & Education (Springer)*, 9(5):489–490, September 2000. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Matthews:2000:E

- [352] Michael R. Matthews. Editorial. *Science & Education (Springer)*, 9(6):491–505, November 2000. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Matthews:2000:LSS

- [353] P. S. C. Matthews. Learning science: Some insights from cognitive science. *Science & Education (Springer)*, 9(6):507–535, November 2000. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Rowlands:2000:TVH

- [354] S. Rowlands. Turning Vygotsky on his head: Vygotsky’s ‘scientifically based method’ and the socioculturalist’s ‘social other’. *Science & Education (Springer)*, 9(6):537–575, November 2000. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Lawson:2000:HDH

- [355] Anton E. Lawson. How do humans acquire knowledge? and what does that imply about the nature of knowledge? *Science & Education (Springer)*, 9(6):577–598, November 2000. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Jenkins:2000:CSS

- [356] E. W. Jenkins. Constructivism in school science education: Powerful model or the most dangerous intellectual tendency? *Science & Education (Springer)*, 9(6):599–610, November 2000. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Davson-Galle:2000:CGS

- [357] Peter Davson-Galle. Contra Garrisonian social constructivism. *Science & Education (Springer)*, 9(6):611–614, November 2000. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). See reply [358].

Garrison:2000:RDG

- [358] Jim Garrison. A reply to Davson-Galle. *Science & Education (Springer)*, 9(6):615–620, November 2000. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). See [357].

Irzik:2000:BBP

- [359] Gürol Irzik. Back to basics a philosophical critique of constructivism. *Science & Education (Springer)*, 9(6):621–639, November 2000. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Matthews:2000:BN

- [360] Michael R. Matthews. Book notes. *Science & Education (Springer)*, 9(6):641–643, November 2000. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Matthews:2001:E

- [361] Michael Matthews. Editorial. *Science & Education (Springer)*, 10(1–2):1–6, January 2001. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Galili:2001:EHB

- [362] Igal Galili and Amnon Hazan. The effect of a history-based course in optics on students' views about science. *Science & Education (Springer)*, 10(1–2):7–32, January 2001. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kipnis:2001:SCT

- [363] Nahum Kipnis. Scientific controversies in teaching science: The case of Volta. *Science & Education (Springer)*, 10(1–2):33–49, January 2001. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Wang:2001:HPS

- [364] Hsingchi A. Wang and William H. Sshmidt. History, philosophy and sociology of science in science education: Results from the third international mathematics and science study. *Science & Education (Springer)*, 10(1–2):51–70, January 2001. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Cordero:2001:SCP

- [365] Alberto Cordero. Scientific culture and public education. *Science & Education (Springer)*, 10(1–2):71–83, January 2001. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Gruender:2001:NPD

- [366] David Gruender. A new principle of demarcation: A modest proposal for science and science education. *Science & Education (Springer)*, 10(1–2):85–95, January 2001. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Crosthwaite:2001:TET

- [367] Jan Crosthwaite. Teaching ethics and technology — what is required? *Science & Education (Springer)*, 10(1–2):97–105, January 2001. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Pantidos:2001:UDS

- [368] Panagiotis Pantidos, Kalliopi Spathi, and Evangelos Vitoratos. The use of drama in science education: The case of “Blegdamsvej Faust”. *Science & Education (Springer)*, 10(1–2):107–117, January 2001. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Matthews:2001:MPS

- [369] Michael R. Matthews. Methodology and politics in science: The fate of Huygens’ 1673 proposal of the seconds pendulum as an international standard of length and some educational suggestions. *Science & Education (Springer)*, 10(1–2):119–135, January 2001. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Assis:2001:IEM

- [370] Andre K. T. Assis and Arden Zylbersztajn. The influence of Ernst Mach in the teaching of mechanics. *Science & Education (Springer)*, 10(1–2):137–144, January 2001. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kubli:2001:GJH

- [371] Fritz Kubli. Galileo’s ‘jumping-hill’ experiment in the classroom — a Constructivist’s analysis. *Science & Education (Springer)*, 10(1–2):145–148, January 2001. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kovacs:2001:GBN

- [372] László Kovács. Georg von Békésy, Nobel Laureate in physiology, experimental physicist and art collector was born 100 years ago. *Science & Education (Springer)*, 10(1–2):149–152, January 2001. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Seroglou:2001:CHP

- [373] Fanny Seroglou and Panagiotis Koumaras. The contribution of the history of physics in physics education: A review. *Science & Education (Springer)*, 10(1–2):153–172, January 2001. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Good:2001:NSL

- [374] Ron Good and James Shymansky. Nature-of-science literacy in benchmarks and standards: Post-modern/relativist or modern/realist? *Science & Education (Springer)*, 10(1–2):173–185, January 2001. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Bell:2001:NSS

- [375] Randy Bell, Fouad Abd-El-Khalick, Norman G. Lederman, William F. McComas, and Michael R. Matthews. The nature of science and science education: A bibliography. *Science & Education (Springer)*, 10(1–2):187–204, January 2001. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Rowlands:2001:OCR

- [376] Stuart Rowlands, Ted Graham, and John Berry. An objectivist critique of Relativism in mathematics education. *Science & Education (Springer)*, 10(3):215–241, May 2001. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Niaz:2001:HIL

- [377] Mansoor Niaz. How important are the laws of definite and multiple proportions in chemistry and teaching chemistry? — a history and philosophy of science perspective. *Science & Education (Springer)*, 10(3):243–266, May 2001. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Viard:2001:CER

- [378] Jerome Viard and Francoise Khantine-Langlois. The concept of electrical resistance: How Cassirer’s philosophy, and the early developments of electric circuit theory, allow a better understanding of students’ learning

difficulties. *Science & Education (Springer)*, 10(3):267–286, May 2001. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

DeAndradeMartins:2001:NCC

- [379] Roberto De Andrade Martins and Cibelle Celestino. Newton and colour: the complex interplay of theory and experiment. *Science & Education (Springer)*, 10(3):287–305, May 2001. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Vaquero:2001:HKT

- [380] Joseb M. Vaquero and Andrebs Santos. Heat and kinetic theory in 19th-Century physics textbooks: The case of Spain. *Science & Education (Springer)*, 10(3):307–319, May 2001. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:2001:Ca

- [381] Anonymous. Contributors. *Science & Education (Springer)*, 10(3):321–322, May 2001. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Stinner:2001:LBN

- [382] Arthur Stinner. Linking ‘the book of nature’ and ‘the book of science’: Using circular motion as an exemplar beyond the textbook. *Science & Education (Springer)*, 10(4):323–344, July 2001. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Galili:2001:EVU

- [383] Igal Galili and Amnon Hazan. Experts’ views on using history and philosophy of science in the practice of physics instruction. *Science & Education (Springer)*, 10(4):345–367, July 2001. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Reis:2001:HSC

- [384] José Claudio Reis, Andreia Guerra, Marco Braga, and Jairo Freitas. History, science and culture: Curricular experiences in Brazil. *Science & Education (Springer)*, 10(4):369–378, July 2001. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Binnie:2001:UHE

- [385] Anna Binnie. Using the history of electricity and magnetism to enhance teaching. *Science & Education (Springer)*, 10(4):379–389, July 2001. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Fried:2001:CME

- [386] Michael N. Fried. Can mathematics education and history of mathematics coexist? *Science & Education (Springer)*, 10(4):391–408, July 2001. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Waldegg:2001:OCE

- [387] Guillermina Waldegg. Ontological convictions and epistemological obstacles in Bolzano's elementary geometry. *Science & Education (Springer)*, 10(4):409–418, July 2001. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:2001:Cb

- [388] Anonymous. Contributors. *Science & Education (Springer)*, 10(4):419–421, July 2001. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Yamalidou:2001:MRB

- [389] Maria Yamalidou. Molecular representations: Building tentative links between the history of science and the study of cognition. *Science & Education (Springer)*, 10(5):423–451, September 2001. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Dahlin:2001:PCP

- [390] Bo Dahlin. The primacy of cognition — or of perception? a phenomenological critique of the theoretical bases of science education. *Science & Education (Springer)*, 10(5):453–475, September 2001. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Ben-Ari:2001:TGT

- [391] Mordechai Ben-Ari. Theory-guided technology in computer science. *Science & Education (Springer)*, 10(5):477–484, September 2001. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Lattery:2001:TEP

- [392] Mark J. Lattery. Thought experiments in physics education: A simple and practical example. *Science & Education (Springer)*, 10(5):485–492, September 2001. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Keranto:2001:PCS

- [393] Tapio Keranto. The perceived credibility of scientific claims, paranormal phenomena, and miracles among primary teacher students: A compar-

ative study. *Science & Education (Springer)*, 10(5):493–511, September 2001. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Gonzalez:2001:WEN

- [394] Antonio Moreno González. “Weighing” the Earth: a Newtonian test and the origin of an anachronism. *Science & Education (Springer)*, 10(6):515–543, November 2001. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Gvirtz:2001:NSS

- [395] Silvina Gvirtz, Angela Aisenstein, Jorge N. Cornejo, and Alejandra Aalerani. The natural sciences in the schools: Tension in the modernization process of Argentine society (1870–1960). *Science & Education (Springer)*, 10(6):545–558, November 2001. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Randnai:2001:HDL

- [396] Gyula J. Randnai. How did Loránd Eötvös choose a research topic? *Science & Education (Springer)*, 10(6):559–568, November 2001. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Rutherford:2001:FHS

- [397] F. James Rutherford. Fostering the history of science in American science education. *Science & Education (Springer)*, 10(6):569–580, November 2001. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Erduran:2001:PCE

- [398] Sibel Erduran. Philosophy of chemistry: An emerging field with implications for chemistry education. *Science & Education (Springer)*, 10(6):581–593, November 2001. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kubli:2001:CTN

- [399] Fritz Kubli. Can the theory of narratives help teachers to become better storytellers? *Science & Education (Springer)*, 10(6):595–599, November 2001. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Freire:2001:GPH

- [400] Olival Freire, Jr. and Robinson M. Tenório. A graduate programme in history, philosophy and science teaching in Brazil. *Science & Education (Springer)*, 10(6):601–608, November 2001. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Lawson:2002:WDG

- [401] Anton E. Lawson. What does Galileo's discovery of Jupiter's moons tell us about the process of scientific discovery? *Science & Education (Springer)*, 11(1):1–24, January 2002. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Hakkarainen:2002:IMI

- [402] Kai Hakkarainen and Matti Sintonen. The interrogative model of inquiry and computer-supported collaborative learning. *Science & Education (Springer)*, 11(1):25–43, January 2002. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Melber:2002:SEU

- [403] Leah M. Melber and Linda M. Abraham. Science education in U.S. natural history museums: A historical perspective. *Science & Education (Springer)*, 11(1):45–54, January 2002. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Gess-Newsome:2002:UIE

- [404] Julie Gess-Newsome. The use and impact of explicit instruction about the nature of science and science inquiry in an elementary science methods course. *Science & Education (Springer)*, 11(1):55–67, January 2002. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Wang:2002:CES

- [405] Hsingchi A. Wang and Anne M. Cox-Petersen. A comparison of elementary, secondary and student teachers' perceptions and practices related to history of science instruction. *Science & Education (Springer)*, 11(1):69–81, January 2002. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kalman:2002:DCT

- [406] C. S. Kalman. Developing critical thinking in undergraduate courses: A philosophical approach. *Science & Education (Springer)*, 11(1):83–94, January 2002. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Glas:2002:KMM

- [407] Eduard Glas. Klein's model of mathematical creativity. *Science & Education (Springer)*, 11(1):95–104, January 2002. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Matthews:2002:VAA

- [408] Michael R. Matthews. Vale Arnold arons. *Science & Education (Springer)*, 11(1):105–106, January 2002. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:2002:Ca

- [409] Anonymous. Contributors. *Science & Education (Springer)*, 11(1):107–109, January 2002. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Pennock:2002:SCT

- [410] Robert T. Pennock. Should Creationism be taught in the public schools? *Science & Education (Springer)*, 11(2):111–133, March 2002. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Donnelly:2002:IHP

- [411] James Donnelly. Instrumentality, hermeneutics and the place of science in the school curriculum. *Science & Education (Springer)*, 11(2):135–153, March 2002. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Ohly:2002:CDC

- [412] Karl Peter Ohly. Changing the ‘Denkstil’ — a case study in the history of molecular genetics. *Science & Education (Springer)*, 11(2):155–167, March 2002. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Wang:2002:SIH

- [413] Hsingchi A. Wang and David D. Marsh. Science instruction with a humanistic twist: Teachers’ perception and practice in using the history of science in their classrooms. *Science & Education (Springer)*, 11(2):169–189, March 2002. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Davson-Galle:2002:SVO

- [414] Peter Davson-Galle. Science, values and objectivity. *Science & Education (Springer)*, 11(2):191–202, March 2002. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Heering:2002:CEP

- [415] Peter Heering and Falk Müller. Cultures of experimental practice — an approach in a museum. *Science & Education (Springer)*, 11(2):203–

214, March 2002. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:2002:Cb

- [416] Anonymous. Contributors. *Science & Education (Springer)*, 11(2):215–216, March 2002. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Ahlgren:2002:MST

- [417] Andrew Ahlgren and Soren Wheeler. Mapping the steps toward basic understanding of scientific inquiry. *Science & Education (Springer)*, 11(3):217–230, May 2002. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Carson:2002:ENI

- [418] Robert N. Carson. The epic narrative of intellectual culture as a framework for curricular coherence. *Science & Education (Springer)*, 11(3):231–246, May 2002. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Guisasola:2002:ECC

- [419] Jenaro Guisasola, Jose L. Zubimendi, Jose M. Almuđí, and Mikel Ceborio. The evolution of the concept of capacitance throughout the development of the electric theory and the understanding of its meaning by University students. *Science & Education (Springer)*, 11(3):247–261, May 2002. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Levrini:2002:RBC

- [420] Olivia Levrini. Reconstructing the basic concepts of general relativity from an educational and cultural point of view. *Science & Education (Springer)*, 11(3):263–278, May 2002. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Cotignola:2002:DLT

- [421] María I. Cotignola, Clelia Bordogna, Graciela Punte, and Osvaldo M. Cappannini. Difficulties in learning thermodynamic concepts are they linked to the historical development of this field? *Science & Education (Springer)*, 11(3):279–291, May 2002. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Barker:2002:PTA

- [422] Miles Barker. Putting thought in accordance with things: The demise of animal-based analogies for plant functions. *Science & Education (Springer)*, 11(3):293–304, May 2002. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Hirvonen:2002:PST

- [423] Pekka E. Hirvonen and Jouni Viiri. Physics student teachers' ideas about the objectives of practical work. *Science & Education (Springer)*, 11(3):305–316, May 2002. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:2002:Cc

- [424] Anonymous. Contributors. *Science & Education (Springer)*, 11(3):317–319, May 2002. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Heilbron:2002:HSE

- [425] J. L. Heilbron. History in science education, with cautionary tales about the agreement of measurement and theory. *Science & Education (Springer)*, 11(4):321–331, July 2002. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Leite:2002:HSS

- [426] Laurinda Leite. History of science in science education: Development and validation of a checklist for analysing the historical content of science textbooks. *Science & Education (Springer)*, 11(4):333–359, July 2002. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Bailin:2002:CTS

- [427] Sharon Bailin. Critical thinking and science education. *Science & Education (Springer)*, 11(4):361–375, July 2002. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Feigenberg:2002:SSM

- [428] Josef Feigenberg, Lea Valentina Lavrik, and Vladimir Shunyakov. Space scale: Models in the history of science and students mental models. *Science & Education (Springer)*, 11(4):377–392, July 2002. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Irzik:2002:WM

- [429] Gürol Irzik and Sibel Irzik. Which multiculturalism? *Science & Education (Springer)*, 11(4):393–403, July 2002. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Deboer:2002:SCT

- [430] George E. Deboer. Student-centered teaching in a standards-based world: Finding a sensible balance. *Science & Education (Springer)*, 11(4):405–417, July 2002. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:2002:Cd

- [431] Anonymous. Contributors. *Science & Education (Springer)*, 11(4):419–421, July 2002. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Rodriguez:2002:HSR

- [432] María A. Rodríguez and Mansoor Niaz. How in spite of the rhetoric, history of chemistry has been ignored in presenting atomic structure in textbooks. *Science & Education (Springer)*, 11(5):423–441, September 2002. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Quale:2002:RMS

- [433] Andreas Quale. The role of metaphor in scientific epistemology: A constructivist perspective and consequences for science education. *Science & Education (Springer)*, 11(5):443–457, September 2002. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Pocovi:2002:LFF

- [434] M. Cecilia Pocovi and Fred Finley. Lines of force: Faraday’s and students’ views. *Science & Education (Springer)*, 11(5):459–474, September 2002. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Speltini:2002:CPT

- [435] Cristina Speltini and María Celia Dibar Ure. Conservation in physics teaching, history of science and in child development. *Science & Education (Springer)*, 11(5):475–486, September 2002. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Golin:2002:IFP

- [436] Genrikh Golin. Introducing fundamental physical experiments to students. *Science & Education (Springer)*, 11(5):487–495, September 2002. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Hunma:2002:SSS

- [437] Vandana Hunma. Secondary school science and technology in Mauritius. *Science & Education (Springer)*, 11(5):497–511, September 2002. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Browne:2002:MIS

- [438] M. Neil Browne. The mandate for interdisciplinarity in science education: The case of economic and environmental sciences. *Science & Education (Springer)*, 11(5):513–522, September 2002. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:2002:Ce

- [439] Anonymous. Contributors. *Science & Education (Springer)*, 11(5):523–524, September 2002. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Szybek:2002:SEE

- [440] Piotr Szybek. Science education — an event staged on two stages simultaneously. *Science & Education (Springer)*, 11(6):525–555, November 2002. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Gil-Perez:2002:DCS

- [441] Daniel Gil-Pérez, Jenaro Guisasaola, Antonio Moreno, Antonio Cachapuz, Anna M. Pessoa De Carvalho, Joaquín Martínez Torregrosa, Julia Salinas, Pablo Valdés, Eduardo González, Anna Gené Duch, Andrée Dumas-Carré, Hugo Tricárico, and Rómulo Gallego. Defending constructivism in science education. *Science & Education (Springer)*, 11(6):557–571, November 2002. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). See response [500].

Brickhouse:2002:EWB

- [442] Nancy W. Brickhouse, Zoubeida R. Dagher, Harry L. Shipman, and William J. Letts. Evidence and warrants for belief in a College astronomy course. *Science & Education (Springer)*, 11(6):573–588, November 2002. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

RagoutDeLozano:2002:SLP

- [443] Silvia Ragout De Lozano and Marta Cardenas. Some learning problems concerning the use of symbolic language in physics. *Science & Education (Springer)*, 11(6):589–599, November 2002. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Levrini:2002:SVS

- [444] Olivia Levrini. The substantialist view of spacetime proposed by Minkowski and its educational implications. *Science & Education (Springer)*, 11(6):601–617, November 2002. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:2002:Cf

- [445] Anonymous. Contributors. *Science & Education (Springer)*, 11(6):619–622, November 2002. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:2002:CV

- [446] Anonymous. Contents of volume 11. *Science & Education (Springer)*, 11(6):623–626, November 2002. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Ford:2003:RMH

- [447] Michael J. Ford. Representing and meaning in history and in classrooms: Developing symbols and conceptual organizations of free-fall motion. *Science & Education (Springer)*, 12(1):1–25, January 2003. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Izquierdo-Aymerich:2003:EFS

- [448] Mercè Izquierdo-Aymerich and Agustín Adúriz-Bravo. Epistemological foundations of school science. *Science & Education (Springer)*, 12(1):27–43, January 2003. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Galili:2003:NFL

- [449] Igal Galili and Michael Tseitlin. Newton's First Law: Text, translations, interpretations and physics education. *Science & Education (Springer)*, 12(1):45–73, January 2003. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Glas:2003:ERB

- [450] Eduard Glas. Educational reform and the birth of a mathematical community in revolutionary France, 1790–1815. *Science & Education (Springer)*, 12(1):75–89, January 2003. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Leach:2003:ISV

- [451] John Leach and Phil Scott. Individual and sociocultural views of learning in science education. *Science & Education (Springer)*, 12(1):91–113, January 2003. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Koul:2003:RPI

- [452] Ravinder Koul. The relevance of public image of science in science education policy and practice. *Science & Education (Springer)*, 12(1):115–124, January 2003. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:2003:Ca

- [453] Anonymous. Contributors. *Science & Education (Springer)*, 12(1):125–126, January 2003. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:2003:N

- [454] Anonymous. News. *Science & Education (Springer)*, 12(1):127–129, January 2003. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Nola:2003:NBR

- [455] Robert Nola. ‘Naked before reality; skinless before the absolute’. *Science & Education (Springer)*, 12(2):131–166, February 2003. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Goodney:2003:CCC

- [456] David E. Goodney and Carol S. Long. The collective classic: A case for the reading of science. *Science & Education (Springer)*, 12(2):167–184, February 2003. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Astore:2003:SWR

- [457] William J. Astore. Smart warriors: A rationale for educating Air Force Academy cadets in the history of science, technology, and warfare. *Sci-*

ence & Education (Springer), 12(2):185–196, February 2003. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Dodick:2003:GHS

- [458] Jeff Dodick and Nir Orion. Geology as an historical science: Its perception within science and the education system. *Science & Education (Springer)*, 12(2):197–211, February 2003. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Stinner:2003:LKA

- [459] Art Stinner and Jürgen Teichmann. Lord Kelvin and the age-of-the-Earth debate: A dramatization. *Science & Education (Springer)*, 12(2):213–228, February 2003. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Fowler:2003:NGE

- [460] Michael Fowler. News: Galileo and Einstein: Using history to teach basic physics to nonscientists. *Science & Education (Springer)*, 12(2):229–231, February 2003. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:2003:Cb

- [461] Anonymous. Contributors. *Science & Education (Springer)*, 12(2):233–235, February 2003. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Sather:2003:CIA

- [462] Jostein Sæther. The concept of ideology in analysis of fundamental questions in science education. *Science & Education (Springer)*, 12(3):237–260, April 2003. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Rudge:2003:RPF

- [463] David Wÿss Rudge. The role of photographs and films in Kettlewell's popularizations of the phenomenon of industrial melanism. *Science & Education (Springer)*, 12(3):261–287, April 2003. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Slowik:2003:MMS

- [464] Edward Slowik. Myth, music, and science: Teaching the philosophy of science through the use of non-scientific examples. *Science & Education (Springer)*, 12(3):289–302, April 2003. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Hager:2003:TCT

- [465] Paul Hager, Ray Sleet, Peter Logan, and Mal Hooper. Teaching critical thinking in undergraduate science courses. *Science & Education (Springer)*, 12(3):303–313, April 2003. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Allchin:2003:LSS

- [466] Douglas Allchin. Lawson’s shoehorn, or should the philosophy of science be rated ‘x’? *Science & Education (Springer)*, 12(3):315–329, April 2003. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). See [467, 515, 610].

Lawson:2003:ASW

- [467] Anton E. Lawson. Allchin’s shoehorn, or why science is hypothetico-deductive. *Science & Education (Springer)*, 12(3):331–337, April 2003. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). See comments [515, 610].

Anonymous:2003:Cc

- [468] Anonymous. Contributors. *Science & Education (Springer)*, 12(3):337–340, April 2003. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Takao:2003:AEU

- [469] Allison Y. Takao and Gregory J. Kelly. Assessment of evidence in University students’ scientific writing. *Science & Education (Springer)*, 12(4):341–363, May 2003. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Reiner:2003:LTE

- [470] Miriam Reiner and Lior M. Burko. On the limitations of thought experiments in physics and the consequences for physics education. *Science & Education (Springer)*, 12(4):365–385, May 2003. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Pocovi:2003:HEF

- [471] M. Cecilia Pocovi and Fred N. Finley. Historical evolution of the field view and textbook accounts. *Science & Education (Springer)*, 12(4):387–396, May 2003. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

DeBerg:2003:DTE

- [472] Kevin C. De Berg. The development of the theory of electrolytic dissociation. *Science & Education (Springer)*, 12(4):397–419, May 2003. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Ellis:2003:BAN

- [473] P. R. Ellis. It's a breakthrough — an account of new resources for schools. *Science & Education (Springer)*, 12(4):421–427, May 2003. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:2003:Cd

- [474] Anonymous. Contributors. *Science & Education (Springer)*, 12(4):429–430, May 2003. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Matthews:2003:MBP

- [475] Michael R. Matthews. Mario Bunge: Physicist and philosopher. *Science & Education (Springer)*, 12(5–6):431–444, August 2003. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Bunge:2003:TFC

- [476] Mario Bunge. Twenty-five centuries of quantum physics: From Pythagoras to us, and from subjectivism to realism. *Science & Education (Springer)*, 12(5–6):445–466, August 2003. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1023/A:1025364722916>. See reply [486].

Pauri:2003:DAP

- [477] Massimo Pauri. Don't ask Pythagoras about the quantum. *Science & Education (Springer)*, 12(5–6):467–477, August 2003. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Forge:2003:SBV

- [478] John Forge. Sharp and blunt values. *Science & Education (Springer)*, 12(5–6):479–493, August 2003. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Levy-Leblond:2003:NQ

- [479] Jean-Marc Lévy-Leblond. On the nature of quantons. *Science & Education (Springer)*, 12(5–6):495–502, August 2003. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Cordero:2003:UQP

- [480] Alberto Cordero. Understanding quantum physics. *Science & Education (Springer)*, 12(5–6):503–511, August 2003. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Heathcote:2003:QHR

- [481] Adrian Heathcote. Quantum heterodoxy: Realism at the Planck length. *Science & Education (Springer)*, 12(5–6):513–529, August 2003. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Cini:2003:HRQ

- [482] Marcello Cini. How real is the quantum world? *Science & Education (Springer)*, 12(5–6):531–540, August 2003. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Greca:2003:DEC

- [483] Ileana Maria Greca and Olival Freire, Jr. Does an emphasis on the concept of quantum states enhance students' understanding of quantum mechanics? *Science & Education (Springer)*, 12(5–6):541–557, August 2003. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Pospiech:2003:PQM

- [484] Gesche Pospiech. Philosophy and quantum mechanics in science teaching. *Science & Education (Springer)*, 12(5–6):559–571, August 2003. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Freire:2003:SEQ

- [485] Olival Freire, Jr. A story without an ending: The quantum physics controversy 1950–1970. *Science & Education (Springer)*, 12(5–6):573–586, August 2003. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Bunge:2003:QQB

- [486] Mario Bunge. Quantons are quaint but basic and real, and the quantum theory explains much but not everything: Reply to my commentators. *Science & Education (Springer)*, 12(5–6):587–597, August 2003. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). See [476].

Anonymous:2003:Ce

- [487] Anonymous. Contributors. *Science & Education (Springer)*, 12(5–6):599–601, August 2003. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Holton:2003:WHS

- [488] Gerald Holton. What historians of science and science educators can do for one another. *Science & Education (Springer)*, 12(7):603–616, October 2003. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Stinner:2003:RCS

- [489] Arthur Stinner, Barbara A. McMillan, Don Metz, Jana M. Jilek, and Stephen Klassen. The renewal of case studies in science education. *Science & Education (Springer)*, 12(7):617–643, October 2003. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Trumper:2003:PLH

- [490] Ricardo Trumper. The physics laboratory — a historical overview and future perspectives. *Science & Education (Springer)*, 12(7):645–670, October 2003. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Hakkarainen:2003:CCE

- [491] Kai Hakkarainen. Can cognitive explanations be eliminated? *Science & Education (Springer)*, 12(7):671–689, October 2003. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Shibley:2003:UNE

- [492] Ivan A. Shibley, Jr. Using newspapers to examine the nature of science. *Science & Education (Springer)*, 12(7):691–702, October 2003. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Solbes:2003:ANI

- [493] J. Solbes and M. Traver. Against a negative image of science: History of science and the teaching of physics and chemistry. *Science & Education (Springer)*, 12(7):703–717, October 2003. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Ben-Ari:2003:NYL

- [494] Mordechai Ben-Ari. The NOMA of Yishayahu Leibowitz. *Science & Education (Springer)*, 12(7):719–723, October 2003. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:2003:Cf

- [495] Anonymous. Contributors. *Science & Education (Springer)*, 12(7):725–727, October 2003. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Hofmann:2003:FEI

- [496] James R. Hofmann and Bruce H. Weber. The fact of evolution: Implications for science education. *Science & Education (Springer)*, 12(8): 729–760, November 2003. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kalman:2003:CAC

- [497] Calvin S. Kalman and Mark W. Aulls. Can an analysis of the contrast between pre-Galilean and Newtonian theoretical frameworks help students develop a scientific mindset. *Science & Education (Springer)*, 12(8):761–772, November 2003. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Grandy:2003:WMW

- [498] Richard E. Grandy. What are models and why do we need them? *Science & Education (Springer)*, 12(8):773–777, November 2003. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Holton:2003:PPC

- [499] Gerald Holton. The project physics course, then and now. *Science & Education (Springer)*, 12(8):779–786, November 2003. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Niaz:2003:CDC

- [500] Mansoor Niaz, Fouad Abd-El-Khalick, Alicia Benarroch, Liberato Cardellini, Carlos E. Laburú, Nicolás Marín, Luis A. Montes, Robert Nola, Yuri Orlik, Lawrence C. Scharmann, Chin-Chung Tsai, and Georgios Tsaparlis. Constructivism: Defense or a continual critical appraisal a response to Gil-Pérez et al. *Science & Education (Springer)*, 12(8): 787–797, November 2003. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). See [441].

Anonymous:2003:Cg

- [501] Anonymous. Contributors. *Science & Education (Springer)*, 12(8):799–802, November 2003. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:2003:CV

- [502] Anonymous. Contents of volume 12 2003. *Science & Education (Springer)*, 12(8):803–806, November 2003. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:2003:AIV

- [503] Anonymous. Author index volume 12 2003. *Science & Education (Springer)*, 12(8):807–808, November 2003. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Matthews:2004:E

- [504] Michael R. Matthews. Editorial. *Science & Education (Springer)*, 13(1–2):1–5, February 2004. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Matthews:2004:RPE

- [505] Michael R. Matthews. Reappraising positivism and education: The arguments of Philipp Frank and Herbert Feigl. *Science & Education (Springer)*, 13(1–2):7–39, February 2004. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Uebel:2004:EEP

- [506] Thomas E. Uebel. Education, enlightenment and positivism: The Vienna Circle’s scientific world-conception revisited. *Science & Education (Springer)*, 13(1–2):41–66, February 2004. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Phillips:2004:TDA

- [507] D. C. Phillips. Two decades after: “After The Wake: Postpositivistic Educational Thought”. *Science & Education (Springer)*, 13(1–2):67–84, February 2004. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Vemulapalli:2004:CHP

- [508] G. Krishna Vemulapalli and Henry C. Byerly. Carl Hempel’s philosophy of science: How to avoid epistemic discontinuity and pedagogical pitfalls. *Science & Education (Springer)*, 13(1–2):85–98, February 2004. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Frank:2004:PPS

- [509] Phillip Frank. The place of the philosophy of science in the curriculum of the physics student. *Science & Education (Springer)*, 13(1–2):99–120, February 2004. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Feigl:2004:AEO

- [510] Herbert Feigl. Aims of education for our age of science: Reflections of a logical empiricist (orig. 1955). *Science & Education (Springer)*, 13(1–2): 121–149, February 2004. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:2004:Ca

- [511] Anonymous. Contributors. *Science & Education (Springer)*, 13(1–2): 151–152, February 2004. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:2004:AER

- [512] Anonymous. Acknowledgment of external reviewers. *Science & Education (Springer)*, 13(1–2):153–154, February 2004. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Lawson:2004:BRR

- [513] Anton E. Lawson. Book review: *T. rex, the Crater of Doom, and the Nature of Scientific Discovery*. *Science & Education (Springer)*, 13(3): 155–177, April 2004. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Allchin:2004:PP

- [514] Douglas Allchin. Pseudohistory and pseudoscience. *Science & Education (Springer)*, 13(3):179–195, April 2004. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). See reply [544, 611].

Brush:2004:CES

- [515] Stephen G. Brush. Comments on the epistemological shoehorn debate. *Science & Education (Springer)*, 13(3):197–200, April 2004. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). See [466, 467].

Paixao:2004:CDD

- [516] Isabel Paixão, Sílvia Calado, Sílvia Ferreira, Vanda Salves, and Ana M. Smorais. Continental drift: A discussion strategy for secondary school. *Science & Education (Springer)*, 13(3):201–221, April 2004. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Jorgensen:2004:RVM

- [517] Lone Morris Jorgensen and Sue Ann Ryan. Relativism, values and morals in the New Zealand Curriculum Framework. *Science & Edu-*

ation (*Springer*), 13(3):223–233, April 2004. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Ben-Ari:2004:RND

- [518] Morechai Ben-Ari. On random numbers and design. *Science & Education (Springer)*, 13(3):235–241, April 2004. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Nola:2004:BRM

- [519] Robert Nola. Book review: Meera Nanda, *Prophets Facing Backward: Postmodern Critiques of Science and Hindu Nationalism in India*. *Science & Education (Springer)*, 13(3):243–249, April 2004. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:2004:BNa

- [520] Anonymous. Book notes. *Science & Education (Springer)*, 13(3):251–253, April 2004. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:2004:N

- [521] Anonymous. News. *Science & Education (Springer)*, 13(3):255–256, April 2004. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:2004:Cb

- [522] Anonymous. Contributors. *Science & Education (Springer)*, 13(3):257–259, April 2004. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Matthews:2004:PPS

- [523] Michael R. Matthews, Colin Gauld, and Arthur Stinner. The pendulum: Its place in science, culture and pedagogy. *Science & Education (Springer)*, 13(4–5):261–277, July 2004. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Peters:2004:PCR

- [524] Randall D. Peters. The pendulum in the 21st century — relic or trend-setter? *Science & Education (Springer)*, 13(4–5):279–295, July 2004. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Newburgh:2004:PPL

- [525] Ronald Newburgh. The pendulum: A paradigm for the linear oscillator. *Science & Education (Springer)*, 13(4–5):297–307, July 2004. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Biener:2004:PPM

- [526] Zvi Biener and Chris Smeenk. Pendulums, pedagogy, and matter: Lessons from the editing of Newton’s *Principia*. *Science & Education (Springer)*, 13(4–5):309–320, July 2004. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Gauld:2004:TMS

- [527] Colin Gauld. The treatment of the motion of a simple pendulum in some early 18th century Newtonian textbooks. *Science & Education (Springer)*, 13(4–5):321–332, July 2004. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Machamer:2004:GPL

- [528] Peter Machamer and Brian Hepburn. Galileo and the pendulum: Latching on to time. *Science & Education (Springer)*, 13(4–5):333–347, July 2004. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Nola:2004:PMC

- [529] Robert Nola. Pendula, models, constructivism and reality. *Science & Education (Springer)*, 13(4–5):349–377, July 2004. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Rosenblatt:2004:PP

- [530] Louis B. Rosenblatt. The poet and the pendulum. *Science & Education (Springer)*, 13(4–5):379–388, July 2004. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Bond:2004:PP

- [531] Trevor G. Bond. Piaget and the pendulum. *Science & Education (Springer)*, 13(4–5):389–399, July 2004. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Whitaker:2004:TTD

- [532] Robert J. Whitaker. Types of two-dimensional pendulums and their uses in education. *Science & Education (Springer)*, 13(4–5):401–415, July 2004. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Barnes:2004:PVT

- [533] Marianne B. Barnes, James Garner, and David Reid. The pendulum as a vehicle for transitioning from classical to quantum physics: History, quantum concepts, and educational challenges. *Science & Education (Springer)*, 13(4–5):417–436, July 2004. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Ezrailson:2004:ADP

- [534] Cathy Mariotti Ezrailson, G. Donald Allen, and Cathleen C. Loving. Analyzing dynamic pendulum motion in an interactive online environment using flash. *Science & Education (Springer)*, 13(4–5):437–457, July 2004. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Galili:2004:PAI

- [535] Igal Galili and David Sela. Pendulum activities in the Israeli physics curriculum: Used and missed opportunities. *Science & Education (Springer)*, 13(4–5):459–472, July 2004. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Manabu:2004:RSU

- [536] Sumida Manabu. The reproduction of scientific understanding about pendulum motion in the public. *Science & Education (Springer)*, 13(4–5):473–492, July 2004. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:2004:BNb

- [537] Anonymous. Book notes. *Science & Education (Springer)*, 13(4–5):493–496, July 2004. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Davson-Galle:2004:PSC

- [538] Peter Davson-Galle. Philosophy of science, critical thinking and science education. *Science & Education (Springer)*, 13(6):503–517, August 2004. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Marroum:2004:RIS

- [539] Renata-Maria Marroum. The role of insight in science education: An introduction to the cognitional theory of Bernard Lonergan. *Science & Education (Springer)*, 13(6):519–540, August 2004. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Roscoe:2004:LTC

- [540] Keith Roscoe. Lonergan's theory of cognition, constructivism and science education. *Science & Education (Springer)*, 13(6):541–551, August 2004. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Smith:2004:KBU

- [541] Mike U. Smith and Harvey Siegel. Knowing, believing, and understanding: What goals for science education? *Science & Education (Springer)*, 13(6):553–582, August 2004. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Cobern:2004:AOR

- [542] Bill Cobern. Apples and oranges: A rejoinder to Smith and Siegel. *Science & Education (Springer)*, 13(6):583–589, August 2004. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Davson-Galle:2004:UKB

- [543] Peter Davson-Galle. Understanding: 'knowledge', 'belief' and 'understanding'. *Science & Education (Springer)*, 13(6):591–598, August 2004. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Lawson:2004:RAP

- [544] Anton E. Lawson. A reply to Allchin's "Pseudohistory and pseudoscience". *Science & Education (Springer)*, 13(6):599–605, August 2004. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). See [514, 611].

Matthews:2004:I

- [545] Michael R. Matthews, Colin Gauld, and Arthur Stinner. Introduction. *Science & Education (Springer)*, 13(7–8):609–611, November 2004. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Weltner:2004:ITN

- [546] Klaus Weltner, Antonio Sergio C. Esperidião, and Paulo Miranda. Introduction to the treatment of non-linear effects using a gravitational pendulum. *Science & Education (Springer)*, 13(7–8):611–629, November 2004. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Medina:2004:ECS

- [547] C. Medina. Experimental control of simple pendulum model. *Science & Education (Springer)*, 13(7–8):631–640, November 2004. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Peters:2004:SCP

- [548] Randall D. Peters. Soup-can pendulum. *Science & Education (Springer)*, 13(7–8):641–652, November 2004. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Phillips:2004:WMF

- [549] Norman Phillips. What makes the Foucault pendulum move among the stars? *Science & Education (Springer)*, 13(7–8):653–661, November 2004. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Gauld:2004:TCP

- [550] Colin Gauld. The treatment of cycloidal pendulum motion in Newton's *Principia*. *Science & Education (Springer)*, 13(7–8):663–673, November 2004. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Aczel:2004:LFH

- [551] Amir D. Aczel. Léon Foucault: His life, times and achievements. *Science & Education (Springer)*, 13(7–8):675–687, November 2004. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Matthews:2004:IGP

- [552] Michael R. Matthews. Idealisation and Galileo's pendulum discoveries: Historical, philosophical and pedagogical considerations. *Science & Education (Springer)*, 13(7–8):689–715, November 2004. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Aduriz-Bravo:2004:MPP

- [553] Agustín Adúriz-Bravo. Methodology and politics: A proposal to teach the structuring ideas of the philosophy of science through the pendulum. *Science & Education (Springer)*, 13(7–8):717–731, November 2004. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Lomas:2004:DIP

- [554] Dennis Lomas. Degree of influence on perception of belief and social setting: Its relevance to understanding pendulum motion. *Science & Education (Springer)*, 13(7–8):733–742, November 2004. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Zachos:2004:PPA

- [555] Paul Zachos. Pendulum phenomena and the assessment of scientific inquiry capabilities. *Science & Education (Springer)*, 13(7–8):743–756,

November 2004. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Stafford:2004:WPC

- [556] Erin Stafford. What the pendulum can tell educators about children's scientific reasoning. *Science & Education (Springer)*, 13(7-8):757-790, November 2004. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Fowler:2004:UES

- [557] Michael Fowler. Using Excel to simulate pendulum motion and Maybe understand calculus a little better. *Science & Education (Springer)*, 13(7-8):791-796, November 2004. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Carson:2004:TCH

- [558] Robert N. Carson. Teaching cultural history from primary events. *Science & Education (Springer)*, 13(7-8):797-809, November 2004. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Gauld:2004:PPE

- [559] Colin Gauld. Pendulums in the physics education literature: A bibliography. *Science & Education (Springer)*, 13(7-8):811-832, November 2004. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:2004:Cc

- [560] Anonymous. Contributors. *Science & Education (Springer)*, 13(7-8):833-836, November 2004. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kipnis:2005:CSD

- [561] Nahum Kipnis. Chance in science: The discovery of electromagnetism by H. C. Oersted. *Science & Education (Springer)*, 14(1):1-28, January 2005. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Aduriz-Bravo:2005:UMC

- [562] Agustín Adúriz-Bravo and Mercè Izquierdo-Aymerich. Utilising the '3P-model' to characterise the discipline of didactics of science. *Science & Education (Springer)*, 14(1):29-41, January 2005. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Niaz:2005:ODE

- [563] Mansoor Niaz and María A. Rodríguez. The oil drop experiment: Do physical chemistry textbooks refer to its controversial nature? *Science & Education (Springer)*, 14(1):43–57, January 2005. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Koliopoulos:2005:PPS

- [564] Dimitris Koliopoulos and Costas Constantinou. The pendulum as presented in school science textbooks of Greece and Cyprus. *Science & Education (Springer)*, 14(1):59–73, January 2005. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Resnik:2005:AAS

- [565] David B. Resnik. Affirmative action in science and engineering. *Science & Education (Springer)*, 14(1):75–93, January 2005. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:2005:EIGa

- [566] Anonymous. Eighth IHPST group international conference, Leeds, July 15–18, 2005. *Science & Education (Springer)*, 14(1):95–96, January 2005. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:2005:RSE

- [567] Anonymous. Reviewers for science & education. *Science & Education (Springer)*, 14(1):97–99, January 2005. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:2005:Ca

- [568] Anonymous. Contributors. *Science & Education (Springer)*, 14(1):101–102, January 2005. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Pinnick:2005:FFC

- [569] Cassandra L. Pinnick. The failed feminist challenge to ‘fundamental epistemology’. *Science & Education (Springer)*, 14(2):103–116, February 2005. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Fawkes:2005:EEC

- [570] Don Fawkes, Bill O’meara, Dave Weber, and Dan Flage. Examining the exam: A critical look at The California Critical Thinking Skills Test. *Science & Education (Springer)*, 14(2):117–135, February 2005. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Khait:2005:DMP

- [571] Alexander Khait. The definition of mathematics: Philosophical and pedagogical aspects. *Science & Education (Springer)*, 14(2):137–159, February 2005. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Erduran:2005:APC

- [572] Sibel Erduran. Applying the philosophical concept of reduction to the chemistry of water: Implications for chemical education. *Science & Education (Springer)*, 14(2):161–171, February 2005. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kousathana:2005:IMA

- [573] Margarita Kousathana, Margarita Demerouti, and Georgios Tsaparlis. Instructional misconceptions in acid–base equilibria: An analysis from a history and philosophy of science perspective. *Science & Education (Springer)*, 14(2):173–193, February 2005. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:2005:Cb

- [574] Anonymous. Contributors. *Science & Education (Springer)*, 14(2):195–196, February 2005. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:2005:EIGb

- [575] Anonymous. Eighth IHPST group international conference, Leeds, July 15–18, 2005. *Science & Education (Springer)*, 14(2):197–198, February 2005. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Metz:2005:IFS

- [576] Don Metz and Art Stinner. Introduction: Footprints in the snow. *Science & Education (Springer)*, 14(3–5):5–6, July 2005. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kipnis:2005:SAT

- [577] Nahum Kipnis. Scientific analogies and their use in teaching science. *Science & Education (Springer)*, 14(3–5):199–233, July 2005. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Tseitlin:2005:PTS

- [578] Michael Tseitlin and Igal Galili. Physics teaching in the search for its self. *Science & Education (Springer)*, 14(3–5):235–261, July 2005. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Perla:2005:NSR

- [579] Rocco J. Perla and James Carifio. The nature of scientific revolutions from the vantage point of chaos theory. *Science & Education (Springer)*, 14(3–5):263–290, July 2005. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Gauld:2005:HMS

- [580] Colin F. Gauld. Habits of mind, scholarship and decision making in science and religion. *Science & Education (Springer)*, 14(3–5):291–308, July 2005. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Gil-Perez:2005:TAS

- [581] Daniel Gil-Pérez, Amparo Vilches, Isabel Fernández, Antonio Cachapuz, João Praia, Pablo Valdés, and Julia Salinas. Technology as ‘applied science’. *Science & Education (Springer)*, 14(3–5):309–320, July 2005. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Guisasola:2005:NSI

- [582] Jenaro Guisasola, José M. Almudí, and Carlos Furió. The nature of science and its implications for physics textbooks. *Science & Education (Springer)*, 14(3–5):321–328, July 2005. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

vonBaeyer:2005:DWS

- [583] Hans Christian von Baeyer. Dr. William Small: Echoes of a quiet life. *Science & Education (Springer)*, 14(3–5):339–351, July 2005. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Abiko:2005:LVP

- [584] Seiya Abiko. The light-velocity postulate. *Science & Education (Springer)*, 14(3–5):353–365, July 2005. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Ben-Ari:2005:SLH

- [585] Mordechai Ben-Ari. Situated learning in ‘this high-technology world’. *Science & Education (Springer)*, 14(3–5):367–376, July 2005. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Dagher:2005:HSP

- [586] Zoubeida R. Dagher and Danielle J. Ford. How are scientists portrayed in children's science biographies? *Science & Education (Springer)*, 14(3–5):377–393, July 2005. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Skoog:2005:CHE

- [587] Gerald Skoog. The coverage of human evolution in high school biology textbooks in the 20th century and in current state science standards. *Science & Education (Springer)*, 14(3–5):395–422, July 2005. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Howe:2005:RHS

- [588] Eric Michael Howe and David Wÿss Rudge. Recapitulating the history of sickle-cell anemia research. *Science & Education (Springer)*, 14(3–5):423–441, July 2005. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Babb:2005:MCP

- [589] Jeff Babb. Mathematical concepts and proofs from Nicole Oresme. *Science & Education (Springer)*, 14(3–5):443–456, July 2005. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Begoray:2005:RST

- [590] Deborah L. Begoray and Arthur Stinner. Representing science through historical drama. *Science & Education (Springer)*, 14(3–5):457–471, July 2005. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Carson:2005:MLP

- [591] Robert Carson and Stuart Rowlands. Mechanics as the logical point of entry for the enculturation into scientific thinking. *Science & Education (Springer)*, 14(3–5):473–492, July 2005. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kubli:2005:STD

- [592] Fritz Kubli. Science teaching as a dialogue — Bakhtin, Vygotsky and some applications in the classroom. *Science & Education (Springer)*, 14(6):501–534, August 2005. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Paavola:2005:KCM

- [593] Sami Paavola and Kai Hakkarainen. The knowledge creation metaphor — an emergent epistemological approach to learning. *Science & Education (Springer)*, 14(6):535–557, August 2005. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Waldegg:2005:BAP

- [594] Guillermina Waldegg. Bolzano’s approach to the paradoxes of infinity: Implications for teaching. *Science & Education (Springer)*, 14(6):559–577, August 2005. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Clary:2005:TLG

- [595] Renee M. Clary and James H. Wandersee. Through the looking glass: The history of aquarium views and their potential to improve learning in science classrooms. *Science & Education (Springer)*, 14(6):579–596, August 2005. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Skordoulis:2005:IND

- [596] Constantine D. Skordoulis and Krystallia Halkia. Introduction: Notes on the development of history, philosophy and science teaching in Greece. *Science & Education (Springer)*, 14(7–8):601–605, November 2005. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Karakostas:2005:RVC

- [597] Vassilios Karakostas and Pandora Hadzidaki. Realism vs. constructivism in contemporary physics: The impact of the debate on the understanding of quantum theory and its instructional process. *Science & Education (Springer)*, 14(7–8):607–629, November 2005. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Halkia:2005:CED

- [598] Krystallia Halkia and Iphigenia Botouropoulou. Cultural and educational dimensions reflected in books popularizing scientific knowledge — a case study: The sky, a 19th century book popularizing astronomy. *Science & Education (Springer)*, 14(7–8):631–647, November 2005. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Raftopoulos:2005:PNL

- [599] Athanasios Raftopoulos, Niki Kalyfommatou, and Constantinos P. Constantinou. The properties and the nature of light: The study of Newton’s

work and the teaching of optics. *Science & Education (Springer)*, 14(7–8):649–673, November 2005. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Mihas:2005:HAT

- [600] Pavlos Mihas and Panagiotis Andreadis. A historical approach to the teaching of the linear propagation of light, shadows and pinhole cameras. *Science & Education (Springer)*, 14(7–8):675–697, November 2005. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Dedes:2005:MVC

- [601] Christos Dedes. The mechanism of vision: Conceptual similarities between historical models and children’s representations. *Science & Education (Springer)*, 14(7–8):699–712, November 2005. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Maniati:2005:EUE

- [602] Helen A. Maniati. The educational utilization of elements of the history of natural sciences (19th century): Highlighting the cognitive continuity with antiquity. *Science & Education (Springer)*, 14(7–8):713–720, November 2005. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kindi:2005:SST

- [603] Vasso Kindi. Should science teaching involve the history of science? an assessment of Kuhn’s view. *Science & Education (Springer)*, 14(7–8):721–731, November 2005. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Rentzos:2005:ITC

- [604] Ioannis Rentzos. Interdisciplinarity and the two cultures in *Φυσικός Κόσμος* — approaches in a Greek science magazine in the 1970s. *Science & Education (Springer)*, 14(7–8):733–745, November 2005. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Patsopoulos:2005:RCE

- [605] Dimitrios Patsopoulos. (Re)constructions of etymology of the term ‘electricity’ in French, German and modern Greek textbooks of physics of 18th–19th centuries. *Science & Education (Springer)*, 14(7–8):747–761, November 2005. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kruckeberg:2006:DPS

- [606] Robert Kruckeberg. A Deweyan perspective on science education: Constructivism, experience, and why we learn science. *Science & Education (Springer)*, 15(1):1–30, February 2006. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Koponen:2006:GRE

- [607] Ismo T. Koponen and Terhi Mäntylä. Generative role of experiments in physics and in teaching physics: A suggestion for epistemological reconstruction. *Science & Education (Springer)*, 15(1):31–54, February 2006. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Seker:2006:UHM

- [608] Hayati Seker and Laura C. Welsh. ‘The use of history of mechanics in teaching motion and force units’. *Science & Education (Springer)*, 15(1):55–89, February 2006. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Allchin:2006:WRH

- [609] Douglas Allchin. Why respect for history — and historical error — matters. *Science & Education (Springer)*, 15(1):91–111, February 2006. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Allchin:2006:LSR

- [610] Douglas Allchin. Lawson’s shoehorn, Reprise. *Science & Education (Springer)*, 15(1):113–120, February 2006. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). See [466, 515].

Hershey:2006:PPC

- [611] David R. Hershey. Pseudohistory and pseudoscience: Corrections to Allchin’s historical, conceptual and educational claims. *Science & Education (Springer)*, 15(1):121–125, February 2006. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). See [514, 544].

Clericuzio:2006:P

- [612] Antonio Clericuzio. Preface. *Science & Education (Springer)*, 15(2–4):129–130, March 2006. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Lines:2006:NPM

- [613] David A. Lines. Natural philosophy and mathematics in Sixteenth-Century Bologna*. *Science & Education (Springer)*, 15(2–4):131–150,

March 2006. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Feldhay:2006:WMT

- [614] Rivka Feldhay. On wonderful machines: The transmission of mechanical knowledge by Jesuits*. *Science & Education (Springer)*, 15(2-4):151-172, March 2006. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Moran:2006:AEM

- [615] Bruce T. Moran. Axioms, essences, and mostly clean hands: Preparing to teach chemistry with Libavius and Aristotle. *Science & Education (Springer)*, 15(2-4):173-187, March 2006. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Pantin:2006:TMA

- [616] Isabelle Pantin. Teaching mathematics and astronomy in France: The Collège Royal (1550-1650). *Science & Education (Springer)*, 15(2-4):189-207, March 2006. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Navarro-Brotóns:2006:TMD

- [617] Víctor Navarro-Brotóns. The teaching of the mathematical disciplines in Sixteenth-Century Spain*. *Science & Education (Springer)*, 15(2-4):209-233, March 2006. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Gatto:2006:CCO

- [618] Romano Gatto. Christoph Clavius' "*Ordo Servandus in Addiscendis Disciplinis Mathematicis*" and the teaching of mathematics in Jesuit colleges at the beginning of the modern era. *Science & Education (Springer)*, 15(2-4):235-258, March 2006. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Brockliss:2006:MNR

- [619] Laurence Brockliss. The moment of no return: The University of Paris and the death of Aristotelianism. *Science & Education (Springer)*, 15(2-4):259-278, March 2006. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Blum:2006:BPR

- [620] Paul Richard Blum. Benedictus Pererius: Renaissance culture at the origins of Jesuit science. *Science & Education (Springer)*, 15(2-4):279-

304, March 2006. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Cormack:2006:CUT

- [621] Lesley B. Cormack. The commerce of utility: Teaching mathematical geography in early modern England. *Science & Education (Springer)*, 15(2–4):305–322, March 2006. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Camerota:2006:TEP

- [622] Filippo Camerota. Teaching Euclid in a practical context: Linear perspective and practical geometry. *Science & Education (Springer)*, 15(2–4):323–334, March 2006. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Clericuzio:2006:TCC

- [623] Antonio Clericuzio. Teaching chemistry and chemical textbooks in France. From Beguin to Lemery. *Science & Education (Springer)*, 15(2–4):335–355, March 2006. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Favino:2006:MMS

- [624] Federica Favino. Mathematics and mathematicians at Sapienza University in Rome (XVII—XVIII Century). *Science & Education (Springer)*, 15(2–4):357–392, March 2006. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Tseitlin:2006:STW

- [625] Michael Tseitlin and Igal Galili. Science teaching: What does it mean? *Science & Education (Springer)*, 15(5):393–417, February 2006. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Mellado:2006:CPS

- [626] Vicente Mellado, Constantino Ruiz, María Luisa Bermejo, and Roque Jiménez. Contributions from the philosophy of science to the education of science teachers. *Science & Education (Springer)*, 15(5):419–445, February 2006. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Martinez-Torregrosa:2006:MPE

- [627] Joaquín Martínez-Torregrosa, Rafael López-Gay, and Albert Gras-Martí. Mathematics in physics education: Scanning historical evolution of the

differential to find a more appropriate model for teaching differential calculus in physics. *Science & Education (Springer)*, 15(5):447–462, February 2006. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Clough:2006:LRD

- [628] Michael P. Clough. Learners' responses to the demands of conceptual change: Considerations for effective nature of science instruction. *Science & Education (Springer)*, 15(5):463–494, February 2006. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

DeBerg:2006:KMT

- [629] Kevin C. De Berg. The kinetic–molecular and thermodynamic approaches to osmotic pressure: A study of dispute in physical chemistry and the implications for chemistry education. *Science & Education (Springer)*, 15(5):495–519, February 2006. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Stuewer:2006:HS

- [630] Roger H. Stuewer. Historical surprises. *Science & Education (Springer)*, 15(5):521–530, February 2006. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Matthews:2006:E

- [631] Michael R. Matthews, Colin F. Gauld, and Arthur Stinner. Editorial. *Science & Education (Springer)*, 15(6):531–535, August 2006. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Raju:2006:TWI

- [632] C. K. Raju. ‘Time: What is it that it can be measured?’. *Science & Education (Springer)*, 15(6):537–551, August 2006. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Bevilacqua:2006:PCF

- [633] Fabio Bevilacqua, Lidia Falomo, Lucio Fregonese, Enrico Giannetto, Franco Giudice, and Paolo Mascheretti. The pendulum: From constrained fall to the concept of potential. *Science & Education (Springer)*, 15(6):553–575, August 2006. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Boulos:2006:NPU

- [634] Pierre J. Boulos. Newton's path to universal gravitation: The role of the pendulum. *Science & Education (Springer)*, 15(6):577–595, August 2006. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Gauld:2006:NCP

- [635] Colin F. Gauld. Newton's cradle in physics education. *Science & Education (Springer)*, 15(6):597–617, August 2006. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

DeBerg:2006:CPW

- [636] K. C. De Berg. Chemistry and the pendulum — what have they to do with each other? *Science & Education (Springer)*, 15(6):619–641, August 2006. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kwon:2006:RAR

- [637] Yong-Ju Kwon, Jin-Su Jeong, and Yun-Bok Park. Roles of abductive reasoning and prior belief in children's generation of hypotheses about pendulum motion. *Science & Education (Springer)*, 15(6):643–656, August 2006. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Bertomeu-Sanchez:2006:IST

- [638] José Ramón Bertomeu-Sánchez, Antonio García-Belmar, Anders Lundgren, and Manolis Patiniotis. Introduction: Scientific and technological textbooks in the European periphery. *Science & Education (Springer)*, 15(7–8):657–665, November 2006. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Bensaude-Vincent:2006:TMS

- [639] Bernadette Bensaude-Vincent. Textbooks on the map of science studies. *Science & Education (Springer)*, 15(7–8):667–670, November 2006. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Carneiro:2006:CNC

- [640] Ana Carneiro, Maria Paula Diogo, and Ana Simões. Communicating the new chemistry in 18th-century Portugal: Seabra's *Elementos de Chimica*. *Science & Education (Springer)*, 15(7–8):671–692, November 2006. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Sanchez:2006:PGB

- [641] José Ramón Bertomeu Sánchez and Antonio García Belmar. Pedro Gutiérrez Bueno's textbooks: Audiences, teaching practices and chemical

revolution. *Science & Education (Springer)*, 15(7–8):693–712, November 2006. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Seligardi:2006:VCC

- [642] Raffaella Seligardi. Views of chemistry and chemical theories: A comparison between two University textbooks in the Bolognese context at the beginning of the 19th Century. *Science & Education (Springer)*, 15(7–8):713–737, November 2006. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Jacobsen:2006:PDS

- [643] Anja Skaar Jacobsen. Propagating dynamical science in the periphery of German naturphilosophie: H. C. Ørsted's textbooks and didactics. *Science & Education (Springer)*, 15(7–8):739–760, November 2006. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Lundgren:2006:TCK

- [644] Anders Lundgren. The transfer of chemical knowledge: The case of chemical technology and its textbooks. *Science & Education (Springer)*, 15(7–8):761–778, November 2006. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Pallo:2006:ET

- [645] Gábor Palló. Encyclopedia as textbook. *Science & Education (Springer)*, 15(7–8):779–799, November 2006. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Patiniotis:2006:TCS

- [646] Manolis Patiniotis. Textbooks at the crossroads: Scientific and philosophical textbooks in 18th century Greek education. *Science & Education (Springer)*, 15(7–8):801–822, November 2006. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Petrou:2006:TSH

- [647] Georgia Petrou. Translation studies and the history of science: The Greek textbooks of the 18th century. *Science & Education (Springer)*, 15(7–8):823–840, November 2006. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Gouzevitch:2006:EPM

- [648] Irina Gouzevitch. The editorial policy as a mirror of Petrine reforms: Textbooks and their translators in early 18th century Russia. *Science*

Science & Education (Springer), 15(7–8):841–862, November 2006. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Olesko:2006:SPC

- [649] Kathryn M. Olesko. Science pedagogy as a category of historical analysis: Past, present, and future. *Science & Education (Springer)*, 15(7–8):863–880, November 2006. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Howe:2007:USC

- [650] Eric Michael Howe. ‘Untangling sickle-cell anemia and the teaching of Heterozygote protection’. *Science & Education (Springer)*, 16(1):1–19, January 2007. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Rowlands:2007:CCT

- [651] Stuart Rowlands, Ted Graham, John Berry, and Peter McWilliam. Conceptual change through the lens of Newtonian mechanics. *Science & Education (Springer)*, 16(1):21–42, January 2007. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Domenech:2007:TEI

- [652] Josep Lluís Doménech, Daniel Gil-Pérez, Albert Gras-Martí, Jenaro Guisasola, Joaquín Martínez-Torregrosa, Julia Salinas, Ricardo Trumper, Pablo Valdés, and Amparo Vilches. Teaching of energy issues: A debate proposal for a global reorientation. *Science & Education (Springer)*, 16(1):43–64, January 2007. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Arriasecq:2007:ATS

- [653] Irene Arriasecq and Ileana María Greca. ‘Approaches to the teaching of special relativity theory in high school and University textbooks of Argentina’. *Science & Education (Springer)*, 16(1):65–86, January 2007. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Venkateswaran:2007:SCC

- [654] T. V. Venkateswaran. Science and colonialism: Content and character of natural sciences in the vernacular school education in the Madras Presidency (1820–1900). *Science & Education (Springer)*, 16(1):87–114, January 2007. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Cartwright:2007:SLT

- [655] John Cartwright. Science and literature: Towards a conceptual framework. *Science & Education (Springer)*, 16(2):115–139, February 2007. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Grandy:2007:RCR

- [656] Richard Grandy and Richard A. Duschl. Reconsidering the character and role of inquiry in school science: Analysis of a conference. *Science & Education (Springer)*, 16(2):141–166, February 2007. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Zemplen:2007:CAC

- [657] Gábor Á. Zemlén. Conflicting agendas: Critical thinking versus science education in the international baccalaureate theory of knowledge course. *Science & Education (Springer)*, 16(2):167–196, February 2007. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Chamizo:2007:TMC

- [658] José Antonio Chamizo. Teaching modern chemistry through ‘recurrent historical teaching models’. *Science & Education (Springer)*, 16(2):197–216, February 2007. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Collins:2007:USS

- [659] Harry Collins. The uses of sociology of science for scientists and educators. *Science & Education (Springer)*, 16(3–5):217–230, March 2007. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Quale:2007:RCS

- [660] Andreas Quale. Radical constructivism, and the sin of Relativism. *Science & Education (Springer)*, 16(3–5):231–266, March 2007. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Jakobson:2007:TTL

- [661] Britt Jakobson and Per-Olof Wickman. Transformation through language use: Children’s spontaneous metaphors in elementary school science. *Science & Education (Springer)*, 16(3–5):267–289, March 2007. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Mantyla:2007:URM

- [662] Terhi Mäntylä and Ismo T. Koponen. Understanding the role of measurements in creating physical quantities: A case study of learning to

quantify temperature in physics teacher education. *Science & Education (Springer)*, 16(3–5):291–311, March 2007. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Metz:2007:BFU

- [663] Don Metz, Stephen Klassen, Barbara McMillan, Michael Clough, and Joanne Olson. Building a foundation for the use of historical narratives. *Science & Education (Springer)*, 16(3–5):313–334, March 2007. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Klassen:2007:AHN

- [664] Stephen Klassen. The application of historical narrative in science learning: The Atlantic cable story. *Science & Education (Springer)*, 16(3–5):335–352, March 2007. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Velentzas:2007:TET

- [665] Athanasios Velentzas, Krystallia Halkia, and Constantine Skordoulis. Thought experiments in the theory of relativity and in quantum mechanics: Their presence in textbooks and in popular science books. *Science & Education (Springer)*, 16(3–5):353–370, March 2007. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Tampakis:2007:HTQ

- [666] Constantin Tampakis and Constantin Skordoulis. The history of teaching quantum mechanics in Greece. *Science & Education (Springer)*, 16(3–5):371–391, March 2007. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kampourakis:2007:SPA

- [667] Kostas Kampourakis and Vasso Zogza. Students' preconceptions about evolution: How accurate is the characterization as "Lamarckian" when considering the history of evolutionary thought? *Science & Education (Springer)*, 16(3–5):393–422, March 2007. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Clement:2007:ICC

- [668] Pierre Clément. Introducing the cell concept with both animal and plant cells: A historical and didactic approach. *Science & Education (Springer)*, 16(3–5):423–440, March 2007. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Galili:2007:PAC

- [669] Igal Galili and Barbara Zinn. Physics and art — a cultural symbiosis in physics education. *Science & Education (Springer)*, 16(3–5):441–460, March 2007. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Hansson:2007:PPR

- [670] Lena Hansson and Andreas Redfors. Physics and the possibility of a religious view of the universe: Swedish upper secondary students' views. *Science & Education (Springer)*, 16(3–5):461–478, March 2007. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Lynning:2007:PSH

- [671] Kristine Hays Lynning. Portraying science as humanism — a historical case study of cultural boundary work from the dawn of the 'atomic age'. *Science & Education (Springer)*, 16(3–5):479–510, March 2007. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Teichmann:2007:HPP

- [672] Jürgen Teichmann, Art Stinner, and Falk Riess. Historical and pedagogical perspectives on entertainment, popularization and learning in science. *Science & Education (Springer)*, 16(6):511–516, June 2007. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kubli:2007:TSO

- [673] Fritz Kubli. Teachers should not only inform but also entertain. *Science & Education (Springer)*, 16(6):517–523, June 2007. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Hochadel:2007:BEP

- [674] Oliver Hochadel. The business of experimental physics: Instrument makers and itinerant lecturers in the German enlightenment. *Science & Education (Springer)*, 16(6):525–537, June 2007. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Eckert:2007:HRG

- [675] Michael Eckert. Hydraulics for Royal gardens: Water art as a challenge for 18th century science and 21st century physics teaching. *Science & Education (Springer)*, 16(6):539–548, June 2007. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Wolfschmidt:2007:PAM

- [676] Gudrun Wolfschmidt. Popularization of astronomy: From models of the cosmos to stargazing. *Science & Education (Springer)*, 16(6):549–559, June 2007. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Roberts:2007:DBW

- [677] Lissa Roberts. Devices without borders: What an Eighteenth-Century display of steam engines can teach us about ‘public’ and ‘popular’ science. *Science & Education (Springer)*, 16(6):561–572, June 2007. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Lehman:2007:PDC

- [678] Christine Lehman and Bernadette Bensaude-Vincent. Public demonstrations of chemistry in eighteenth century France. *Science & Education (Springer)*, 16(6):573–583, June 2007. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Daniel:2007:SFB

- [679] Raichvarg Daniel. Science on the fairgrounds: From black to white magic. *Science & Education (Springer)*, 16(6):585–591, June 2007. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Morus:2007:TCE

- [680] Iwan Rhys Morus. The two cultures of electricity: Between entertainment and edification in Victorian science. *Science & Education (Springer)*, 16(6):593–602, June 2007. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Euler:2007:REM

- [681] Manfred Euler. Revitalizing Ernst Mach’s popular scientific lectures. *Science & Education (Springer)*, 16(6):603–611, June 2007. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Metz:2007:RHE

- [682] Don Metz and Art Stinner. A role for historical experiments: Capturing the spirit of the itinerant lecturers of the 18th century. *Science & Education (Springer)*, 16(6):613–624, June 2007. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Reich:2007:FAB

- [683] Karin Reich. Fiatland: An analogy between mathematics and physics. *Science & Education (Springer)*, 16(6):625–636, June 2007. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Heering:2007:PET

- [684] Peter Heering. Public experiments and their analysis with the replication method. *Science & Education (Springer)*, 16(6):637–645, June 2007. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kipnis:2007:DST

- [685] Nahum Kipnis. Discovery in science and in teaching science. *Science & Education (Springer)*, 16(9–10):883–920, October 2007. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Carson:2007:TCR

- [686] Robert N. Carson and Stuart Rowlands. Teaching the conceptual revolutions in geometry. *Science & Education (Springer)*, 16(9–10):921–954, October 2007. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

LopesCoelho:2007:LIH

- [687] Ricardo Lopes Coelho. The law of inertia: How understanding its history can improve physics teaching. *Science & Education (Springer)*, 16(9–10):955–974, October 2007. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). See comment [849].

Erduran:2007:DEE

- [688] Sibel Erduran, Agustin Aduriz Bravo, and Rachel Mamlok Naaman. Developing epistemologically empowered teachers: examining the role of philosophy of chemistry in teacher education. *Science & Education (Springer)*, 16(9–10):975–989, October 2007. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Quessada:2007:EAF

- [689] Marie-Pierre Quessada and Pierre Clément. An epistemological approach to French syllabi on human origins during the 19th and 20th centuries. *Science & Education (Springer)*, 16(9–10):991–1006, October 2007. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Hansson:2007:USS

- [690] Lena Hansson and Andreas Redfors. Upper secondary students in group discussions about physics and our presuppositions of the world. *Science & Education (Springer)*, 16(9–10):1007–1025, October 2007. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Borda:2007:AGC

- [691] Emily J. Borda. Applying Gadamer’s concept of disposition to science and science education. *Science & Education (Springer)*, 16(9–10):1027–1041, October 2007. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Clough:2008:TAN

- [692] Michael P. Clough and Joanne K. Olson. Teaching and assessing the nature of science: An introduction. *Science & Education (Springer)*, 17(2–3):143–145, February 2008. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Ford:2008:GPR

- [693] Michael Ford. ‘Grasp of practice’ as a reasoning resource for inquiry and nature of science understanding. *Science & Education (Springer)*, 17(2–3):147–177, February 2008. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Taber:2008:TCM

- [694] Keith S. Taber. Towards a curricular model of the nature of science. *Science & Education (Springer)*, 17(2–3):179–218, February 2008. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Smith:2008:MYP

- [695] Mike U. Smith and Lawrence Scharmann. A multi-year program developing an explicit reflective pedagogy for teaching pre-service teachers the nature of science by ostention. *Science & Education (Springer)*, 17(2–3):219–248, February 2008. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

McComas:2008:SHE

- [696] William F. McComas. Seeking historical examples to illustrate key aspects of the nature of science. *Science & Education (Springer)*, 17(2–3):249–263, February 2008. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

deBerg:2008:TOC

- [697] Kevin C. de Berg. Tin oxide chemistry from Macquer (1758) to Mendeleeff (1891) as revealed in the textbooks and other literature of the era. *Science & Education (Springer)*, 17(2–3):265–287, February 2008. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Ryder:2008:TAE

- [698] Jim Ryder and John Leach. Teaching about the epistemology of science in upper secondary schools: An analysis of teachers' classroom talk. *Science & Education (Springer)*, 17(2–3):289–315, February 2008. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Martin-Hansen:2008:FYC

- [699] Lisa Michelle Martin-Hansen. First-year College students' conflict with religion and science. *Science & Education (Springer)*, 17(4):317–357, April 2008. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Dickerson:2008:CVR

- [700] Daniel L. Dickerson, Karen R. Dawkins, and John E. Penick. Clergy's views of the relationship between science and religious faith and the implications for science education. *Science & Education (Springer)*, 17(4):359–386, April 2008. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Nashon:2008:WHS

- [701] Samson Nashon, Wendy Nielsen, and Stephen Petrina. Whatever happened to STS? pre-service physics teachers and the history of quantum mechanics. *Science & Education (Springer)*, 17(4):387–401, April 2008. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Padilla:2008:IHP

- [702] Kira Padilla and Carles Furio-Mas. The importance of history and philosophy of science in correcting distorted views of 'amount of substance' and 'mole' concepts in chemistry teaching. *Science & Education (Springer)*, 17(4):403–424, April 2008. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Cobern:2008:EEE

- [703] William W. Cobern and Cathleen C. Loving. An essay for educators: Epistemological realism really is common sense. *Science & Education*

(*Springer*), 17(4):425–447, April 2008. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Caleon:2008:MPU

- [704] Imelda Caleon and Subramaniam Ramanathan. From music to physics: The undervalued legacy of Pythagoras. *Science & Education (Springer)*, 17(4):449–456, April 2008. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

deBerg:2008:BRE

- [705] Kevin C. de Berg. Book review: Eric R. Scerri, *The Periodic Table — Its Story and its Significance*. *Science & Education (Springer)*, 17(4):457–465, April 2008. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Tweney:2008:SHR

- [706] Ryan D. Tweney. Studies in historical replication in psychology I: Introduction. *Science & Education (Springer)*, 17(5):467–475, May 2008. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Trevino:2008:RPH

- [707] Kelly M. Trevino and Krista K. Konrad. Replication and pedagogy in the history of psychology II: Fowler & Wells’s phrenology. *Science & Education (Springer)*, 17(5):477–491, May 2008. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Sirrine:2008:SHR

- [708] Nicole K. Sirrine and Shauna K. McCarthy. Studies in historical replication in psychology IV: An inquiry into the psychological research and life of Gertrude Stein. *Science & Education (Springer)*, 17(5):493–509, May 2008. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Fuchs:2008:RPH

- [709] Thomas Fuchs and Jeffrey Burgdorf. Replication and pedagogy in the history of psychology IV: Patrick and Gilbert (1896) on sleep deprivation. *Science & Education (Springer)*, 17(5):511–524, May 2008. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Ayala:2008:RPH

- [710] Christopher Ayala, Steven Borawski, and Jonathon Miller. Replication and pedagogy in the history of psychology V: The metronome and Wilhelm Wundt’s search for the components of consciousness. *Science & Ed-*

ucation (*Springer*), 17(5):525–535, May 2008. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Athy:2008:RPH

- [711] Jeremy Athy, Jeff Friedrich, and Eileen Delany. Replication and pedagogy in the history of psychology VI: Egon Brunswik on perception and explicit reasoning. *Science & Education (Springer)*, 17(5):537–546, May 2008. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Ranney:2008:SHR

- [712] Michael Andrew Ranney. Studies in historical replication in psychology VII: The relative utility of “Ancestor analysis” from scientific and educational vantages. *Science & Education (Springer)*, 17(5):547–558, May 2008. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Davson-Galle:2008:WCS

- [713] P. Davson-Galle. Why compulsory science education should not include philosophy of science. *Science & Education (Springer)*, 17(7):677–716, August 2008. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Cavicchi:2008:HES

- [714] Elizabeth Mary Cavicchi. Historical experiments in students’ hands: Unfragmenting science through action and history. *Science & Education (Springer)*, 17(7):717–749, August 2008. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Mihas:2008:DIR

- [715] Pavlos Mihas. Developing ideas of refraction, lenses and rainbow through the use of historical resources. *Science & Education (Springer)*, 17(7):751–777, August 2008. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Lattery:2008:LDM

- [716] Mark Joseph Lattery. The long decay model of one-dimensional projectile motion. *Science & Education (Springer)*, 17(7):779–798, August 2008. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Zeidler:2008:SEI

- [717] Dana L. Zeidler and Troy D. Sadler. Social and ethical issues in science education: A prelude to action. *Science & Education (Springer)*, 17(8–9):799–803, September 2008. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Albe:2008:SPC

- [718] Virginie Albe. Students' positions and considerations of scientific evidence about a controversial socioscientific issue. *Science & Education (Springer)*, 17(8–9):805–827, September 2008. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Forbes:2008:EPE

- [719] Cory T. Forbes and Elizabeth A. Davis. Exploring preservice elementary teachers' critique and adaptation of science curriculum materials in respect to socioscientific issues. *Science & Education (Springer)*, 17(8–9):829–854, September 2008. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Levinson:2008:PRP

- [720] Ralph Levinson. Promoting the role of the personal narrative in teaching controversial socio-scientific issues. *Science & Education (Springer)*, 17(8–9):855–871, September 2008. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Develaki:2008:SED

- [721] Maria Develaki. Social and ethical dimension of the natural sciences, complex problems of the age, interdisciplinarity, and the contribution of education. *Science & Education (Springer)*, 17(8–9):873–888, September 2008. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Reiss:2008:UEF

- [722] Michael Reiss. The use of ethical frameworks by students following a new science course for 16–18 year-olds. *Science & Education (Springer)*, 17(8–9):889–902, September 2008. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Webster:2008:HDS

- [723] Scott Webster. How a Deweyan science education further enables ethics education. *Science & Education (Springer)*, 17(8–9):903–919, September 2008. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Hanegan:2008:DBT

- [724] Nikki L. Hanegan, Laura Price, and Jeremy Peterson. Disconnections between teacher expectations and student confidence in bioethics. *Science & Education (Springer)*, 17(8–9):921–940, September 2008. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Pedretti:2008:PIB

- [725] Erminia G. Pedretti, Larry Bencze, Jim Hewitt, Lisa Romkey, and Ashifa Jivraj. Promoting issues-based STSE perspectives in science teacher education: Problems of identity and ideology. *Science & Education (Springer)*, 17(8–9):941–960, September 2008. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Weinstein:2008:CAT

- [726] Matthew Weinstein. Captain America, Tuskegee, Belmont, and righteous guinea pigs: Considering scientific ethics through official and subaltern perspectives. *Science & Education (Springer)*, 17(8–9):961–975, September 2008. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kolsto:2008:SED

- [727] Stein Dankert Kolstø. Science education for democratic citizenship through the use of the history of science. *Science & Education (Springer)*, 17(8–9):977–997, September 2008. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Borenstein:2008:TSR

- [728] Jason Borenstein. Textbook stickers: A reasonable response to evolution? *Science & Education (Springer)*, 17(8–9):999–1010, September 2008. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Hermann:2008:ECI

- [729] Ronald S. Hermann. Evolution as a controversial issue: a review of instructional approaches. *Science & Education (Springer)*, 17(8–9):1011–1032, September 2008. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Hildebrand:2008:ACS

- [730] David Hildebrand, Kimberly Bilica, and John Capps. Addressing controversies in science education: a pragmatic approach to evolution education. *Science & Education (Springer)*, 17(8–9):1033–1052, September 2008. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Pinnick:2008:IWS

- [731] Cassandra L. Pinnick. Introduction: Women, science education, and feminist theory. *Science & Education (Springer)*, 17(10):1053–1054, November 2008. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Pinnick:2008:SEW

- [732] Cassandra L. Pinnick. Science education for women: Situated cognition, feminist standpoint theory, and the status of women in science. *Science & Education (Springer)*, 17(10):1055–1063, November 2008. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Intemann:2008:INF

- [733] Kristen Intemann. Increasing the number of feminist scientists: why feminist aims are not served by the underdetermination thesis. *Science & Education (Springer)*, 17(10):1065–1079, November 2008. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Landau:2008:PFS

- [734] Iddo Landau. Problems with feminist standpoint theory in science education. *Science & Education (Springer)*, 17(10):1081–1088, November 2008. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Crasnow:2008:FPS

- [735] Sharon Crasnow. Feminist philosophy of science: ‘standpoint’ and knowledge. *Science & Education (Springer)*, 17(10):1089–1110, November 2008. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Rolin:2008:GPF

- [736] Kristina Rolin. Gender and physics: feminist philosophy and science education. *Science & Education (Springer)*, 17(10):1111–1125, November 2008. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Schmaus:2008:NWT

- [737] Warren Schmaus. A new way of thinking about social location in science. *Science & Education (Springer)*, 17(10):1127–1137, November 2008. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Ginev:2008:HSM

- [738] Dimitri Jordan Ginev. Hermeneutics of science and multi-gendered science education. *Science & Education (Springer)*, 17(10):1139–1156, November 2008. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Klee:2008:AIB

- [739] Robert Klee. The alleged importance of being tough, really tough. *Science & Education (Springer)*, 17(10):1157–1174, November 2008. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Nehm:2008:SHS

- [740] Ross H. Nehm and Rebecca Young. “Sex hormones” in secondary school biology textbooks. *Science & Education (Springer)*, 17(10):1175–1190, November 2008. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Galili:2009:TED

- [741] Igal Galili. Thought experiments: Determining their meaning. *Science & Education (Springer)*, 18(1):1–23, January 2009. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kalman:2009:REU

- [742] Calvin Kalman. A role for experiment in using the law of inertia to explain the nature of science: A comment on Lopes Coelho. *Science & Education (Springer)*, 18(1):25–31, January 2009. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). See [687].

Kosso:2009:LSS

- [743] Peter Kosso. The large-scale structure of scientific method. *Science & Education (Springer)*, 18(1):33–42, January 2009. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Niaz:2009:PTC

- [744] Mansoor Niaz. Progressive transitions in chemistry teachers’ understanding of nature of science based on historical controversies. *Science & Education (Springer)*, 18(1):43–65, January 2009. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Rucker:2009:ISA

- [745] Victor C. Rucker and Lily J. Ackerman. Interviewing scientists: Alexander Shulgin as a case study. *Science & Education (Springer)*, 18(1):67–71, January 2009. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Flodin:2009:NMV

- [746] Veronica S. Flodin. The necessity of making visible concepts with multiple meanings in science education: The use of the gene concept in a biology textbook. *Science & Education (Springer)*, 18(1):73–94, January 2009. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Wong:2009:TCO

- [747] Siu Ling Wong, Jenny Kwan, Derek Hodson, and Benny Hin Wai Yung. Turning crisis into opportunity: Nature of science and scientific inquiry as illustrated in the scientific research on severe acute respiratory syndrome. *Science & Education (Springer)*, 18(1):95–118, January 2009. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Lawson:2009:HDN

- [748] Anton E. Lawson. On the hypothetico–deductive nature of science — Darwin’s finches. *Science & Education (Springer)*, 18(1):119–124, January 2009. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Villani:2009:STE

- [749] Alberto Villani, Jesuina Lopes de Almeida Pacca, and Denise de Freitas. Science teacher education in Brazil: 1950–2000. *Science & Education (Springer)*, 18(1):125–148, January 2009. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Rosa:2009:AMC

- [750] Katemari Rosa and Maria Cristina Martins. Approaches and methodologies for a course on history and epistemology of physics: Analyzing the experience of a Brazilian University. *Science & Education (Springer)*, 18(1):149–155, January 2009. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Douglas:2009:PSP

- [751] Heather Douglas. Philosophy of science, political engagement, and the cold war: An introduction. *Science & Education (Springer)*, 18(2):157–160, February 2009. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Uebel:2009:KWY

- [752] Thomas Uebel. Knowing who your friends are: Aspects of the politics of logical empiricism. *Science & Education (Springer)*, 18(2):161–168, February 2009. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Stump:2009:PAI

- [753] David J. Stump. Pragmatism, activism, and the icy slopes of logic in George Reisch’s portrait of the philosophy of science as a Young field.

Science & Education (Springer), 18(2):169–175, February 2009. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Edgar:2009:LEP

- [754] Scott Edgar. Logical empiricism, politics, and professionalism. *Science & Education (Springer)*, 18(2):177–189, February 2009. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Reisch:2009:TKP

- [755] George Reisch. Three kinds of political engagement for philosophy of science. *Science & Education (Springer)*, 18(2):191–197, February 2009. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Howard:2009:BRT

- [756] Don Howard. Better red than Dead — Putting an end to the social irrelevance of postwar philosophy of science. *Science & Education (Springer)*, 18(2):199–220, February 2009. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

vonBergmann:2009:DAC

- [757] HsingChi von Bergmann. Designing and assessing contextual approaches to the teaching of science and mathematics: Introduction. *Science & Education (Springer)*, 18(3–4):221–223, April 2009. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Schulz:2009:RSEa

- [758] Roland M. Schulz. Reforming science education: Part I. The search for a philosophy of science education. *Science & Education (Springer)*, 18(3–4):225–249, April 2009. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Schulz:2009:RSEb

- [759] Roland M. Schulz. Reforming science education: Part II. Utilizing kieran Egan’s educational metatheory. *Science & Education (Springer)*, 18(3–4):251–273, April 2009. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Tala:2009:UVS

- [760] Suvi Tala. Unified view of science and technology for education: Technoscience and technoscience education. *Science & Education (Springer)*, 18(3–4):275–298, April 2009. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Siemsen:2009:RTE

- [761] Hayo Siemsen and Karl Hayo Siemsen. Resettling the thoughts of Ernst Mach and the Vienna circle in Europe: The cases of Finland and Germany. *Science & Education (Springer)*, 18(3–4):299–323, April 2009. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kalman:2009:NEE

- [762] Calvin Kalman. The need to emphasize epistemology in teaching and research. *Science & Education (Springer)*, 18(3–4):325–347, April 2009. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kipnis:2009:LPC

- [763] Nahum Kipnis. A law of physics in the classroom: The case of Ohm's Law. *Science & Education (Springer)*, 18(3–4):349–382, April 2009. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Gauld:2009:NUP

- [764] Colin F. Gauld. Newton's use of the pendulum to investigate fluid resistance: A case study and some implications for teaching about the nature of science. *Science & Education (Springer)*, 18(3–4):383–400, April 2009. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Klassen:2009:CAS

- [765] Stephen Klassen. The construction and analysis of a science story: A proposed methodology. *Science & Education (Springer)*, 18(3–4):401–423, April 2009. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Dolphin:2009:ETE

- [766] Glenn Dolphin. Evolution of the theory of the Earth: A contextualized approach for teaching the history of the theory of plate tectonics to ninth grade students. *Science & Education (Springer)*, 18(3–4):425–441, April 2009. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Izquierdo-Aymerich:2009:PCC

- [767] Mercè Izquierdo-Aymerich and Agustín Adúriz-Bravo. Physical construction of the chemical atom: Is it convenient to go all the way back? *Science & Education (Springer)*, 18(3–4):443–455, April 2009. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Malamitsa:2009:DGP

- [768] Katerina Malamitsa, Michael Kasoutas, and Panagiotis Kokkotas. Developing Greek primary school students' critical thinking through an approach of teaching science which incorporates aspects of history of science. *Science & Education (Springer)*, 18(3–4):457–468, April 2009. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

SantosDoCarmo:2009:GTB

- [769] Ricardo Santos Do Carmo, Nei Freitas Nunes-Neto, and Charbel Niño El-Hani. Gaia theory in Brazilian high school biology textbooks. *Science & Education (Springer)*, 18(3–4):469–501, April 2009. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Baptista:2009:CEC

- [770] Geilsa Costa Santos Baptista and Charbel Niño El-Hani. The contribution of ethnobiology to the construction of a dialogue between ways of knowing: A case study in a Brazilian public high school. *Science & Education (Springer)*, 18(3–4):503–520, April 2009. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Heering:2009:E

- [771] Peter Heering and Daniel Osewold. Editorial. *Science & Education (Springer)*, 18(5):521–523, May 2009. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Zemplen:2009:PSF

- [772] Gábor Á. Zemplén. Putting sociology First — Reconsidering the role of the social in 'nature of science' education. *Science & Education (Springer)*, 18(5):525–559, May 2009. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Rudge:2009:ERA

- [773] David W. Rudge and Eric M. Howe. An explicit and reflective approach to the use of history to promote understanding of the nature of science. *Science & Education (Springer)*, 18(5):561–580, May 2009. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Metz:2009:WWT

- [774] Don Metz. William Wales and the 1769 transit of Venus: puzzle solving and the determination of the astronomical unit. *Science & Education (Springer)*, 18(5):581–592, May 2009. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Klassen:2009:IAS

- [775] Stephen Klassen. Identifying and addressing student difficulties with the Millikan oil drop experiment. *Science & Education (Springer)*, 18(5):593–607, May 2009. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kokkotas:2009:TPS

- [776] Panos Kokkotas, Panagiotis Piliouras, Katerina Malamitsa, and Efthymios Stamoulis. Teaching physics to in-service primary school teachers in the context of the history of science: The case of falling bodies. *Science & Education (Springer)*, 18(5):609–629, May 2009. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Wang:2009:HMT

- [777] Youjun Wang. Hands-on mathematics: two cases from ancient Chinese mathematics. *Science & Education (Springer)*, 18(5):631–640, May 2009. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Matthews:2009:SWE

- [778] Michael R. Matthews. Science, worldviews and education: An introduction. *Science & Education (Springer)*, 18(6–7):641–666, June 2009. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Gauch:2009:SWE

- [779] Hugh G. Gauch, Jr. Science, worldviews, and education. *Science & Education (Springer)*, 18(6–7):667–695, June 2009. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-006-9059-1.pdf>.

Matthews:2009:TPW

- [780] Michael R. Matthews. Teaching the philosophical and worldview components of science. *Science & Education (Springer)*, 18(6–7):697–728, June 2009. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Irzik:2009:WTR

- [781] Gürol Irzik and Robert Nola. Worldviews and their relation to science. *Science & Education (Springer)*, 18(6–7):729–745, June 2009. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Cordero:2009:CSW

- [782] Alberto Cordero. Contemporary science and worldview-making. *Science & Education (Springer)*, 18(6–7):747–764, June 2009. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Giannetto:2009:ECN

- [783] Enrico R. A. Giannetto. The electromagnetic conception of nature at the root of the special and general relativity theories and its revolutionary meaning. *Science & Education (Springer)*, 18(6–7):765–781, June 2009. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Reiss:2009:IWS

- [784] Michael J. Reiss. Imagining the world: The significance of religious worldviews for science education. *Science & Education (Springer)*, 18(6–7):783–796, June 2009. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Glennan:2009:WSW

- [785] Stuart Glennan. Whose science and whose religion? reflections on the relations between scientific and religious worldviews. *Science & Education (Springer)*, 18(6–7):797–812, June 2009. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Fishman:2009:CST

- [786] Yonatan I. Fishman. Can science test supernatural worldviews? *Science & Education (Springer)*, 18(6–7):813–837, June 2009. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Lacey:2009:ISA

- [787] Hugh Lacey. The interplay of scientific activity, worldviews and value outlooks. *Science & Education (Springer)*, 18(6–7):839–860, June 2009. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Lamont:2009:FRA

- [788] John Lamont. Fall and rise of Aristotelian metaphysics in the philosophy of science. *Science & Education (Springer)*, 18(6–7):861–884, June 2009. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Edis:2009:MSC

- [789] Taner Edis. Modern science and conservative Islam: An uneasy relationship. *Science & Education (Springer)*, 18(6–7):885–903, June 2009. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Gauch:2009:RCR

- [790] Hugh G. Gauch, Jr. Responses and clarifications regarding science and worldviews. *Science & Education (Springer)*, 18(6–7):905–927, June 2009. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Matthews:2009:SWC

- [791] Michael R. Matthews. Science and worldviews in the classroom: Joseph Priestley and photosynthesis. *Science & Education (Springer)*, 18(6–7):929–960, June 2009. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Lindahl:2009:EMU

- [792] Mats Gunnar Lindahl. Ethics or morals: Understanding students' values related to genetic tests on humans. *Science & Education (Springer)*, 18(10):1285–1311, October 2009. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kampourakis:2009:PEE

- [793] Kostas Kampourakis and Vasso Zogza. Preliminary evolutionary explanations: A basic framework for conceptual change and explanatory coherence in evolution. *Science & Education (Springer)*, 18(10):1313–1340, October 2009. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Heaton:2009:RDY

- [794] Timothy H. Heaton. Recent developments in Young–Earth creationist geology. *Science & Education (Springer)*, 18(10):1341–1358, October 2009. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Clary:2009:AWK

- [795] Renee M. Clary and James H. Wandersee. All are worthy to know the Earth: Henry De la Beche and the origin of geological literacy. *Science & Education (Springer)*, 18(10):1359–1375, October 2009. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Eshach:2009:NPP

- [796] Haim Eshach. The Nobel Prize in the physics class: Science, history, and glamour. *Science & Education (Springer)*, 18(10):1377–1393, October 2009. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Vamvakeros:2010:SEV

- [797] Xenofon Vamvakeros, Evangelia A. Pavlatou, and Nicolas Spyrellis. Survey exploring views of scientists on current trends in chemistry education. *Science & Education (Springer)*, 19(2):119–145, February 2010. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kalman:2010:ESD

- [798] Calvin Kalman. Enabling students to develop a scientific mindset. *Science & Education (Springer)*, 19(2):147–163, February 2010. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Apedoe:2010:EAM

- [799] Xornam Apedoe and Michael Ford. The empirical attitude, material practice and design activities. *Science & Education (Springer)*, 19(2):165–186, February 2010. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kim:2010:HSI

- [800] Sun Young Kim and Karen E. Irving. History of science as an instructional context: Student learning in genetics and nature of science. *Science & Education (Springer)*, 19(2):187–215, February 2010. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Gauld:2010:BRR

- [801] Colin Gauld. Book review: Ronald L. Numbers (ed): *Galileo Goes to Jail and Other Myths about Science and Religion*. *Science & Education (Springer)*, 19(2):217–224, February 2010. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Besson:2010:CUF

- [802] Ugo Besson. Calculating and understanding: Formal models and causal explanations in science, common reasoning and physics teaching. *Science & Education (Springer)*, 19(3):225–257, March 2010. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Koponen:2010:CKS

- [803] Ismo T. Koponen and Maija Pehkonen. Coherent knowledge structures of physics represented as concept networks in teacher education. *Science & Education (Springer)*, 19(3):259–282, March 2010. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Alvegaard:2010:IBC

- [804] C. Alvegård, E. Anderberg, L. Svensson, and T. Johansson. The interplay between content, expressions and their meaning when expressing understanding. *Science & Education (Springer)*, 19(3):283–303, March 2010. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Klassen:2010:RSS

- [805] Stephen Klassen. The relation of story structure to a model of conceptual change in science learning. *Science & Education (Springer)*, 19(3):305–317, March 2010. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Rudge:2010:DDI

- [806] David W. Rudge and Kostas Kampourakis. Darwin and Darwinism: An introduction. *Science & Education (Springer)*, 19(4–5):319–321, May 2010. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-010-9233-3.pdf>.

Depew:2010:DCH

- [807] David J. Depew. Darwinian controversies: An historiographical recounting. *Science & Education (Springer)*, 19(4–5):323–366, May 2010. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Ruse:2010:DTN

- [808] Michael Ruse. Darwinism then and now: The divide over form and function. *Science & Education (Springer)*, 19(4–5):367–389, May 2010. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Brooke:2010:DRC

- [809] John Hedley Brooke. Darwin and religion: Correcting the caricatures. *Science & Education (Springer)*, 19(4–5):391–405, May 2010. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Cartwright:2010:NEI

- [810] John Cartwright. Naturalising ethics: The implications of Darwinism for the study of moral philosophy. *Science & Education (Springer)*, 19(4–5):407–443, May 2010. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Lyons:2010:EEL

- [811] Sherrie Lynne Lyons. Evolution and education: Lessons from Thomas Huxley. *Science & Education (Springer)*, 19(4–5):445–459, May 2010. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Cooke:2010:JMF

- [812] Bill Cooke. Joseph McCabe: A forgotten early populariser of science and defender of evolution. *Science & Education (Springer)*, 19(4–5):461–484, May 2010. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Homchick:2010:OOE

- [813] Julie Homchick. Objects and objectivity: The evolution controversy at the American museum of natural history, 1915–1928. *Science & Education (Springer)*, 19(4–5):485–503, May 2010. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Heywood:2010:MGA

- [814] Leslie L. Heywood, Justin R. Garcia, and David Sloan Wilson. Mind the gap: Appropriate evolutionary perspectives toward the integration of the sciences and humanities. *Science & Education (Springer)*, 19(4–5):505–522, May 2010. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Smith:2010:CSRa

- [815] Mike U. Smith. Current status of research in teaching and learning evolution: I. Philosophical/ epistemological issues. *Science & Education (Springer)*, 19(6–8):523–538, June 2010. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Smith:2010:CSRb

- [816] Mike U. Smith. Current status of research in teaching and learning evolution: II. pedagogical issues. *Science & Education (Springer)*, 19(6–8):539–571, June 2010. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Tavares:2010:ACK

- [817] Marina de Lima Tavares, María-Pilar Jiménez-Aleixandre, and Eduardo F. Mortimer. Articulation of conceptual knowledge and argumentation practices by high school students in evolution problems. *Science & Education (Springer)*, 19(6–8):573–598, June 2010. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Marcelos:2010:CSM

- [818] Maria Fátima Marcelos and Ronaldo L. Nagem. Comparative structural models of similarities and differences between vehicle and target in order to teach Darwinian evolution. *Science & Education (Springer)*, 19(6–8): 599–623, June 2010. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Thagard:2010:GDO

- [819] Paul Thagard and Scott Findlay. Getting to Darwin: Obstacles to accepting evolution by natural selection. *Science & Education (Springer)*, 19(6–8):625–636, June 2010. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kampourakis:2010:CDE

- [820] Kostas Kampourakis and William F. McComas. Charles Darwin and evolution: Illustrating human aspects of science. *Science & Education (Springer)*, 19(6–8):637–654, June 2010. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

vanDijk:2010:CAE

- [821] Esther M. van Dijk and Thomas A. C. Reydon. A conceptual analysis of evolutionary theory for teacher education. *Science & Education (Springer)*, 19(6–8):655–677, June 2010. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Stolberg:2010:TDE

- [822] Tonie L. Stolberg. Teaching Darwinian evolution: Learning from religious education. *Science & Education (Springer)*, 19(6–8):679–692, June 2010. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Glick:2010:CRD

- [823] Thomas F. Glick. The comparative reception of Darwinism: A brief history. *Science & Education (Springer)*, 19(6–8):693–703, June 2010. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Brown:2010:HRD

- [824] C. Mackenzie Brown. Hindu responses to Darwinism: Assimilation and rejection in a colonial and post-colonial context. *Science & Education (Springer)*, 19(6–8):705–738, June 2010. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Peker:2010:TDA

- [825] Deniz Peker, Gulsum Gul Comert, and Aykut Kence. Three decades of anti-evolution campaign and its results: Turkish undergraduates' acceptance and understanding of the biological evolution theory. *Science & Education (Springer)*, 19(6–8):739–755, June 2010. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Pennock:2010:PSI

- [826] Robert T. Pennock. The postmodern sin of intelligent design Creationism. *Science & Education (Springer)*, 19(6–8):757–778, June 2010. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Plutynski:2010:SID

- [827] Anya Plutynski. Should intelligent design be taught in public school science classrooms? *Science & Education (Springer)*, 19(6–8):779–795, June 2010. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Allgaier:2010:SEC

- [828] Joachim Allgaier. Scientific experts and the controversy about teaching Creation/ evolution in the UK Press. *Science & Education (Springer)*, 19(6–8):797–819, June 2010. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Good:2010:BRJ

- [829] Ron Good. Book review: Jerry A. Coyne: *Why Evolution is True*. *Science & Education (Springer)*, 19(6–8):821–825, June 2010. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kampourakis:2010:BRJ

- [830] Kostas Kampourakis. Book review: Jim Endersby (ed): *Charles Darwin: On the Origin of Species*. *Science & Education (Springer)*, 19(6–8):827–831, June 2010. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Mannouris:2010:BRM

- [831] Costas Mannouris. Book review: Michael Ruse and Robert J. Richards (eds.): *The Cambridge Companion to the "Origin of Species"*. *Science & Education (Springer)*, 19(6–8):833–838, June 2010. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Thomson:2010:BRN

- [832] Keith Thomson. Book review: Nick Spencer: *Darwin and God. Science & Education (Springer)*, 19(6–8):839–846, June 2010. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

deBerg:2010:TOC

- [833] Kevin C. de Berg. Tin oxide chemistry from the last decade of the Nineteenth Century to the first decade of the twenty-first century: Towards the development of a big-picture approach to the teaching and learning of chemistry while focussing on a specific compound or class of compounds. *Science & Education (Springer)*, 19(9):847–866, September 2010. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Lindahl:2010:PMU

- [834] Mats Gunnar Lindahl. Of pigs and men: Understanding students' reasoning about the use of pigs as donors for xenotransplantation. *Science & Education (Springer)*, 19(9):867–894, September 2010. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Hansson:2010:CAW

- [835] Lena Hansson and Britt Lindahl. "I have chosen another way of thinking". *Science & Education (Springer)*, 19(9):895–918, September 2010. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Roca-Rosell:2010:VHS

- [836] Antoni Roca-Rosell and Hans Schneider. The value of history of science as a medium for the integral and specific education of the individual. *Science & Education (Springer)*, 19(9):919–923, September 2010. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Roca-Rosell:2010:AQM

- [837] Antoni Roca-Rosell and Pere Grapí-Vilumara. Antoni Quintana-Marí (1907–1998): A pioneer of the use of history of science in science education. *Science & Education (Springer)*, 19(9):925–929, September 2010. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Earley:2010:BRE

- [838] Joseph E. Earley. Book review: Eric R. Scerri: *Collected Papers on Philosophy of Chemistry. Science & Education (Springer)*, 19(9):931–933, September 2010. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

deBerg:2010:BRE

- [839] K. C. de Berg. Book review: Eric Scerri: *Selected Papers on the Periodic Table. Science & Education (Springer)*, 19(9):935–938, September 2010. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Gauld:2010:NIR

- [840] Colin F. Gauld. Newton’s investigation of the resistance to moving bodies in continuous fluids and the nature of ‘frontier science’. *Science & Education (Springer)*, 19(10):939–961, October 2010. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Gericke:2010:CVD

- [841] Niklas Markus Gericke and Mariana Hagberg. Conceptual variation in the depiction of gene function in upper secondary school textbooks. *Science & Education (Springer)*, 19(10):963–994, October 2010. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kanderakis:2010:WPC

- [842] Nikos Emmanouil Kanderakis. When is a physical concept born? the emergence of ‘work’ as a magnitude of mechanics. *Science & Education (Springer)*, 19(10):995–1012, October 2010. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Matthews:2010:BRI

- [843] Michael R. Matthews. Book review: Isabel Rivers & David L. Wykes (eds.): *Joseph Priestley: Scientist, Philosopher, and Theologian. Science & Education (Springer)*, 19(10):1013–1017, October 2010. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Matthews:2010:BRJ

- [844] Michael R. Matthews. Book review: James Franklin: *What Science Knows and How it Knows it. Science & Education (Springer)*, 19(10):1019–1027, October 2010. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Shanahan:2010:BRF

- [845] Timothy Shanahan. Book review: Francisco J. Ayala and Robert Arp (eds.): *Contemporary Debates in Philosophy of Biology. Science & Education (Springer)*, 19(10):1029–1034, October 2010. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Panagiotou:2011:UHT

- [846] Evangelos N. Panagiotou. Using history to teach mathematics: The case of logarithms. *Science & Education (Springer)*, 20(1):1–35, January 2011. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Wendel:2011:OBE

- [847] Paul J. Wendel. Object-based epistemology at a creationist museum. *Science & Education (Springer)*, 20(1):37–50, January 2011. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Finocchiaro:2011:GAG

- [848] Maurice A. Finocchiaro. A Galilean approach to the Galileo affair, 1609–2009. *Science & Education (Springer)*, 20(1):51–66, January 2011. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kalman:2011:CFC

- [849] Calvin S. Kalman. On the concept of force: A comment on Lopes Coelho. *Science & Education (Springer)*, 20(1):67–69, January 2011. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). See [687].

Slezak:2011:RMF

- [850] Peter Slezak. Review of Maurice A. Finocchiaro: *Defending Copernicus and Galileo: Critical Reasoning in the Two Affairs*. *Science & Education (Springer)*, 20(1):71–81, January 2011. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Assis:2011:BRA

- [851] A. K. T. Assis. Book review: Alan Hirshfeld, *Eureka Man: The Life and Legacy of Archimedes*. *Science & Education (Springer)*, 20(1):83–87, January 2011. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Gauld:2011:BRM

- [852] Colin F. Gauld. Book review: Michael Hunter: *Robert Boyle: Between God and Science*. *Science & Education (Springer)*, 20(1):89–97, January 2011. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Lawson:2011:BRR

- [853] Anton E. Lawson. Book review: Robert G. Fuller, Thomas C. Campbell, Dewey I. Dykstra, Jr., and Scott M. Stevens (eds): *College Teaching and the Development of Reasoning*. *Science & Education (Springer)*, 20(1):

99–102, January 2011. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Böttcher:2011:ASE

- [854] Florian Böttcher and Anke Meisert. Argumentation in science education: A model-based framework. *Science & Education (Springer)*, 20(2):103–140, February 2011. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Delgado:2011:NHS

- [855] Juan Antonio Delgado and Ricardo Luis Palma. Nothing in the history of Spanish Anís makes sense, except in the light of evolution. *Science & Education (Springer)*, 20(2):141–157, February 2011. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kalman:2011:ESC

- [856] Calvin S. Kalman. Enhancing students' conceptual understanding by engaging science text with reflective writing as a hermeneutical circle. *Science & Education (Springer)*, 20(2):159–172, February 2011. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Matthews:2011:BRA

- [857] Michael R. Matthews. Book review: Alan F. Chalmers: *The Scientist's Atom and the Philosopher's Stone: How Science Succeeded and Philosophy Failed to Gain Knowledge of Atoms*. *Science & Education (Springer)*, 20(2):173–190, February 2011. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Arp:2011:BRS

- [858] Robert Arp. Book review: Sahotra Sarkar and Anya Plutynski (eds): *A Companion to the Philosophy of Biology*. *Science & Education (Springer)*, 20(2):191–195, February 2011. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Jenson:2011:BRA

- [859] Chris Jenson. Book review: Alex Rosenberg and Robert Arp: *Philosophy of Biology: an Anthology*. *Science & Education (Springer)*, 20(2):197–200, February 2011. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Nola:2011:BRM

- [860] Robert Nola. Book review: Michael Strevens: *Depth: an Account of Scientific Explanation*. *Science & Education (Springer)*, 20(2):201–206,

February 2011. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Koponen:2011:ONS

- [861] Ismo Koponen. Overview of the Nordic symposium. *Science & Education (Springer)*, 20(3–4):207–209, March 2011. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kurki-Suonio:2011:PSP

- [862] Kaarle Kurki-Suonio. Principles supporting the perceptual teaching of physics: A “Practical teaching philosophy”. *Science & Education (Springer)*, 20(3–4):211–243, March 2011. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Siemens:2011:EME

- [863] Hayo Siemens. Ernst Mach and the epistemological ideas specific for Finnish science education. *Science & Education (Springer)*, 20(3–4):245–291, March 2011. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Hottecke:2011:WIH

- [864] Dietmar Höttecke and Cibelle Celestino Silva. Why implementing history and philosophy in school science education is a challenge: An analysis of obstacles. *Science & Education (Springer)*, 20(3–4):293–316, March 2011. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Chang:2011:HHE

- [865] Hasok Chang. How historical experiments can improve scientific knowledge and science education: The cases of boiling water and electrochemistry. *Science & Education (Springer)*, 20(3–4):317–341, March 2011. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kragh:2011:MCP

- [866] Helge Kragh. On modern cosmology and its place in science education. *Science & Education (Springer)*, 20(3–4):343–357, March 2011. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Quale:2011:RMPa

- [867] Andreas Quale. On the role of mathematics in physics. *Science & Education (Springer)*, 20(3–4):359–372, March 2011. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Matthews:2011:BRS

- [868] Michael R. Matthews. Book review: Steven Johnson: *The Invention of Air: A Story of Science, Faith, Revolution, and the Birth of America*. *Science & Education (Springer)*, 20(3–4):373–380, March 2011. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Cakir:2011:BRB

- [869] Mustafa Cakir. Book review: L. B. Flick and N. G. Lederman (eds): *Scientific Inquiry and Nature of Science: Implications for Teaching, Learning, and Teacher Education*. *Science & Education (Springer)*, 20(3–4):381–387, March 2011. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Timberlake:2011:BRA

- [870] Todd Timberlake. Book review: Alan Hirshfeld: *Astronomy Activity and Laboratory Manual*. *Science & Education (Springer)*, 20(3–4):389–392, March 2011. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Settlage:2011:BRD

- [871] John Settlage. Book review: Derek Hodson: *Teaching and Learning About Science: Language, Theories, Methods, History, Traditions and Value*. *Science & Education (Springer)*, 20(3–4):393–396, March 2011. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Erduran:2011:BRM

- [872] Sibel Erduran. Book review: M. Niaz: *Critical Appraisal of Physical Science as a Human Enterprise: Dynamics of Scientific Progress*. *Science & Education (Springer)*, 20(3–4):397–399, March 2011. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Good:2011:EI

- [873] Ron Good and Peter Slezak. Editors' introduction. *Science & Education (Springer)*, 20(5–6):401–409, May 2011. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Bunge:2011:KGB

- [874] Mario Bunge. Knowledge: Genuine and bogus. *Science & Education (Springer)*, 20(5–6):411–438, May 2011. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Lindeman:2011:CKC

- [875] Marjaana Lindeman, Annika M. Svedholm, Mikito Takada, Jan-Erik Lönnqvist, and Markku Verkasalo. Core knowledge confusions among University students. *Science & Education (Springer)*, 20(5–6):439–451, May 2011. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Pigliucci:2011:WMI

- [876] Massimo Pigliucci and Maarten Boudry. Why machine-information metaphors are bad for science and science education. *Science & Education (Springer)*, 20(5–6):453–471, May 2011. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Losh:2011:CCP

- [877] Susan Carol Losh and Brandon Nzekwe. Creatures in the classroom: Preservice teacher beliefs about fantastic beasts, magic, extraterrestrials, evolution and Creationism. *Science & Education (Springer)*, 20(5–6):473–489, May 2011. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Turgut:2011:CDN

- [878] Halil Turgut. The context of demarcation in nature of science teaching: The case of astrology. *Science & Education (Springer)*, 20(5–6):491–515, May 2011. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Eder:2011:RBP

- [879] Erich Eder, Katharina Turic, Norbert Milasowszky, Katherine Van Adzin, and Andreas Hergovich. The relationships between paranormal belief, Creationism, intelligent design and evolution at secondary schools in Vienna (Austria). *Science & Education (Springer)*, 20(5–6):517–534, May 2011. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Good:2011:BRL

- [880] Ron Good. Book review: Lyons, Sherrie Lynne: *Species, Serpents, Spirits, and Skulls: Science at the Margins in the Victorian Age*. *Science & Education (Springer)*, 20(5–6):535–541, May 2011. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Rowlands:2011:BRB

- [881] Stuart Rowlands. Book review: Bharath Sriraman and Simon Goodchild (eds): *Relatively and Philosophically Earnest: Festschrift in Honor of Paul Ernest's 65th Birthday*, A volume in The Montana Mathematics Enthusiast. *Science & Education (Springer)*, 20(5–6):543–555, May 2011. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Peterson:2011:BRP

- [882] Erik L. Peterson. Book review: Peter Bowler, *Evolution: The History of an Idea*, 25th Anniversary Edition. *Science & Education (Springer)*, 20(5–6):557–562, May 2011. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Taber:2011:BRS

- [883] Keith S. Taber. Book review: Stella Vosniadou (Ed): *International Handbook of Research on Conceptual Change*. *Science & Education (Springer)*, 20(5–6):563–576, May 2011. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Jimenez-Aleixandre:2011:BRS

- [884] María Pilar Jiménez-Aleixandre. Book review: Sandra K. Abell and Norman G. Lederman (eds): *Handbook of Research in Science Education*. *Science & Education (Springer)*, 20(5–6):577–583, May 2011. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Aduriz-Bravo:2011:BRS

- [885] A. Adúriz-Bravo. Book review: Sibel Erduran & María Pilar Jiménez-Aleixandre: *Argumentation in Science Education: Perspectives from Classroom-Based Research*. *Science & Education (Springer)*, 20(5–6):585–588, May 2011. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Matthews:2011:I

- [886] Michael R. Matthews. Introduction. *Science & Education (Springer)*, 20(7–8):589, July 2011. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-011-9357-0.pdf>.

Irzik:2011:FRA

- [887] Gürol Irzik and Robert Nola. A family resemblance approach to the nature of science for science education. *Science & Education (Springer)*,

20(7–8):591–607, July 2011. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Quale:2011:RMPb

- [888] Andreas Quale. On the role of mathematics in physics: A constructivist epistemic perspective. *Science & Education (Springer)*, 20(7–8):609–624, July 2011. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Rowlands:2011:PFp

- [889] Stuart Rowlands, Ted Graham, and John Berry. Problems with fallibilism as a philosophy of mathematics education. *Science & Education (Springer)*, 20(7–8):625–654, July 2011. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kipnis:2011:EST

- [890] Nahum Kipnis. Errors in science and their treatment in teaching science. *Science & Education (Springer)*, 20(7–8):655–685, July 2011. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Tweney:2011:REF

- [891] Ryan D. Tweney. Representing the electromagnetic field: How Maxwell's mathematics empowered Faraday's field theory. *Science & Education (Springer)*, 20(7–8):687–700, July 2011. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Clough:2011:SBS

- [892] Michael P. Clough. The story behind the science: Bringing science and scientists to life in post-secondary science education. *Science & Education (Springer)*, 20(7–8):701–717, July 2011. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Klassen:2011:PER

- [893] Stephen Klassen. The photoelectric effect: Reconstructing the story for the physics classroom. *Science & Education (Springer)*, 20(7–8):719–731, July 2011. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Tala:2011:ETA

- [894] Suvi Tala. Enculturation into technoscience: Analysis of the views of novices and experts on modelling and learning in nanophysics. *Science & Education (Springer)*, 20(7–8):733–760, July 2011. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Piliouras:2011:PPT

- [895] Panagiotis Piliouras, Spyros Siakas, and Fanny Seroglou. Pupils produce their own narratives inspired by the history of science: Animation movies concerning the geocentric–heliocentric debate. *Science & Education (Springer)*, 20(7–8):761–795, July 2011. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Arapaki:2011:PTR

- [896] Xenia Arapaki and Dimitris Koliopoulos. Popularization and teaching of the relationship between visual arts and natural sciences: Historical, philosophical and didactical dimensions of the problem. *Science & Education (Springer)*, 20(7–8):797–803, July 2011. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

deBerg:2011:JPA

- [897] Kevin C. de Berg. Joseph Priestley across theology, education, and chemistry: An interdisciplinary case study in epistemology with a focus on the science education context. *Science & Education (Springer)*, 20(7–8):805–830, July 2011. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Jankvist:2011:NAH

- [898] Uffe Thomas Jankvist and Tinne Hoff Kjeldsen. New avenues for history in mathematics education: Mathematical competencies and anchoring. *Science & Education (Springer)*, 20(9):831–862, September 2011. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Heeffer:2011:HOA

- [899] Albrecht Heeffer. Historical objections against the number line. *Science & Education (Springer)*, 20(9):863–880, September 2011. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Vera:2011:BCV

- [900] Francisco Vera, Rodrigo Rivera, and César Núñez. Burning a candle in a vessel, a simple experiment with a long history. *Science & Education (Springer)*, 20(9):881–893, September 2011. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

BouJaoude:2011:MEL

- [901] Saouma BouJaoude, Jason R. Wiles, Anila Asghar, and Brian Alters. Muslim Egyptian and Lebanese students' conceptions of biological evo-

lution. *Science & Education (Springer)*, 20(9):895–915, September 2011. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Thagard:2011:BRF

- [902] Paul Thagard. Book review: Friedel Weinert: *Copernicus, Darwin, and Freud: Revolutions in the History and Philosophy of Science. Science & Education (Springer)*, 20(9):917–919, September 2011. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Niaz:2011:BRT

- [903] Mansoor Niaz. Book review: Theodore Arabatzis: *Representing Electrons: A Biographical Approach to Theoretical Entities. Science & Education (Springer)*, 20(9):921–925, September 2011. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Lindahl:2011:BRA

- [904] Mats Gunnar Lindahl. Book review: Alister Jones, Anne Kim and Michael Reiss (eds): *Ethics in the Science and Technology Classroom: A New Approach to Teaching and Learning. Science & Education (Springer)*, 20(9):927–929, September 2011. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Good:2011:BRT

- [905] Ron Good. Book review: Timothy Ferris: *The Science of Liberty: Democracy, Reason, and the Laws of Nature. Science & Education (Springer)*, 20(9):931–936, September 2011. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Korfiatis:2011:IHC

- [906] Konstantinos Korfiatis, Athanasios Raftopoulos, and Demetris Portides. Introduction: The 5th Hellenic Conference on the History, Philosophy and Science Teaching “The Great Scientific Theories in the Teaching of Natural Sciences”. *Science & Education (Springer)*, 20(10):937–941, October 2011. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-011-9339-2.pdf>.

Paraskevopoulou:2011:TNS

- [907] Eleni Paraskevopoulou and Dimitris Koliopoulos. Teaching the nature of science through the Millikan–Ehrenhaft dispute. *Science & Education (Springer)*, 20(10):943–960, October 2011. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Papadouris:2011:PIT

- [908] Nicos Papadouris and Constantinos P. Constantinou. A philosophically informed teaching proposal on the topic of energy for students aged 11–14. *Science & Education (Springer)*, 20(10):961–979, October 2011. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Hadjilouca:2011:RTI

- [909] R. Hadjilouca, C. P. Constantinou, and N. Papadouris. The rationale for a teaching innovation about the interrelationship between science and technology. *Science & Education (Springer)*, 20(10):981–1005, October 2011. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Andreou:2011:LHC

- [910] C. Andreou and A. Raftopoulos. Lessons from the history of the concept of the ray for teaching geometrical optics. *Science & Education (Springer)*, 20(10):1007–1037, October 2011. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Hovardas:2011:TCR

- [911] Tasos Hovardas and Konstantinos Korfiatis. Towards a critical reappraisal of ecology education: Scheduling an educational intervention to revisit the ‘balance of nature’ metaphor. *Science & Education (Springer)*, 20(10):1039–1053, October 2011. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Lee:2012:LRC

- [912] Jun-Ki Lee and Yongju Kwon. Learning-related changes in adolescents’ neural networks during hypothesis-generating and hypothesis-understanding training. *Science & Education (Springer)*, 21(1):1–31, January 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Sharma:2012:GCC

- [913] Ajay Sharma. Global climate change: What has science education got to do with it? *Science & Education (Springer)*, 21(1):33–53, January 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Stromdahl:2012:DCE

- [914] Helge R. Strömdahl. On discerning critical elements, relationships and shifts in attaining scientific terms: The challenge of polysemy/homonymy and reference. *Science & Education (Springer)*, 21(1):55–85, January 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Ducheyne:2012:CET

- [915] Steffen Ducheyne. The Cavendish experiment as a tool for historical understanding of science. *Science & Education (Springer)*, 21(1):87–108, January 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Carolino:2012:MHR

- [916] Luís Miguel Carolino. Measuring the heavens to rule the territory: Filipe Folque and the teaching of astronomy at the Lisbon Polytechnic School and the modernization of the state apparatus in Nineteenth Century Portugal. *Science & Education (Springer)*, 21(1):109–133, January 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Musgrave:2012:BRR

- [917] Clare Alice Musgrave. Book review: Richard Dawkins: *The Greatest Show on Earth: The Evidence for Evolution*. *Science & Education (Springer)*, 21(1):135–140, January 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Adams:2012:BRS

- [918] Marcus P. Adams. Book review: Susan Carey: *The Origin of Concepts*. *Science & Education (Springer)*, 21(1):141–143, January 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Abounader:2012:BRT

- [919] Brooke Abounader. Book review: Timothy McGrew, Marc Alspector-Kelly, and Fritz Allhoff (eds): *Philosophy of Science: An Historical Anthology*. *Science & Education (Springer)*, 21(1):145–149, January 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Heering:2012:HPI

- [920] Peter Heering and Roland Wittje. An historical perspective on instruments and experiments in science education. *Science & Education (Springer)*, 21(2):151–155, February 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Roberts:2012:ISC

- [921] Lissa L. Roberts. Instruments of science and citizenship: Science education for Dutch orphans during the late eighteenth century. *Science & Education (Springer)*, 21(2):157–177, February 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-010-9269-4.pdf>.

Eggen:2012:RIE

- [922] Per-Odd Eggen, Lise Kvittingen, Annette Lykknes, and Roland Wittje. Reconstructing iconic experiments in electrochemistry: Experiences from a history of science course. *Science & Education (Springer)*, 21(2):179–189, February 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-010-9316-1.pdf>.

Brenni:2012:ETI

- [923] Paolo Brenni. The evolution of teaching instruments and their use between 1800 and 1930. *Science & Education (Springer)*, 21(2):191–226, February 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Simon:2012:SEM

- [924] Josep Simon and Mar Cuenca-Lorente. Science education and the material culture of the Nineteenth-Century classroom: Physics and chemistry in Spanish secondary schools. *Science & Education (Springer)*, 21(2):227–244, February 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Turner:2012:CII

- [925] Steven C. Turner. Changing images of the inclined plane: A case study of a revolution in American science education. *Science & Education (Springer)*, 21(2):245–270, February 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Nola:2012:BRM

- [926] Robert Nola. Book review: Marc Lange: *Laws and Lawmakers; Science, Metaphysics and the Laws of Nature*. *Science & Education (Springer)*, 21(2):271–277, February 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Lederman:2012:BRM

- [927] Norman G. Lederman. Book review: Mansoor Niaz: *Innovating Science Teacher Education: A History and Philosophy Perspective*. *Science & Education (Springer)*, 21(2):279–282, February 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Guisasola:2012:BRA

- [928] Jenaro Guisasola. Book review: Andre Koch Torres Assis (2010), *The Experimental and Historical Foundations of Electricity*. *Science & Ed-*

ucation (*Springer*), 21(2):283–285, February 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Machamer:2012:BRL

- [929] Peter Machamer. Book review: Lisa Bortolotti: *An Introduction to the Philosophy of Science*. *Science & Education (Springer)*, 21(2):287–288, February 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Schirmacher:2012:PSB

- [930] Arne Schirmacher. Popular science between news and education: A European perspective. *Science & Education (Springer)*, 21(3):289–291, March 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-011-9347-2.pdf>.

Mergoupi-Savaidou:2012:STG

- [931] Eirini Mergoupi-Savaidou, Faidra Papanelopoulou, and Spyros Tzokas. Science and technology in Greek newspapers, 1900–1910. historiographical reflections and the role of journalists for the public images of science and technology. *Science & Education (Springer)*, 21(3):293–310, March 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Simoes:2012:RWR

- [932] Ana Simões, Ana Carneiro, and Maria Paula Diogo. Riding the wave to reach the masses: Natural events in early Twentieth century Portuguese daily Press. *Science & Education (Springer)*, 21(3):311–333, March 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Herran:2012:SGG

- [933] Néstor Herran. ‘Science to the glory of God’. the popular science magazine *Ibérica* and its coverage of radioactivity, 1914–1936. *Science & Education (Springer)*, 21(3):335–353, March 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Frank:2012:TLS

- [934] Tibor Frank. Teaching and learning science in Hungary, 1867–1945: Schools, personalities, influences. *Science & Education (Springer)*, 21(3):355–380, March 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Schirmacher:2012:SCM

- [935] Arne Schirmacher. State-controlled multimedia education for all? *Science & Education (Springer)*, 21(3):381–401, March 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Slezak:2012:BRMa

- [936] Peter Slezak. Book review: Michael Ruse: *Science and Spirituality: Making Room for Faith in the Age of Science. Science & Education (Springer)*, 21(3):403–413, March 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Galili:2012:BRJ

- [937] Igal Galili. Book review: James Hannam: *God's Philosophers. How the Medieval World Laid the Foundations of Modern Science? Science & Education (Springer)*, 21(3):415–422, March 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Thomson:2012:BRP

- [938] Keith Thomson. Book review: Peter Harrison (ed): *The Cambridge Companion to Science and Religion. Science & Education (Springer)*, 21(3):423–427, March 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Reiss:2012:BRE

- [939] Michael Reiss. Book review: Elaine Howard Ecklund: *Science vs. Religion: What Scientists Really Think. Science & Education (Springer)*, 21(3):429–431, March 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Gauld:2012:BRT

- [940] Colin Gauld. Book review: Tonie Stolberg and Geoff Teece: *Teaching Religion and Science. Science & Education (Springer)*, 21(3):433–434, March 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Good:2012:BRM

- [941] Ron Good. Book review: Massimo Pigliucci: *Nonsense on Stilts: How to Tell Science from Bunk. Science & Education (Springer)*, 21(3):435–440, March 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Franklin:2012:BRA

- [942] Allan Franklin. Book review: Alan Sokal: *Beyond the Hoax: Science, Philosophy and Culture*. *Science & Education (Springer)*, 21(3):441–445, March 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Siemsen:2012:EMG

- [943] Hayo Siemsen. Ernst Mach, George Sarton and the empiry of teaching science Part I. *Science & Education (Springer)*, 21(4):447–484, April 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Uhden:2012:MMR

- [944] Olaf Uhden, Ricardo Karam, Maurício Pietrocola, and Gesche Pospiech. Modelling mathematical reasoning in physics education. *Science & Education (Springer)*, 21(4):485–506, April 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Marcelos:2012:UTA

- [945] Maria Fátima Marcelos and Ronaldo Luiz Nagem. Use of the “Tree” analogy in evolution teaching by biology teachers. *Science & Education (Springer)*, 21(4):507–541, April 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

dosSantos:2012:HDV

- [946] Vanessa Carvalho dos Santos, Leyla Mariane Joaquim, and Charbel Niño El-Hani. Hybrid deterministic views about genes in biology textbooks: A key problem in genetics teaching. *Science & Education (Springer)*, 21(4):543–578, April 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Brigandt:2012:BRR

- [947] Ingo Brigandt. Book review: Roger S. Taylor and Michel Ferrari (eds): *Epistemology and Science Education: Understanding the Evolution vs. Intelligent Design Controversy*. *Science & Education (Springer)*, 21(4):579–582, April 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Moore:2012:BRE

- [948] David S. Moore. Book review: Evelyn Fox Keller: *The Mirage of a Space Between Nature and Nurture*. *Science & Education (Springer)*, 21(4):583–590, April 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Tweney:2012:BRN

- [949] Ryan D. Tweney. Book review: Nancy J. Nersessian: *Creating Scientific Concepts*. *Science & Education (Springer)*, 21(4):591–596, April 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Douven:2012:BRP

- [950] Igor Douven. Book review: Peter Achinstein: *Evidence, Explanation, and Realism: Essays in Philosophy of Science*. *Science & Education (Springer)*, 21(4):597–601, April 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-011-9405-9.pdf>.

Silva:2012:RIB

- [951] Cibelle Celestino Silva and Maria Elice Brzezinski Prestes. Reinforcing the integration between researchers of Latin America, North America and Europe in the IHPST group. *Science & Education (Springer)*, 21(5):603–606, May 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-012-9452-x.pdf>.

Arteaga:2012:OPS

- [952] Juan Manuel Sánchez Arteaga and Charbel N. El-Hani. Othering processes and STS curricula: From Nineteenth Century scientific discourse on interracial competition and racial extinction to othering in biomedical technosciences. *Science & Education (Springer)*, 21(5):607–629, May 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Guerra-Ramos:2012:TIA

- [953] Maria Teresa Guerra-Ramos. Teachers' ideas about the nature of science: A critical analysis of research approaches and their contribution to pedagogical practice. *Science & Education (Springer)*, 21(5):631–655, May 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Forato:2012:HNS

- [954] Thaís Cyrino de Mello Forato, Roberto de Andrade Martins, and Maurício Pietrocola. History and nature of science in high school: Building up parameters to guide educational materials and strategies. *Science & Education (Springer)*, 21(5):657–682, May 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Seker:2012:HSP

- [955] Hayati Seker and Burcu G. Guney. History of science in the physics curriculum: A directed content analysis of historical sources. *Science & Education (Springer)*, 21(5):683–703, May 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Souza:2012:CCE

- [956] Karina Ap F. D. Souza and Paulo Alves Porto. Chemistry and chemical education through text and image: Analysis of Twentieth century textbooks used in Brazilian context. *Science & Education (Springer)*, 21(5):705–727, May 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Klassen:2012:PHP

- [957] Stephen Klassen, Mansoor Niaz, Don Metz, Barbara McMillan, and Sarah Dietrich. Portrayal of the history of the photoelectric effect in laboratory instructions. *Science & Education (Springer)*, 21(5):729–743, May 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Chamizo:2012:HDT

- [958] José A. Chamizo. Heuristic diagrams as a tool to teach history of science. *Science & Education (Springer)*, 21(5):745–762, May 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Lacey:2012:BRD

- [959] Hugh Lacey. Book review: Décio Krause and Antonio Videira (eds): *Brazilian Studies in Philosophy and History of Science: An Account of Recent Work*. *Science & Education (Springer)*, 21(5):763–766, May 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Seroglou:2012:IAH

- [960] Fanny Seroglou and Agustín Adúriz-Bravo. Introduction: The application of the history and philosophy of science in science teaching. *Science & Education (Springer)*, 21(6):767–770, June 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-011-9394-8.pdf>.

Teixeira:2012:HPS

- [961] Elder Sales Teixeira, Ileana Maria Greca, and Olival Freire, Jr. The history and philosophy of science in physics teaching: A research synthesis

of didactic interventions. *Science & Education (Springer)*, 21(6):771–796, June 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Santilli:2012:STA

- [962] Haydée Santilli. Science and technology, autonomous and more interdependent every time. *Science & Education (Springer)*, 21(6):797–811, June 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Faria:2012:DCB

- [963] Cláudia Faria, Gonçalo Pereira, and Isabel Chagas. D. Carlos de Bragança, a pioneer of experimental marine oceanography: Filling the gap between formal and informal science education. *Science & Education (Springer)*, 21(6):813–826, June 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Arriasecq:2012:TLS

- [964] Irene Arriasecq and Ileana María Greca. A teaching–learning sequence for the special relativity theory at high school level historically and epistemologically contextualized. *Science & Education (Springer)*, 21(6):827–851, June 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Develaki:2012:ISM

- [965] Maria Develaki. Integrating scientific methods and knowledge into the teaching of Newton’s theory of gravitation: An instructional sequence for teachers’ and students’ nature of science education. *Science & Education (Springer)*, 21(6):853–879, June 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Peters:2012:DCK

- [966] Erin E. Peters. Developing content knowledge in students through explicit teaching of the nature of science: Influences of goal setting and self-monitoring. *Science & Education (Springer)*, 21(6):881–898, June 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Richards:2012:UKA

- [967] Ted Richards. Using kinesthetic activities to teach Ptolemaic and Copernican retrograde motion. *Science & Education (Springer)*, 21(6):899–910, June 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Decamp:2012:IED

- [968] Nicolas Décamp and Cécile de Hosson. Implementing Eratosthenes' discovery in the classroom: Educational difficulties needing attention. *Science & Education (Springer)*, 21(6):911–920, June 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Braga:2012:RHP

- [969] Marco Braga, Andreia Guerra, and José Claudio Reis. The role of historical–philosophical controversies in teaching sciences: The debate between Biot and Ampère. *Science & Education (Springer)*, 21(6):921–934, June 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Lynch:2012:I

- [970] John M. Lynch. Introduction. *Science & Education (Springer)*, 21(7):935–936, July 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-012-9448-6.pdf>.

Bellon:2012:MDI

- [971] Richard Bellon. The moral dignity of inductive method and the reconciliation of science and faith in Adam Sedgwick's discourse. *Science & Education (Springer)*, 21(7):937–958, July 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Hunter:2012:MTD

- [972] T. Russell Hunter. Making a theist out of Darwin: Asa Gray's post-Darwinian natural theology. *Science & Education (Springer)*, 21(7):959–975, July 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Hale:2012:DOB

- [973] Piers J. Hale. Darwin's other bulldog: Charles Kingsley and the popularisation of evolution in Victorian England. *Science & Education (Springer)*, 21(7):977–1013, July 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Lightman:2012:EYV

- [974] Bernard Lightman. Evolution for young Victorians. *Science & Education (Springer)*, 21(7):1015–1034, July 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kampourakis:2012:BRE

- [975] Kostas Kampourakis. Book review: Eve-Marie Engels and Thomas F. Glick (eds): *The Reception of Charles Darwin in Europe. Science & Education (Springer)*, 21(7):1035–1038, July 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Farber:2012:BRR

- [976] Paul Lawrence Farber. Book review: Robert E. Kohler: *All Creatures. Naturalists, Collectors, and Biodiversity, 1850–1950. Science & Education (Springer)*, 21(7):1039–1040, July 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Wiles:2012:BRR

- [977] Jason R. Wiles. Book review: Randy Moore and Mark D. Decker. *More than Darwin: An Encyclopedia of the People and Places of the Evolution-Creationism Controversy. Science & Education (Springer)*, 21(7):1041–1044, July 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Peterson:2012:BRM

- [978] Erik L. Peterson. Book review: Matthew Cobb (2007): *The Egg & Sperm Race: The Seventeenth-Century Scientists Who Unraveled the Secrets of Sex, Life, and Growth. Science & Education (Springer)*, 21(7):1045–1049, July 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Muller-Wille:2012:BRR

- [979] Staffan Müller-Wille. Book review: Raphael Falk: *Genetic Analysis: A History of Genetic Thinking*. Studies in Philosophy of Biology, edited by Michael Ruse. *Science & Education (Springer)*, 21(7):1051–1053, July 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Jung:2012:PSE

- [980] Walter Jung. Philosophy of science and education. *Science & Education (Springer)*, 21(8):1055–1083, August 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Besson:2012:HCL

- [981] Ugo Besson. The history of the cooling law: When the search for simplicity can be an obstacle. *Science & Education (Springer)*, 21(8):1085–1110, August 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Hadzigeorgiou:2012:ERU

- [982] Yannis Hadzigeorgiou, Stephen Klassen, and Cathrine Froese Klassen. Encouraging a “Romantic understanding” of science: The effect of the Nikola Tesla story. *Science & Education (Springer)*, 21(8):1111–1138, August 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Henderson:2012:VDD

- [983] James Henderson. Vitalism and the Darwin debate. *Science & Education (Springer)*, 21(8):1139–1149, August 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Boudry:2012:GMA

- [984] Maarten Boudry, Stefaan Blancke, and Johan Braeckman. Grist to the mill of anti-evolutionism: The failed strategy of ruling the supernatural out of science by philosophical Fiat. *Science & Education (Springer)*, 21(8):1151–1165, August 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Blancke:2012:ICS

- [985] Stefaan Blancke, Johan De Smedt, Helen De Cruz, Maarten Boudry, and Johan Braeckman. The implications of the cognitive sciences for the relation between religion and science education: The case of evolutionary theory. *Science & Education (Springer)*, 21(8):1167–1184, August 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Fiss:2012:PAD

- [986] Andrew Fiss. Problems of abstraction: Defining an American standard for mathematics education at the turn of the Twentieth century. *Science & Education (Springer)*, 21(8):1185–1197, August 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Padovani:2012:BRB

- [987] Flavia Padovani. Book review: Bas C. Van Fraassen: *Scientific Representation: Paradoxes of Perspective*. *Science & Education (Springer)*, 21(8):1199–1204, August 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Duschl:2012:BRK

- [988] Richard Duschl. Book review: Keith S. Taber: *Progressing Science Education: Constructing the Scientific Research Programme into the Contingent Nature of Learning Science*. *Science & Education (Springer)*, 21

(8):1205–1208, August 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

McGrath:2012:BRJ

- [989] Alister McGrath. Book review: John Hedley Brooke and Ronald L. Numbers (eds): *Science and Religion Around the World*. *Science & Education (Springer)*, 21(8):1209–1211, August 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Slezak:2012:BRMb

- [990] Peter Slezak. Book review: Mario Bunge: *Matter and Mind: A Philosophical Inquiry*. *Science & Education (Springer)*, 21(8):1213–1221, August 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Artmann:2012:BRG

- [991] Stefan Artmann. Book review: George Terzis and Robert Arp (eds): *Information and Living Systems: Philosophical and Scientific Perspectives*. *Science & Education (Springer)*, 21(8):1223–1228, August 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Hottecke:2012:HHP

- [992] Dietmar Höttecke. HIPST — history and philosophy in science teaching: A European project. *Science & Education (Springer)*, 21(9):1229–1232, September 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-011-9435-3.pdf>.

Hottecke:2012:IHP

- [993] Dietmar Höttecke, Andreas Henke, and Falk Riess. Implementing history and philosophy in science teaching: Strategies, methods, results and experiences from the European HIPST Project. *Science & Education (Springer)*, 21(9):1233–1261, September 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Allchin:2012:MCS

- [994] Douglas Allchin. The Minnesota Case Study Collection: New historical inquiry case studies for nature of science education. *Science & Education (Springer)*, 21(9):1263–1281, September 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Galili:2012:PCC

- [995] Igal Galili. Promotion of cultural content knowledge through the use of the history and philosophy of science. *Science & Education (Springer)*, 21(9):1283–1316, September 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Silva:2012:SSC

- [996] Cibelle Celestino Silva and Breno Arsioli Moura. Science and society: The case of acceptance of Newtonian optics in the eighteenth century. *Science & Education (Springer)*, 21(9):1317–1335, September 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

LopesCoelho:2012:CPF

- [997] Ricardo Lopes Coelho. Conceptual problems in the foundations of mechanics. *Science & Education (Springer)*, 21(9):1337–1356, September 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

El-Hani:2012:BRP

- [998] Charbel N. El-Hani and Nei F. Nunes-Neto. Book review: Panagiotis V. Kokkotas, Katerina S. Malamitsa and Aikaterini A. Rizaki (Ed.): *A dapting Historical Knowledge Production to the Classroom*. *Science & Education (Springer)*, 21(9):1357–1373, September 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Cavicchi:2012:BRP

- [999] Elizabeth Cavicchi. Book review: Peter Heering and Roland Wittje (eds): *Learning by Doing: Experiments and Instruments in the History of Science Teaching*. *Science & Education (Springer)*, 21(9):1375–1380, September 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Smith:2012:BRS

- [1000] Carol L. Smith. Book review: Stellan Ohlsson: *Deep Learning: How the Mind Overrides Experience*. *Science & Education (Springer)*, 21(9):1381–1392, September 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Matthews:2012:MBS

- [1001] Michael R. Matthews. Mario Bunge, systematic philosophy and science education: An introduction. *Science & Education (Springer)*, 21(10):1393–1403, October 2012. CODEN SCEDE9. ISSN 0926-7220 (print),

1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-012-9530-0.pdf>.

Agassi:2012:BUL

- [1002] Joseph Agassi. Between the under-labourer and the master-builder: Observations on Bunge's method. *Science & Education (Springer)*, 21(10):1405–1418, October 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Cordero:2012:MBS

- [1003] Alberto Cordero. Mario Bunge's scientific realism. *Science & Education (Springer)*, 21(10):1419–1435, October 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Mahner:2012:RMN

- [1004] Martin Mahner. The role of metaphysical naturalism in science. *Science & Education (Springer)*, 21(10):1437–1459, October 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Arthur:2012:VPQ

- [1005] Richard T. W. Arthur. Virtual processes and quantum tunnelling as fictions. *Science & Education (Springer)*, 21(10):1461–1473, October 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Slezak:2012:MBM

- [1006] Peter Slezak. Mario Bunge's materialist theory of mind and contemporary cognitive science. *Science & Education (Springer)*, 21(10):1475–1484, October 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Seni:2012:DMN

- [1007] Dan Alexander Seni. Do the modern neurosciences call for a new model of organizational cognition? *Science & Education (Springer)*, 21(10):1485–1506, October 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Pickel:2012:BHS

- [1008] Andreas Pickel. Between *Homo Sociologicus* and *Homo Biologicus*: The reflexive self in the age of social neuroscience. *Science & Education (Springer)*, 21(10):1507–1526, October 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Virues-Ortega:2012:PNI

- [1009] Javier Virues-Ortega, Camilo Hurtado-Parrado, Toby L. Martin, and Flávia Julio. Psycho-neural identity as the basis for empirical research and theorization in psychology: An interview with Mario A. Bunge. *Science & Education (Springer)*, 21(10):1527–1534, October 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Deleporte:2012:SEV

- [1010] Pierre Deleporte. The systemist emergentist view of Mahner and Bunge on ‘species as individuals’: What use for science and education? *Science & Education (Springer)*, 21(10):1535–1544, October 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Wan:2012:ASB

- [1011] Poe Yu ze Wan. Analytical sociology: A Bungean appreciation. *Science & Education (Springer)*, 21(10):1545–1565, October 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Marquis:2012:MBP

- [1012] Jean-Pierre Marquis. Mario Bunge’s philosophy of mathematics: An appraisal. *Science & Education (Springer)*, 21(10):1567–1594, October 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Cavallo:2012:MBD

- [1013] Andrew M. Cavallo. On Mario Bunge’s definition of system and system boundary. *Science & Education (Springer)*, 21(10):1595–1599, October 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Bunge:2012:DQP

- [1014] Mario Bunge. Does quantum physics refute realism, materialism and determinism? *Science & Education (Springer)*, 21(10):1601–1610, October 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Erduran:2012:SIR

- [1015] Sibel Erduran. Special issue reviewers. *Science & Education (Springer)*, 21(10):1611–1613, October 2012. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kampourakis:2013:PCTa

- [1016] Kostas Kampourakis. Philosophical considerations in the teaching of biology: Introduction to Part I — philosophy of biology and biological

explanation. *Science & Education (Springer)*, 22(1):1–3, January 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Takacs:2013:CSP

- [1017] Peter Takacs and Michael Ruse. The current status of the philosophy of biology. *Science & Education (Springer)*, 22(1):5–48, January 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Pigliucci:2013:WSS

- [1018] Massimo Pigliucci. When science studies religion: Six philosophy lessons for science classes. *Science & Education (Springer)*, 22(1):49–67, January 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Brigandt:2013:EBR

- [1019] Ingo Brigandt. Explanation in biology: Reduction, pluralism, and explanatory aims. *Science & Education (Springer)*, 22(1):69–91, January 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

vanMil:2013:MMM

- [1020] Marc H. W. van Mil, Dirk Jan Boerwinkel, and Arend Jan Waarlo. Modelling molecular mechanisms: A framework of scientific reasoning to construct molecular-level explanations for cellular behaviour. *Science & Education (Springer)*, 22(1):93–118, January 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-011-9379-7.pdf>.

Svoboda:2013:SMB

- [1021] Julia Svoboda and Cynthia Passmore. The strategies of modeling in biology education. *Science & Education (Springer)*, 22(1):119–142, January 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kampourakis:2013:PCTb

- [1022] Kostas Kampourakis. Philosophical considerations in the teaching of biology: Introduction to Part II — evolution, development and genetics. *Science & Education (Springer)*, 22(2):143–147, February 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Nola:2013:DAF

- [1023] Robert Nola. Darwin’s arguments in favour of natural selection and against special Creationism. *Science & Education (Springer)*, 22(2):149–171, February 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kampourakis:2013:TAA

- [1024] Kostas Kampourakis. Teaching about adaptation: Why evolutionary history matters. *Science & Education (Springer)*, 22(2):173–188, February 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Reydon:2013:CLR

- [1025] Thomas A. C. Reydon. Classifying life, reconstructing history and teaching diversity: Philosophical issues in the teaching of biological systematics and biodiversity. *Science & Education (Springer)*, 22(2):189–220, February 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Wilkins:2013:BET

- [1026] John S. Wilkins. Biological essentialism and the tidal change of natural kinds. *Science & Education (Springer)*, 22(2):221–240, February 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Maienschein:2013:CVE

- [1027] Jane Maienschein and Karen Wellner. Competing views of embryos for the twenty-first century: Textbooks and society. *Science & Education (Springer)*, 22(2):241–253, February 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Love:2013:ILT

- [1028] Alan C. Love. Interdisciplinary lessons for the teaching of biology from the practice of evo–devo. *Science & Education (Springer)*, 22(2):255–278, February 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Ioannidis:2013:RET

- [1029] Stavros Ioannidis. Regulatory evolution and theoretical arguments in evolutionary biology. *Science & Education (Springer)*, 22(2):279–292, February 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kampourakis:2013:MPG

- [1030] Kostas Kampourakis. Mendel and the path to genetics: Portraying science as a social process. *Science & Education (Springer)*, 22(2):293–324, February 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Burian:2013:GCT

- [1031] Richard M. Burian. On gene concepts and teaching genetics: Episodes from classical genetics. *Science & Education (Springer)*, 22(2):325–344, February 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Meyer:2013:HUG

- [1032] Lia Midori Nascimento Meyer, Gilberto Cafezeiro Bomfim, and Charbel Niño El-Hani. How to understand the gene in the twenty-first century? *Science & Education (Springer)*, 22(2):345–374, February 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kampourakis:2013:PCTc

- [1033] Kostas Kampourakis. Philosophical considerations in the teaching of biology: Acknowledgement of reviewers. *Science & Education (Springer)*, 22(2):375–376, February 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kampourakis:2013:BRM

- [1034] Kostas Kampourakis. Book review: Michael Ruse (ed): *The Oxford Handbook of Philosophy of Biology*. *Science & Education (Springer)*, 22(2):377–379, February 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Reydon:2013:BRR

- [1035] Thomas A. C. Reydon. Book review: Richard A. Richards: *The Species Problem: A Philosophical Analysis*. *Science & Education (Springer)*, 22(2):381–389, February 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Richards:2013:BRJ

- [1036] Richard A. Richards. Book review: John S. Wilkins: *Species: A History of the Idea*. *Science & Education (Springer)*, 22(2):391–398, February 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Brooke:2013:BRA

- [1037] John Hedley Brooke. Book review: Alister E. McGrath: *Darwinism and the Divine: Evolutionary Thought and Natural Theology*. *Science & Education (Springer)*, 22(2):399–404, February 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Pigliucci:2013:BRD

- [1038] Massimo Pigliucci. Book review: Dennis R. Alexander and Ronald L. Numbers (eds): *Biology and Ideology: From Descartes to Dawkins. Science & Education (Springer)*, 22(2):405–409, February 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

VanBouwel:2013:BRS

- [1039] Jeroen Van Bouwel. Book review: Sandra Mitchell: *Unsimple Truths. Science, Complexity, and Policy. Science & Education (Springer)*, 22(2):411–418, February 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Blown:2013:TEA

- [1040] E. J. Blown and T. G. K. Bryce. Thought-experiments about gravity in the history of science and in research into children’s thinking. *Science & Education (Springer)*, 22(3):419–481, March 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Heinicke:2013:DRR

- [1041] Susanne Heinicke and Peter Heering. Discovering randomness, recovering expertise: The different approaches to the quality in measurement of Coulomb and Gauss and of Today’s students. *Science & Education (Springer)*, 22(3):483–503, March 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Nousiainen:2013:CPS

- [1042] Maija Nousiainen. Coherence of pre-service physics teachers’ views of the relatedness of physics concepts. *Science & Education (Springer)*, 22(3):505–525, March 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Clarage:2013:PRI

- [1043] James B. Clarage. The Pythagorean roots of introductory physics. *Science & Education (Springer)*, 22(3):527–542, March 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Dibattista:2013:IHP

- [1044] Liborio Dibattista and Francesca Morgese. Introducing history (and philosophy) of science in the classroom: A field research experience in Italy. *Science & Education (Springer)*, 22(3):543–576, March 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Barnes:2013:PCP

- [1045] Ralph M. Barnes and Rebecca A. Church. Proponents of Creationism but not proponents of evolution frame the origins debate in terms of proof. *Science & Education (Springer)*, 22(3):577–603, March 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Smith:2013:RAS

- [1046] Mike U. Smith. The role of authority in science and religion with implications for science teaching and learning. *Science & Education (Springer)*, 22(3):605–634, March 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Jankvist:2013:HAP

- [1047] Uffe Thomas Jankvist. History, applications, and philosophy in mathematics education: HAPh — A use of primary sources. *Science & Education (Springer)*, 22(3):635–656, March 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Andersen:2013:EUL

- [1048] Casper Andersen, Jakob Bek-Thomsen, Mathias Clasen, Stine Slot Grumsen, Hans Henrik Hjermitslev, and Peter C. Kjærgaard. Evolution 2.0. the unexpected learning experience of making a digital archive. *Science & Education (Springer)*, 22(3):657–675, March 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Svedholm:2013:HME

- [1049] Annika M. Svedholm and Marjaana Lindeman. Healing, mental energy in the physics classroom: Energy conceptions and trust in complementary and alternative medicine in grade 10–12 students. *Science & Education (Springer)*, 22(3):677–694, March 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Boyle:2013:WSW

- [1050] Roger D. Boyle. Whom shall we put on the postage stamps? *Science & Education (Springer)*, 22(3):695–707, March 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Horsthemke:2013:BRC

- [1051] Kai Horsthemke. Book review: Claudia W. Ruitenberg and D. C. Phillips (eds.): *Education, Culture and Epistemological Diversity — Mapping a Disputed Terrain*. *Science & Education (Springer)*, 22(3):709–716, March 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Assis:2013:BRK

- [1052] Andre K. T. Assis. Book review: Karin Reich and Elena Roussanova: *Carl Friedrich Gauss und Russland: Sein Briefwechsel mit in Russland wirkenden Wissenschaftlern. Science & Education (Springer)*, 22(3):717–721, March 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Simonneaux:2013:BRT

- [1053] Laurence Simonneaux. Book review: Troy D. Sadler (ed.): *Socio-Scientific Issues in the Classroom: Teaching, Learning and Research. Science & Education (Springer)*, 22(3):723–728, March 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Siegel:2013:BRS

- [1054] Harvey Siegel. Book review: Stathis Psillos and Martin Curd (eds): *The Routledge Companion to Philosophy of Science. Science & Education (Springer)*, 22(3):729–731, March 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Turner:2013:BRK

- [1055] Steven Turner. Book review: Klaus Staubermann (ed.): *Reconstructions: Recreating Science and Technology of the Past. Science & Education (Springer)*, 22(3):733–736, March 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Henry:2013:BRS

- [1056] John Henry. Book review: Steffen Ducheyne: *The Main Business of Natural Philosophy: Isaac Newton's Natural-Philosophical Methodology. Science & Education (Springer)*, 22(3):737–746, March 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

McCain:2013:BRR

- [1057] Kevin McCain. Book review: Robert Audi: *Epistemology: A Contemporary Introduction to the Theory of Knowledge. Science & Education (Springer)*, 22(3):747–752, March 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Niaz:2013:BRK

- [1058] Mansoor Niaz. Book review: Kostas Gavroglu and Ana Simões: *Neither Physics nor Chemistry: A History of Quantum Chemistry. Science & Education (Springer)*, 22(3):753–758, March 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Neswald:2013:BRL

- [1059] Elizabeth Neswald. Book review: Lorraine Daston and Elizabeth Lunbeck (eds.): *Histories of Scientific Observation. Science & Education (Springer)*, 22(3):759–761, March 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Simon:2013:CNC

- [1060] Josep Simon. Cross-national and comparative history of science education: An introduction. *Science & Education (Springer)*, 22(4):763–768, April 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Blanco:2013:MCP

- [1061] Mónica Blanco. The mathematical courses of Pedro Padilla and Étienne Bézout: Teaching calculus in Eighteenth-Century Spain and France. *Science & Education (Springer)*, 22(4):769–788, April 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Tampakis:2013:SEE

- [1062] Konstantinos Tampakis. Science education and the emergence of the specialized scientist in Nineteenth Century Greece. *Science & Education (Springer)*, 22(4):789–805, April 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Onghena:2013:BRG

- [1063] Sofie Onghena. A blend of Romanism and Germanism: Experimental science instruction in Belgian state secondary education, 1880–1914. *Science & Education (Springer)*, 22(4):807–825, April 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Hoffman:2013:SBE

- [1064] Michelle Hoffman. Shunning the Bird’s eye view: General science in the schools of Ontario and Quebec. *Science & Education (Springer)*, 22(4):827–846, April 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Radtka:2013:TST

- [1065] Catherine Radtka. Temperature in science textbooks: Changes and trends in cross-national perspective (1950–2000). *Science & Education (Springer)*, 22(4):847–866, April 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Rowlands:2013:BRC

- [1066] Stuart Rowlands. Book review: Christopher Pincock: *Mathematics and Scientific Representation*. *Science & Education (Springer)*, 22(4):867–872, April 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Lujan:2013:BRH

- [1067] José Luis Luján. Book review: Heather E. Douglas: *Science, Policy, and the Value-Free Ideal*. *Science & Education (Springer)*, 22(4):873–875, April 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Shank:2013:BRJ

- [1068] Michael H. Shank. Book review: J. L. Heilbron: *Galileo*. *Science & Education (Springer)*, 22(4):877–880, April 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

vanDijk:2013:BRM

- [1069] Esther M. van Dijk. Book review: Myint Swe Khine (Ed): *Advances in Nature of Science Research: Concepts and Methodologies*. *Science & Education (Springer)*, 22(4):881–886, April 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Stinner:2013:BRG

- [1070] Arthur Stinner. Book review: Graham Farmelo: *The Strangest Man: The Hidden Life of Paul Dirac*. *Science & Education (Springer)*, 22(4):887–891, April 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Taber:2013:BRM

- [1071] Keith S. Taber. Book review: Mansoor Niaz: *From ‘Science in the Making’ to Understanding the Nature of Science: An Overview for Science Educators*. *Science & Education (Springer)*, 22(4):893–911, April 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Chalmers:2013:HCW

- [1072] Alan Chalmers. Hasok Chang: Is water H₂O? evidence, pluralism and realism, Boston studies in the philosophy of science. *Science & Education (Springer)*, 22(4):913–920, April 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Fishman:2013:DSP

- [1073] Yonatan I. Fishman and Maarten Boudry. Does science presuppose naturalism (or anything at all)? *Science & Education (Springer)*, 22(5): 921–949, May 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Siemsen:2013:EMG

- [1074] Hayo Siemsen. Ernst Mach and George Sarton’s successors: The implicit role model of teaching science in USA and elsewhere, Part II. *Science & Education (Springer)*, 22(5):951–1000, May 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Besson:2013:HSM

- [1075] Ugo Besson. Historical scientific models and theories as resources for learning and teaching: The case of friction. *Science & Education (Springer)*, 22(5):1001–1042, May 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

LopesCoelho:2013:CHI

- [1076] Ricardo Lopes Coelho. Could HPS improve problem-solving? *Science & Education (Springer)*, 22(5):1043–1068, May 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Konstantinidou:2013:USR

- [1077] Aikaterini Konstantinidou and Fabrizio Macagno. Understanding students’ reasoning: Argumentation schemes as an interpretation method in science education. *Science & Education (Springer)*, 22(5):1069–1087, May 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Barrue:2013:CES

- [1078] Catherine Barrue and Virginie Albe. Citizenship education and socio-scientific issues: Implicit concept of citizenship in the curriculum, views of French middle school teachers. *Science & Education (Springer)*, 22(5):1089–1114, May 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Wan:2013:WNS

- [1079] Zhi Hong Wan, Siu Ling Wong, and Ying Zhan. When nature of science meets Marxism: Aspects of nature of science taught by Chinese science teacher educators to prospective science teachers. *Science & Education*

(*Springer*), 22(5):1115–1140, May 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Rizaki:2013:UHP

- [1080] Aikaterini Rizaki and Panagiotis Kokkotas. The use of history and philosophy of science as a core for a socioconstructivist teaching approach of the concept of energy in primary education. *Science & Education (Springer)*, 22(5):1141–1165, May 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anderson:2013:RIO

- [1081] Katharine Anderson, Mélanie Frappier, Elizabeth Neswald, and Henry Trim. Reading instruments: Objects, texts and museums. *Science & Education (Springer)*, 22(5):1167–1189, May 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Vazquez-Alonso:2013:SSS

- [1082] Ángel Vázquez-Alonso, Antonio García-Carmona, María Antonia Manassero-Mas, and Antoni Bennàssar-Roig. Spanish secondary-school science teachers' beliefs about science–technology–society (STS) issues. *Science & Education (Springer)*, 22(5):1191–1218, May 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Boudry:2013:BRA

- [1083] Maarten Boudry. Book review: Alvin Plantinga: *Where the Conflict Really Lies. Science, Religion and Naturalism*. *Science & Education (Springer)*, 22(5):1219–1227, May 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Rowbottom:2013:BRP

- [1084] Darrell P. Rowbottom. Book review: P. K. Feyerabend: *The Tyranny of Science*. *Science & Education (Springer)*, 22(5):1229–1231, May 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Gauvin:2013:BRP

- [1085] Jean-François Gauvin. Book review: Peter Harrison, Ronald L. Numbers, and Michael H. Shank (eds.): *Wrestling with Nature: From Omens to Science*. *Science & Education (Springer)*, 22(5):1233–1235, May 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Mohr:2013:BRS

- [1086] Anna Mohr. Book review: Sandra Harding (ed): *The Postcolonial Science and Technology Reader*. *Science & Education (Springer)*, 22(5):

1237–1240, May 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Minelli:2013:BRP

- [1087] Alessandro Minelli. Book review: Poiani, Aldo (ed.): *Pragmatic Evolution: Applications of Evolutionary Theory*. *Science & Education (Springer)*, 22(5):1241–1246, May 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Thomson:2013:BRT

- [1088] Keith Thomson. Book review: Thomas Dixon, Geoffrey Cantor, and Stephen Pumfrey (eds): *Science and Religion: New Historical Perspectives*. *Science & Education (Springer)*, 22(5):1247–1251, May 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Chen:2013:BRE

- [1089] Xiang Chen. Book review: Edouard Machery: *Doing Without Concepts*. *Science & Education (Springer)*, 22(5):1253–1255, May 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

McCain:2013:BRM

- [1090] Kevin McCain. Book review: Matthias Steup and Ernest Sosa (eds): *Contemporary Debates in Epistemology*. *Science & Education (Springer)*, 22(5):1257–1263, May 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kampourakis:2013:BRR

- [1091] Kostas Kampourakis. Book review: R. Duschl, H. Schweingruber, and A. Shouse: *Taking Science to School: Learning and Teaching in Grades K–8*. *Science & Education (Springer)*, 22(5):1265–1266, May 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Taber:2013:BRK

- [1092] Keith S. Taber. Book review: Ken Springer: *Educational Research: A Contextual Approach*. *Science & Education (Springer)*, 22(5):1267–1279, May 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Seroglou:2013:I

- [1093] Fanny Seroglou. Introduction. *Science & Education (Springer)*, 22(6):1301–1303, June 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-013-9598-1.pdf>.

Cordero:2013:CAM

- [1094] Alberto Cordero. Conversations across meaning variance. *Science & Education (Springer)*, 22(6):1305–1313, June 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Glas:2013:MEO

- [1095] Eduard Glas. Mathematics education and the objectivist programme in HPS. *Science & Education (Springer)*, 22(6):1315–1321, June 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-011-9433-5.pdf>.

Tala:2013:KBE

- [1096] Suvi Tala. Knowledge building expertise: Nanomodellers' education as an example. *Science & Education (Springer)*, 22(6):1323–1346, June 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Lappi:2013:QQE

- [1097] Otto Lappi. Qualitative quantitative and experimental concept possession, criteria for identifying conceptual change in science education. *Science & Education (Springer)*, 22(6):1347–1359, June 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Mantyla:2013:PCD

- [1098] Terhi Mäntylä. Promoting conceptual development in physics teacher education: Cognitive–historical reconstruction of electromagnetic induction law. *Science & Education (Springer)*, 22(6):1361–1387, June 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Rusanen:2013:CC

- [1099] Anna-Mari Rusanen and Samuli Pöyhönen. Concepts in change. *Science & Education (Springer)*, 22(6):1389–1403, June 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

deAtaide:2013:EVR

- [1100] Ana Raquel Pereira de Ataíde and Ileana Maria Greca. Epistemic views of the relationship between physics and mathematics: Its influence on the approach of undergraduate students to problem solving. *Science & Education (Springer)*, 22(6):1405–1421, June 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Ha:2013:WFU

- [1101] Sangwoo Ha, Gyounggho Lee, and Calvin S. Kalman. Workshop on friction: Understanding and addressing students' difficulties in learning science through a hermeneutical perspective. *Science & Education (Springer)*, 22(6):1423–1441, June 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Maurines:2013:TNS

- [1102] Laurence Maurines and Daniel Beaufile. Teaching the nature of science in physics courses: The contribution of classroom historical inquiries. *Science & Education (Springer)*, 22(6):1443–1465, June 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Hovardas:2013:CRE

- [1103] Tasos Hovardas. A critical reading of ecocentrism and its meta-scientific use of ecology: Instrumental versus emancipatory approaches in environmental education and ecology education. *Science & Education (Springer)*, 22(6):1467–1483, June 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Guerra:2013:HPS

- [1104] Andreia Guerra, Marco Braga, and José Claudio Reis. History, philosophy, and science in a social perspective: A pedagogical project. *Science & Education (Springer)*, 22(6):1485–1503, June 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Santilli:2013:IPN

- [1105] Haydée Santilli and Jorge Norberto Cornejo. The influence of positivism in the Nineteenth Century astronomy in Argentina. *Science & Education (Springer)*, 22(6):1505–1518, June 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Galamba:2013:RCH

- [1106] Arthur Galamba. Rómulo de Carvalho's humanistic chemistry syllabus in the 1948 Portuguese liceal reform. *Science & Education (Springer)*, 22(6):1519–1536, June 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Lauginie:2013:HDL

- [1107] Pierre Lauginie. How did light acquire a velocity? *Science & Education (Springer)*, 22(6):1537–1554, June 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Matthews:2013:RVN

- [1108] Michael R. Matthews. Reviewers volume 22 number 6. *Science & Education (Springer)*, 22(6):1555–1557, June 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Erduran:2013:PCE

- [1109] Sibel Erduran. Philosophy, chemistry and education: An introduction. *Science & Education (Springer)*, 22(7):1559–1562, July 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-012-9526-9.pdf>.

Woody:2013:HIG

- [1110] Andrea I. Woody. How is the ideal gas law explanatory? *Science & Education (Springer)*, 22(7):1563–1580, July 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Tobin:2013:CLI

- [1111] Emma Tobin. Chemical laws, idealization and approximation. *Science & Education (Springer)*, 22(7):1581–1592, July 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Aduriz-Bravo:2013:SVS

- [1112] Agustín Adúriz-Bravo. A ‘semantic’ view of scientific models for science education. *Science & Education (Springer)*, 22(7):1593–1611, July 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Chamizo:2013:NDM

- [1113] José A. Chamizo. A new definition of models and modeling in Chemistry’s teaching. *Science & Education (Springer)*, 22(7):1613–1632, July 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Izquierdo-Aymerich:2013:SCH

- [1114] Mercè Izquierdo-Aymerich. School chemistry: An historical and philosophical approach. *Science & Education (Springer)*, 22(7):1633–1653, July 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Newman:2013:ESI

- [1115] Micah Newman. Emergence, supervenience, and introductory chemical education. *Science & Education (Springer)*, 22(7):1655–1667, July 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Laszlo:2013:TTC

- [1116] Pierre Laszlo. Towards teaching chemistry as a language. *Science & Education (Springer)*, 22(7):1669–1706, July 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Thalos:2013:LC

- [1117] Mariam Thalos. The lens of chemistry. *Science & Education (Springer)*, 22(7):1707–1721, July 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Fernandez-Gonzalez:2013:ICP

- [1118] Manuel Fernández-González. Idealization in chemistry: Pure substance and laboratory product. *Science & Education (Springer)*, 22(7):1723–1740, July 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-011-9428-2.pdf>.

Kaya:2013:IEP

- [1119] Ebru Kaya and Sibel Erduran. Integrating epistemological perspectives on chemistry in chemical education: The cases of concept duality, chemical language, and structural explanations. *Science & Education (Springer)*, 22(7):1741–1755, July 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Talanquer:2013:SCN

- [1120] Vicente Talanquer. School chemistry: The need for transgression. *Science & Education (Springer)*, 22(7):1757–1773, July 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Earley:2013:NIN

- [1121] Joseph E. Earley, Sr. A new ‘idea of nature’ for chemical education. *Science & Education (Springer)*, 22(7):1775–1786, July 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Garritz:2013:TPI

- [1122] Andoni Garritz. Teaching the philosophical interpretations of quantum mechanics and quantum chemistry through controversies. *Science & Education (Springer)*, 22(7):1787–1807, July 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Ribeiro:2013:CPC

- [1123] Marcos Antonio Pinto Ribeiro and Duarte Costa Pereira. Constitutive pluralism of chemistry: Thought planning, curriculum, epistemological and didactic orientations. *Science & Education (Springer)*, 22(7):1809–1837, July 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Vesterinen:2013:QAR

- [1124] Veli-Matti Vesterinen, Maija Aksela, and Jari Lavonen. Quantitative analysis of representations of nature of science in Nordic upper secondary school textbooks using framework of analysis based on philosophy of chemistry. *Science & Education (Springer)*, 22(7):1839–1855, July 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Vilches:2013:CSF

- [1125] Amparo Vilches and Daniel Gil-Pérez. Creating a sustainable future: Some philosophical and educational considerations for chemistry teaching. *Science & Education (Springer)*, 22(7):1857–1872, July 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Sjostrom:2013:TBO

- [1126] Jesper Sjöström. Towards bildung-oriented chemistry education. *Science & Education (Springer)*, 22(7):1873–1890, July 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Matthews:2013:R

- [1127] Michael R. Matthews. Reviewers. *Science & Education (Springer)*, 22(7):1891–1893, July 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Levrini:2013:EPF

- [1128] Olivia Levrini and Paola Fantini. Encountering productive forms of complexity in learning modern physics. *Science & Education (Springer)*, 22(8):1895–1910, August 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Galili:2013:PFA

- [1129] Igal Galili. On the power of fine arts pictorial imagery in science education. *Science & Education (Springer)*, 22(8):1911–1938, August 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kendig:2013:IHP

- [1130] Catherine Kendig. Integrating history and philosophy of the life sciences in practice to enhance science education: Swammerdam's *historia insectorum generalis* and the case of the water flea. *Science & Education (Springer)*, 22(8):1939–1961, August 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Tsaparlis:2013:SKN

- [1131] Georgios Tsaparlis, Sotiris Hartzavalos, and Canan Nakiboğlu. Students' knowledge of nuclear science and its connection with civic scientific literacy in two European contexts: The case of newspaper articles. *Science & Education (Springer)*, 22(8):1963–1991, August 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Patronis:2013:EME

- [1132] Tasos Patronis and Dimitris Spanos. Exemplarity in mathematics education: from a romanticist viewpoint to a modern hermeneutical one. *Science & Education (Springer)*, 22(8):1993–2005, August 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Legates:2013:LTC

- [1133] David R. Legates, Willie Soon, and William M. Briggs. Learning and teaching climate science: The perils of consensus knowledge using agnotology. *Science & Education (Springer)*, 22(8):2007–2017, August 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). See response [1134] and rejoinder [1318].

Bedford:2013:ASC

- [1134] Daniel Bedford and John Cook. Agnotology, scientific consensus, and the teaching and learning of climate change: A response to Legates, Soon and Briggs. *Science & Education (Springer)*, 22(8):2019–2030, August 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). See [1133] and rejoinder [1318].

deBerg:2013:BRN

- [1135] K. C. de Berg. Book review: Niaz, M. & Marcano, C. (2012): *Reconstruction of Wave-Particle Duality and Its Implications for General Chemistry Textbooks*. *Science & Education (Springer)*, 22(8):2031–2033, August 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Niaz:2013:BRM

- [1136] Mansoor Niaz. Book review: Marcia C. Linn and Bat-Sheva Eylon: *Science Learning and Instruction: Taking Advantage of Technology to Promote Knowledge Integration*. *Science & Education (Springer)*, 22(8): 2035–2039, August 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Rosengren:2013:BRP

- [1137] Karl S. Rosengren. Book review: Paul Thagard: *The Cognitive Science of Science: Explanation, Discovery, and Conceptual Change*. *Science & Education (Springer)*, 22(8):2041–2045, August 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Marcos:2013:BRM

- [1138] Alfredo Marcos. Book review: Massimo Pigliucci: *Answers for Aristotle. How Science and Philosophy Can Lead Us to a More Meaningful Life*. *Science & Education (Springer)*, 22(8):2047–2052, August 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Matthews:2013:BRT

- [1139] Michael R. Matthews. Book review: Tim Sprod: *Discussions in Science: Promoting Conceptual Understanding in the Middle School Years*. *Science & Education (Springer)*, 22(8):2053–2054, August 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Krogh:2013:IHS

- [1140] Lars B. Krogh and Keld Nielsen. Introduction: How science Works — and how to teach it. *Science & Education (Springer)*, 22(9):2055–2065, September 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-013-9582-9.pdf>.

Nielsen:2013:SCN

- [1141] Kristian H. Nielsen. Scientific communication and the nature of science. *Science & Education (Springer)*, 22(9):2067–2086, September 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Abd-El-Khalick:2013:TAN

- [1142] Fouad Abd-El-Khalick. Teaching with and about nature of science, and science teacher knowledge domains. *Science & Education (Springer)*, 22(9):2087–2107, September 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Duschl:2013:TVA

- [1143] Richard A. Duschl and Richard Grandy. Two views about explicitly teaching nature of science. *Science & Education (Springer)*, 22(9):2109–2139, September 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

vanDijk:2013:RFS

- [1144] Esther M. van Dijk. Relevant features of science: Values in conservation biology. *Science & Education (Springer)*, 22(9):2141–2156, September 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kjeldsen:2013:DSR

- [1145] Tinne Hoff Kjeldsen and Morten Blomhøj. Developing students' reflections on the function and status of mathematical modeling in different scientific practices: History as a provider of cases. *Science & Education (Springer)*, 22(9):2157–2171, September 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Schumacher:2013:DAL

- [1146] Andrea Schumacher and Christiane S. Reiners. Designing authentic learning environments in chemistry lessons: Paving the way in pre-service teacher education. *Science & Education (Springer)*, 22(9):2173–2191, September 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Vesterinen:2013:DCT

- [1147] Veli-Matti Vesterinen and Maija Aksela. Design of chemistry teacher education course on nature of science. *Science & Education (Springer)*, 22(9):2193–2225, September 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Koponen:2013:CDL

- [1148] Ismo T. Koponen and Laura Huttunen. Concept development in learning physics: The case of electric current and voltage revisited. *Science & Education (Springer)*, 22(9):2227–2254, September 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Ruse:2013:TCO

- [1149] Michael Ruse. Teaching the classics: The origin of species as a case study. *Science & Education (Springer)*, 22(9):2255–2265, September 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Hodge:2013:DBO

- [1150] Jonathan Hodge. Darwin's book: *On the Origin of Species*. *Science & Education (Springer)*, 22(9):2267–2294, September 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Ruse:2013:DRO

- [1151] Michael Ruse. David N. Reznick's *The "Origin" Then and Now: An Interpretive Guide to the "Origin of Species": A Précis*. *Science & Education (Springer)*, 22(9):2295–2316, September 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Ruse:2013:SHS

- [1152] Michael Ruse. Science and the humanities: Stephen Jay Gould's quest to join the high table. *Science & Education (Springer)*, 22(9):2317–2326, September 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Smocovitis:2013:BRM

- [1153] Vassiliki Betty Smocovitis. Book review: M. J. S. Hodge: *Before and After Darwin. Origins, Species, Cosmogonies, and Ontologies and Darwin Studies. A Theorist and his Theories in their Contexts*. *Science & Education (Springer)*, 22(9):2327–2331, September 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

deFelipe:2013:ESD

- [1154] Íñigo Ongay de Felipe. Elliott Sober (2011): Did Darwin write the origin backwards: Philosophical essays on Darwin's theory. *Science & Education (Springer)*, 22(9):2333–2335, September 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Parlar:2013:BRK

- [1155] Ugur Parlar. Book review: Kevin N. Laland and Gillian R. Brown: *Sense and Nonsense: Evolutionary Perspectives on Human Behaviour*, Second Edition. *Science & Education (Springer)*, 22(9):2337–2340, September 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Valera:2013:BRA

- [1156] Luca Valera. Book review: Alfredo Marcos: *Postmodern Aristotle*. *Science & Education (Springer)*, 22(9):2341–2345, September 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

deFelipe:2013:BRG

- [1157] Íñigo Ongay de Felipe. Book review: Gustavo Bueno: *Sciences as Categorical Closures*. *Science & Education (Springer)*, 22(9):2347–2349, September 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Stylianides:2013:AMC

- [1158] Andreas J. Stylianides and Leo F. Rogers. Alberto A. Martinez: The cult of Pythagoras: Math and myths. *Science & Education (Springer)*, 22(9):2351–2355, September 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Henry:2013:BRJ

- [1159] John Henry. Book review: Jed Z. Buchwald and Mordechai Feingold: *Newton and the Origin of Civilization*. *Science & Education (Springer)*, 22(9):2357–2362, September 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Irzik:2013:ICA

- [1160] Gürol Irzik. Introduction: Commercialization of academic science and a new agenda for science education. *Science & Education (Springer)*, 22(10):2375–2384, October 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-013-9583-8.pdf>.

Kleinman:2013:BCS

- [1161] Daniel Lee Kleinman, Noah Weeth Feinstein, and Greg Downey. Beyond commercialization: Science, higher education and the culture of neoliberalism. *Science & Education (Springer)*, 22(10):2385–2401, October 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). See erratum [1162].

Kleinman:2013:EBC

- [1162] Daniel Lee Kleinman, Noah Weeth Feinstein, and Greg Downey. Erratum to: Beyond commercialization: Science, higher education and the culture of neoliberalism. *Science & Education (Springer)*, 22(10):2403, October 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-012-9532-y.pdf>. See [1161].

Erduran:2013:IES

- [1163] Sibel Erduran and Ebru Z. Mugaloglu. Interactions of economics of science and science education: Investigating the implications for science teaching and learning. *Science & Education (Springer)*, 22(10):2405–2425, October 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Sjostrom:2013:EDC

- [1164] Jesper Sjöström. Eco-driven chemical research in the boundary between academia and industry. *Science & Education (Springer)*, 22(10):2427–2441, October 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Knuuttila:2013:SNM

- [1165] Tarja Knuuttila. Science in a new mode: Good old (theoretical) science versus brave new (commodified) knowledge production? *Science & Education (Springer)*, 22(10):2443–2461, October 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

deOliveira:2013:CSP

- [1166] Marcos Barbosa de Oliveira. On the commodification of science: The programmatic dimension. *Science & Education (Springer)*, 22(10):2463–2483, October 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Vermeir:2013:SRC

- [1167] Koen Vermeir. Scientific research: Commodities or commons? *Science & Education (Springer)*, 22(10):2485–2510, October 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Leydesdorff:2013:SCT

- [1168] Loet Leydesdorff. Sociological and communication-theoretical perspectives on the commercialization of the sciences. *Science & Education (Springer)*, 22(10):2511–2527, October 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-012-9458-4.pdf>.

Bartol:2013:REG

- [1169] Jordan Bartol. Re-examining the gene in personalized genomics. *Science & Education (Springer)*, 22(10):2529–2546, October 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Carrier:2013:VOS

- [1170] Martin Carrier. Values and objectivity in science: Value-ladenness, pluralism and the epistemic attitude. *Science & Education (Springer)*, 22(10):2547–2568, October 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-012-9481-5.pdf>.

Renn:2013:EMS

- [1171] Jürgen Renn. Einstein as a missionary of science. *Science & Education (Springer)*, 22(10):2569–2591, October 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Wan:2013:TNS

- [1172] Zhi Hong Wan, Siu Ling Wong, and Ying Zhan. Teaching nature of science to preservice science teachers: A phenomenographic study of Chinese teacher educators' conceptions. *Science & Education (Springer)*, 22(10):2593–2619, October 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Velentzas:2013:EHU

- [1173] Athanasios Velentzas and Krystallia Halkia. From Earth to Heaven: Using 'Newton's Cannon' thought experiment for teaching satellite physics. *Science & Education (Springer)*, 22(10):2621–2640, October 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Lau:2013:TAT

- [1174] Kwok chi Lau and Shi lun Chan. Teaching about theory-laden observation to secondary students through manipulated lab inquiry experience. *Science & Education (Springer)*, 22(10):2641–2658, October 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Galamba:2013:RCW

- [1175] Arthur Galamba. Rómulo de Carvalho's work on the popularization of science during Salazarism. *Science & Education (Springer)*, 22(10):2659–2677, October 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Yasri:2013:RSR

- [1176] Pratchayapong Yasri, Shagufta Arthur, Mike U. Smith, and Rebecca Mancy. Relating science and religion: An ontology of taxonomies and

development of a research tool for identifying individual views. *Science & Education (Springer)*, 22(10):2679–2707, October 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Glass:2013:TBT

- [1177] Rory J. Glass. Tacit beginnings towards a model of scientific thinking. *Science & Education (Springer)*, 22(10):2709–2725, October 2013. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Katz:2014:SIH

- [1178] Victor J. Katz, Uffe Thomas Jankvist, Michael N. Fried, and Stuart Rowlands. Special issue on history and philosophy of mathematics in mathematics education. *Science & Education (Springer)*, 23(1):1–6, January 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-013-9660-z.pdf>.

Barnett:2014:PPH

- [1179] Janet Heine Barnett, Jerry Lodder, and David Pengelley. The pedagogy of primary historical sources in mathematics: Classroom practice meets theoretical frameworks. *Science & Education (Springer)*, 23(1):7–27, January 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kjeldsen:2014:BHC

- [1180] Tinne Hoff Kjeldsen and Pernille Hviid Petersen. Bridging history of the concept of function with learning of mathematics: Students' meta-discursive rules, concept formation and historical awareness. *Science & Education (Springer)*, 23(1):29–45, January 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Mosvold:2014:HMK

- [1181] Reidar Mosvold, Arne Jakobsen, and Uffe Thomas Jankvist. How mathematical knowledge for teaching May profit from the study of history of mathematics. *Science & Education (Springer)*, 23(1):47–60, January 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Papadopoulos:2014:HAH

- [1182] Ioannis Papadopoulos. How Archimedes helped students to unravel the mystery of the magical number pi. *Science & Education (Springer)*, 23(1):61–77, January 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Panagiotou:2014:VMC

- [1183] Evangelos N. Panagiotou. A voyage of mathematical and cultural awareness for students of upper secondary school. *Science & Education (Springer)*, 23(1):79–123, January 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Taani:2014:MPM

- [1184] Osama Taani. Multiple paths to mathematics practice in Al-Kashi's key to arithmetic. *Science & Education (Springer)*, 23(1):125–141, January 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Povey:2014:WFU

- [1185] Hilary Povey. 'Walking in a foreign and unknown landscape': Studying the history of mathematics in initial teacher education. *Science & Education (Springer)*, 23(1):143–157, January 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Alpaslan:2014:PSM

- [1186] Mustafa Alpaslan, Mine İşıksal, and Çiğdem Haser. Pre-service mathematics teachers' knowledge of history of mathematics and their attitudes and beliefs towards using history of mathematics in mathematics education. *Science & Education (Springer)*, 23(1):159–183, January 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Fenaroli:2014:RMC

- [1187] Giuseppina Fenaroli, Fulvia Furinghetti, and Annamaria Somaglia. Rethinking mathematical concepts with the lens of the history of mathematics: An experiment with prospective secondary teachers. *Science & Education (Springer)*, 23(1):185–203, January 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Jankvist:2014:WHU

- [1188] Uffe Thomas Jankvist and Steffen Møllegaard Iversen. 'Whys' and 'hows' of using philosophy in mathematics education. *Science & Education (Springer)*, 23(1):205–222, January 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Cable:2014:MCH

- [1189] John Cable. La même chose: How mathematics can explain the thinking of children and the thinking of children can illuminate mathematical philosophy. *Science & Education (Springer)*, 23(1):223–240, January 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Fiss:2014:CPP

- [1190] Andrew Fiss. Cultivating parabolas in the parlor garden: Reconciling mathematics education and feminine ideals in Nineteenth-Century America. *Science & Education (Springer)*, 23(1):241–250, January 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kampourakis:2014:GSE

- [1191] Kostas Kampourakis, Thomas A. C. Reydon, George P. Patrinos, and Bruno J. Strasser. Genetics and Society — Educating scientifically literate citizens: Introduction to the thematic issue. *Science & Education (Springer)*, 23(2):251–258, February 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Paul:2014:WWW

- [1192] Diane B. Paul. What was wrong with eugenics? conflicting narratives and disputed interpretations. *Science & Education (Springer)*, 23(2):259–271, February 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Falk:2014:AGM

- [1193] Raphael Falk. The allusion of the gene: Misunderstandings of the concepts heredity and gene. *Science & Education (Springer)*, 23(2):273–284, February 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Lederman:2014:NSS

- [1194] Norman G. Lederman, Allison Antink, and Stephen Bartos. Nature of science, scientific inquiry, and socio-scientific issues arising from genetics: A pathway to developing a scientifically literate citizenry. *Science & Education (Springer)*, 23(2):285–302, February 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Ergazaki:2014:YCR

- [1195] Marida Ergazaki, Aspa Alexaki, Chrysa Papadopoulou, and Marieleni Kalpakiori. Young children’s reasoning about physical & behavioural family resemblance: Is there a place for a precursor model of inheritance? *Science & Education (Springer)*, 23(2):303–323, February 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Donovan:2014:BBI

- [1196] Jenny Donovan and Grady Venville. Blood and bones: The influence of the mass media on Australian primary school children’s understand-

ings of genes and DNA. *Science & Education (Springer)*, 23(2):325–360, February 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Lewis:2014:FST

- [1197] Jenny Lewis. From Flavr Savr tomatoes to stem cell therapy: Young people’s understandings of gene technology, 15 years on. *Science & Education (Springer)*, 23(2):361–379, February 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Gericke:2014:CVI

- [1198] Niklas M. Gericke, Mariana Hagberg, Vanessa Carvalho dos Santos, Leyla Mariane Joaquim, and Charbel N. El-Hani. Conceptual variation or incoherence? textbook discourse on genes in six countries. *Science & Education (Springer)*, 23(2):381–416, February 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Castera:2014:TCA

- [1199] Jérémy Castéra and Pierre Clément. Teachers’ conceptions about the genetic determinism of human behaviour: A survey in 23 countries. *Science & Education (Springer)*, 23(2):417–443, February 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

McElhinny:2014:SGC

- [1200] Teresa L. McElhinny, Michael J. Dougherty, Bethany V. Bowling, and Julie C. Libarkin. The status of genetics curriculum in higher education in the United States: Goals and assessment. *Science & Education (Springer)*, 23(2):445–464, February 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Jimenez-Aleixandre:2014:DUG

- [1201] María Pilar Jiménez-Aleixandre. Determinism and underdetermination in genetics: Implications for students’ engagement in argumentation and epistemic practices. *Science & Education (Springer)*, 23(2):465–484, February 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Boerwinkel:2014:RAS

- [1202] Dirk Jan Boerwinkel, Tsjalling Swierstra, and Arend Jan Waarlo. Reframing and articulating socio-scientific classroom discourses on genetic testing from an STS perspective. *Science & Education (Springer)*, 23(2):485–507, February 2014. CODEN SCEDE9. ISSN 0926-7220 (print),

1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-012-9528-7.pdf>.

Rollin:2014:PSG

- [1203] Bernard E. Rollin. The perfect Storm — Genetic engineering, science, and ethics. *Science & Education (Springer)*, 23(2):509–517, February 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:2014:GST

- [1204] Anonymous. Genetics and society thematic issue: Acknowledgement of reviewers. *Science & Education (Springer)*, 23(2):519–520, February 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Vlahakis:2014:ISL

- [1205] George N. Vlahakis, Kostas Skordoulis, and Kostas Tampakis. Introduction: Science and literature special issue. *Science & Education (Springer)*, 23(3):521–526, March 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-013-9601-x.pdf>.

Slaughter:2014:RGR

- [1206] Aimee Slaughter. Ray guns and radium: Radiation in the public imagination as reflected in early American science fiction. *Science & Education (Springer)*, 23(3):527–539, March 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Blanco:2014:PCP

- [1207] María del Pilar Blanco. “Palabras de la ciencia”: Pedro Castera and scientific writing in Mexico’s fin de siècle. *Science & Education (Springer)*, 23(3):541–556, March 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Omodeo:2014:RSL

- [1208] Pietro Daniel Omodeo. Renaissance science and literature: Benedetti, Ovid and the transformations of Phaeton’s Myth after Copernicus. *Science & Education (Springer)*, 23(3):557–564, March 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Furniss:2014:JHG

- [1209] Tom Furniss. James Hutton’s geological tours of Scotland: Romanticism, literary strategies, and the scientific quest. *Science & Education (Springer)*, 23(3):565–588, March 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Gelfert:2014:OII

- [1210] Axel Gelfert. Observation, inference, and imagination: Elements of Edgar Allan Poe's philosophy of science. *Science & Education (Springer)*, 23(3):589–607, March 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Terdimou:2014:OEA

- [1211] Maria Terdimou. Odysseas Elytis: The arithmetician and geometrician poet. *Science & Education (Springer)*, 23(3):609–620, March 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Pantidos:2014:IPT

- [1212] Panagiotis Pantidos, Konstantinos Ravanis, Kostas Valakas, and Evangelos Vitoratos. Incorporating poeticality into the teaching of physics. *Science & Education (Springer)*, 23(3):621–642, March 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Guerra:2014:NRP

- [1213] Andreia Guerra and Marco Braga. The name of the rose: A path to discuss the birth of modern science. *Science & Education (Springer)*, 23(3):643–654, March 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Sofronieva:2014:ESP

- [1214] Tzveta Sofronieva. Erwin Schrödinger's poetry. *Science & Education (Springer)*, 23(3):655–672, March 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

George:2014:CLE

- [1215] Sam George. Carl Linnaeus, Erasmus Darwin and Anna Seward: Botanical poetry and female education. *Science & Education (Springer)*, 23(3):673–694, March 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Dach:2014:BRA

- [1216] Stefanie Dach and Tomáš Marvan. Book review: Alex Rosenberg (2011), *The Atheist's Guide to Reality: Enjoying Life without Illusions*. *Science & Education (Springer)*, 23(3):695–706, March 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Assis:2014:BRM

- [1217] Andre K. T. Assis. Book review: Michael Eckert: *Arnold Sommerfeld: Science, Life and Turbulent Times 1868–1951*, Translated by Tom Artin. *Science & Education (Springer)*, 23(3):707–710, March 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kampourakis:2014:BRM

- [1218] Kostas Kampourakis. Book review: Michael Ruse (Ed.), *The Cambridge Encyclopedia of Darwin and Evolutionary Thought*. *Science & Education (Springer)*, 23(3):711–714, March 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Koliopoulos:2014:I

- [1219] Dimitris Koliopoulos and Anastasia Filippoupoliti. Introduction. *Science & Education (Springer)*, 23(4):715–718, April 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-013-9649-7.pdf>.

Levy-Leblond:2014:MSU

- [1220] Jean-Marc Lévy-Leblond. The muses of science: A utopian oracle. *Science & Education (Springer)*, 23(4):719–725, April 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Lourenco:2014:DCC

- [1221] Marta C. Lourenço and Samuel Gessner. Documenting collections: Cornerstones for more history of science in museums. *Science & Education (Springer)*, 23(4):727–745, April 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Cerreta:2014:GPC

- [1222] Pietro Cerreta. The gravity-powered calculator, a Galilean exhibit. *Science & Education (Springer)*, 23(4):747–760, April 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Bernarduzzi:2014:MHA

- [1223] Lidia Falomo Bernarduzzi, Gabriele Albanesi, and Fabio Bevilacqua. Museum heroes all: The Pavia approach to school–science museum interactions. *Science & Education (Springer)*, 23(4):761–780, April 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Filippoupoliti:2014:INF

- [1224] Anastasia Filippoupoliti and Dimitris Koliopoulos. Informal and non-formal education: An outline of history of science in museums. *Science & Education (Springer)*, 23(4):781–791, April 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Blancke:2014:ECB

- [1225] Stefaan Blancke, Tammy Schellens, Ronald Soetaert, Hilde Van Keer, and Johan Braeckman. From ends to causes (and back again) by metaphor: The paradox of natural selection. *Science & Education (Springer)*, 23(4):793–808, April 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

deHosson:2014:UAC

- [1226] Cécile de Hosson and Nicolas Décamp. Using ancient Chinese and Greek astronomical data: A training sequence in elementary astronomy for pre-service primary school teachers. *Science & Education (Springer)*, 23(4):809–827, April 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Mugaloglu:2014:PPS

- [1227] Ebru Z. Mugaloglu. The problem of pseudoscience in science education and implications of constructivist pedagogy. *Science & Education (Springer)*, 23(4):829–842, April 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Deng:2014:ASC

- [1228] Feng Deng, Ching Sing Chai, Chin-Chung Tsai, and Tzung-Jin Lin. Assessing South China (Guangzhou) high school students' views on nature of science: A validation study. *Science & Education (Springer)*, 23(4):843–863, April 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kosem:2014:NRT

- [1229] Şule Dönertaş Kösem and Ömer Faruk Özdemir. The nature and role of thought experiments in solving conceptual physics problems. *Science & Education (Springer)*, 23(4):865–895, April 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Greca:2014:EIC

- [1230] Ileana M. Greca, Eugenia Seoane, and Irene Arriasecq. Epistemological issues concerning computer simulations in science and their implications

for science education. *Science & Education (Springer)*, 23(4):897–921, April 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Leone:2014:HPT

- [1231] Matteo Leone. History of physics as a tool to detect the conceptual difficulties experienced by students: The case of simple electric circuits in primary education. *Science & Education (Springer)*, 23(4):923–953, April 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Chamizo:2014:RIT

- [1232] José Antonio Chamizo. The role of instruments in three chemical revolutions. *Science & Education (Springer)*, 23(4):955–982, April 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Matthews:2014:I

- [1233] Michael Matthews. Introduction. *Science & Education (Springer)*, 23(5):983–985, May 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-014-9691-0.pdf>.

Sato:2014:RPI

- [1234] Kunimasa Sato. Reconsideration of the paradox of inquiry. *Science & Education (Springer)*, 23(5):987–995, May 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Gelfert:2014:AIU

- [1235] Axel Gelfert. Applicability, indispensability, and underdetermination: Puzzling over Wigner’s ‘unreasonable effectiveness of mathematics’. *Science & Education (Springer)*, 23(5):997–1009, May 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Cheong:2014:DLM

- [1236] Yong Wook Cheong and Jinwoong Song. Different levels of the meaning of wave–particle duality and a suspensive perspective on the interpretation of quantum theory. *Science & Education (Springer)*, 23(5):1011–1030, May 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Na:2014:WEE

- [1237] Jiyeon Na and Jinwoong Song. Why everyday experience? interpreting primary students’ science discourse from the perspective of John Dewey.

Science & Education (Springer), 23(5):1031–1049, May 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Ha:2014:DDS

- [1238] Minsu Ha and Ross H. Nehm. Darwin’s difficulties and students’ struggles with trait loss: Cognitive–historical parallelisms in evolutionary explanation. *Science & Education (Springer)*, 23(5):1051–1074, May 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Lee:2014:ESS

- [1239] Shinyoung Lee and Heui-Baik Kim. Exploring secondary students’ epistemological features depending on the evaluation levels of the group model on blood circulation. *Science & Education (Springer)*, 23(5):1075–1099, May 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-013-9639-9.pdf>.

Rhee:2014:DIS

- [1240] Hyang yon Rhee and Kyunghye Choi. Development and implementation of science and technology ethics education program for prospective science teachers. *Science & Education (Springer)*, 23(5):1101–1130, May 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Jho:2014:RSK

- [1241] Hunkoog Jho, Hye-Gyoung Yoon, and Mijung Kim. The relationship of science knowledge, attitude and decision making on socio-scientific issues: The case study of students’ debates on a nuclear power plant in Korea. *Science & Education (Springer)*, 23(5):1131–1151, May 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Isozaki:2014:ORR

- [1242] Tetsuo Isozaki. The organisation and the recontextualization of rika (school science) education in the second half of the Nineteenth Century in Japan. *Science & Education (Springer)*, 23(5):1153–1168, May 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Park:2014:SCN

- [1243] Hyeran Park, Wendy Nielsen, and Earl Woodruff. Students’ conceptions of the nature of science: Perspectives from Canadian and Korean middle school students. *Science & Education (Springer)*, 23(5):1169–1196, May 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kim:2014:PSD

- [1244] Sun Young Kim, Sang Wook Yi, and Eun Hee Cho. Production of a science documentary and its usefulness in teaching the nature of science: Indirect experience of how science works. *Science & Education (Springer)*, 23(5):1197–1216, May 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Collin:2014:BRV

- [1245] Finn Collin. Book review: Vasso Kindi and Theodore Arabatzis (eds.) *Kuhn's The Structure of Scientific Revolutions Revisited*. *Science & Education (Springer)*, 23(5):1217–1222, May 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Cei:2014:BRA

- [1246] Angelo Cei. Book review: Alexander Bird and James Ladyman: *Arguing About Science*. *Science & Education (Springer)*, 23(5):1223–1228, May 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Gauld:2014:BRG

- [1247] Colin Gauld. Book review: Gregory L. Baker (2011): *Seven Tales of the Pendulum*. *Science & Education (Springer)*, 23(5):1229–1230, May 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-014-9688-8.pdf>.

Bevilacqua:2014:ELP

- [1248] Fabio Bevilacqua. Energy: Learning from the past. *Science & Education (Springer)*, 23(6):1231–1243, June 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-014-9690-1.pdf>.

Lancor:2014:UMT

- [1249] Rachael Lancor. Using metaphor theory to examine conceptions of energy in biology, chemistry, and physics. *Science & Education (Springer)*, 23(6):1245–1267, June 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Guzzardi:2014:EMS

- [1250] Luca Guzzardi. Energy, metaphysics, and space: Ernst Mach's interpretation of energy conservation as the principle of causality. *Science & Education (Springer)*, 23(6):1269–1291, June 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kanderakis:2014:WMP

- [1251] Nikos Kanderakis. What is the meaning of the physical magnitude ‘work’? *Science & Education (Springer)*, 23(6):1293–1308, June 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Besson:2014:TEC

- [1252] Ugo Besson and Anna De Ambrosis. Teaching energy concepts by working on themes of cultural and environmental value. *Science & Education (Springer)*, 23(6):1309–1338, June 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Guerra:2014:WEC

- [1253] Francesco Guerra, Matteo Leone, and Nadia Robotti. When energy conservation seems to fail: The prediction of the neutrino. *Science & Education (Springer)*, 23(6):1339–1359, June 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

LopesCoelho:2014:CEE

- [1254] Ricardo Lopes Coelho. On the concept of energy: Eclecticism and rationality. *Science & Education (Springer)*, 23(6):1361–1380, June 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

El-Hani:2014:BRK

- [1255] Charbel N. El-Hani. Book review: Kampourakis, K. (ed.) (2013): *The Philosophy of Biology: A Companion for Educators*. *Science & Education (Springer)*, 23(6):1381–1402, June 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Araujo:2014:BRR

- [1256] Saulo de Freitas Araujo. Book review: Roger Smith (2013). *Between Mind and Nature: A History of Psychology*. *Science & Education (Springer)*, 23(6):1403–1406, June 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Lefkaditou:2014:BRA

- [1257] Ageliki Lefkaditou. Book review: Ann Morning: *The Nature of Race: How Scientists Think and Teach about Human Difference*. *Science & Education (Springer)*, 23(6):1407–1410, June 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Koponen:2014:ICC

- [1258] Ismo T. Koponen. Introduction: Conceptual change and its models. *Science & Education (Springer)*, 23(7):1411–1412, July 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-014-9689-7.pdf>.

Rusanen:2014:TEC

- [1259] Anna-Mari Rusanen. Towards to an explanation for conceptual change: A mechanistic alternative. *Science & Education (Springer)*, 23(7):1413–1425, July 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Vosniadou:2014:CCF

- [1260] Stella Vosniadou and Irini Skopeliti. Conceptual change from the framework theory side of the fence. *Science & Education (Springer)*, 23(7):1427–1445, July 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kyriakopoulou:2014:UTM

- [1261] Natassa Kyriakopoulou and Stella Vosniadou. Using theory of mind to promote conceptual change in science. *Science & Education (Springer)*, 23(7):1447–1462, July 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Brown:2014:SCD

- [1262] David E. Brown. Students' conceptions as dynamically emergent structures. *Science & Education (Springer)*, 23(7):1463–1483, July 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Ohlsson:2014:WCL

- [1263] Stellan Ohlsson and David G. Cosejo. What can be learned from a laboratory model of conceptual change? descriptive findings and methodological issues. *Science & Education (Springer)*, 23(7):1485–1504, July 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Haglund:2014:CCC

- [1264] Jesper Haglund and Fredrik Jeppsson. Confronting conceptual challenges in thermodynamics by use of self-generated analogies. *Science & Education (Springer)*, 23(7):1505–1529, July 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Thagard:2014:EIC

- [1265] Paul Thagard. Explanatory identities and conceptual change. *Science & Education (Springer)*, 23(7):1531–1548, July 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Prestes:2014:BRS

- [1266] Maria Elice Brzezinski Prestes. Book review: Sally Gregory Kohlstedt: *Teaching Children Science: Hands-on Nature Study in North America, 1890–1930*. *Science & Education (Springer)*, 23(7):1549–1554, July 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Glennan:2014:BRC

- [1267] Stuart Glennan. Book review: Carl F. Craver and Lindley Darden: *In Search of Mechanisms: Discoveries Across the Life Sciences*. *Science & Education (Springer)*, 23(7):1555–1558, July 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Oversby:2014:BRV

- [1268] John Oversby. Book review: Virginia Berridge and Martin Gorsky (eds.) (2012) *Environment, Health and History*. *Science & Education (Springer)*, 23(7):1559–1563, July 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Koponen:2014:ISN

- [1269] Ismo T. Koponen. Introduction: The Second Nordic HPS&ST Symposium. *Science & Education (Springer)*, 23(8):1565–1566, August 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-014-9680-3.pdf>.

Mutanen:2014:QE

- [1270] Arto Mutanen. Questioning and experimentation. *Science & Education (Springer)*, 23(8):1567–1582, August 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Mantyla:2014:CPS

- [1271] T. Mäntylä and M. Nousiainen. Consolidating pre-service physics teachers' subject matter knowledge using didactical reconstructions. *Science & Education (Springer)*, 23(8):1583–1604, August 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Tolvanen:2014:HUH

- [1272] Simo Tolvanen, Jan Jansson, Veli-Matti Vesterinen, and Maija Aksela. How to use historical approach to teach nature of science in chemistry education? *Science & Education (Springer)*, 23(8):1605–1636, August 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Karam:2014:CTA

- [1273] Ricardo Karam, Debora Coimbra, and Maurício Pietrocola. Comparing teaching approaches about Maxwell's displacement current. *Science & Education (Springer)*, 23(8):1637–1661, August 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Juuti:2014:LEM

- [1274] Kalle Juuti. The lifeworld Earth and a modelled Earth. *Science & Education (Springer)*, 23(8):1663–1680, August 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Gerontas:2014:CNT

- [1275] Apostolos Gerontas. Creating new technologists of research in the 1960s: The case of the reproduction of automated chromatography specialists and practitioners. *Science & Education (Springer)*, 23(8):1681–1700, August 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Levrini:2014:MDC

- [1276] Olivia Levrini, Eugenio Bertozzi, Marta Gagliardi, Nella Grimellini Tomasini, Barbara Pecori, Giulia Tasquier, and Igal Galili. Meeting the discipline–culture framework of physics knowledge: A teaching experience in Italian secondary school. *Science & Education (Springer)*, 23(9):1701–1731, September 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Croft:2014:CSC

- [1277] Michael Croft and Kevin de Berg. From common sense concepts to scientifically conditioned concepts of chemical bonding: An historical and textbook approach designed to address learning and teaching issues at the secondary school level. *Science & Education (Springer)*, 23(9):1733–1761, September 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Lovheim:2014:SES

- [1278] Daniel Lövhheim. Scientists, engineers and the society of free choice: Enrollment as policy and practice in Swedish science and technology education 1960–1990. *Science & Education (Springer)*, 23(9):1763–1784, September 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Jiang:2014:ANS

- [1279] Feng Jiang and William F. McComas. Analysis of nature of science included in recent popular writing using text mining techniques. *Science & Education (Springer)*, 23(9):1785–1809, September 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Asikainen:2014:PPS

- [1280] Mervi A. Asikainen and Pekka E. Hirvonen. Probing pre- and in-service physics teachers' knowledge using the double-slit thought experiment. *Science & Education (Springer)*, 23(9):1811–1833, September 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Guo:2014:PST

- [1281] Yuanlin Guo. The philosophy of science and technology in China: Political and ideological influences. *Science & Education (Springer)*, 23(9):1835–1844, September 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Allen:2014:RN

- [1282] G. Donald Allen. The remarkable number “1”. *Science & Education (Springer)*, 23(9):1845–1852, September 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Garik:2014:RBU

- [1283] Peter Garik and Yann Benétreau-Dupin. Report on a Boston University Conference December 7–8, 2012 on how can the history and philosophy of science contribute to contemporary US science teaching? *Science & Education (Springer)*, 23(9):1853–1873, September 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Holton:2014:NMT

- [1284] Gerald Holton. The neglected mandate: Teaching science as part of our culture. *Science & Education (Springer)*, 23(9):1875–1877, September 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Rudge:2014:COV

- [1285] David Wÿss Rudge, David Paul Cassidy, Janice Marie Fulford, and Eric Michael Howe. Changes observed in views of nature of science during a historically based unit. *Science & Education (Springer)*, 23(9):1879–1909, September 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Allchin:2014:SSS

- [1286] Douglas Allchin. From science studies to scientific literacy: A view from the classroom. *Science & Education (Springer)*, 23(9):1911–1932, September 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Davson-Galle:2014:BRH

- [1287] Peter Davson-Galle. Book review: Harvey Siegel (Ed.) (2009): *The Oxford Handbook of Philosophy of Education*. *Science & Education (Springer)*, 23(9):1933–1952, September 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

deBerg:2014:BRE

- [1288] Kevin de Berg. Book review: Eric Scerri: *A Tale of 7 Elements*. *Science & Education (Springer)*, 23(9):1953–1956, September 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kelly:2014:BRE

- [1289] Gregory J. Kelly. Book review: Eduardo F. Mortimer and Charbel N. El-Hani: *Conceptual Profiles: A Theory of Teaching and Learning Scientific Concepts*. *Science & Education (Springer)*, 23(9):1957–1960, September 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Smith:2014:BRP

- [1290] Mike U. Smith. Book review: Paul Griffiths and Karola Stotz: *Genetics and Philosophy: An Introduction*. *Science & Education (Springer)*, 23(9):1961–1962, September 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Hadzigeorgiou:2014:RRS

- [1291] Yannis Hadzigeorgiou and Roland Schulz. Romanticism and romantic science: Their contribution to science education. *Science & Education (Springer)*, 23(10):1963–2006, October 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kipnis:2014:TME

- [1292] Nahum Kipnis. Thermodynamics and mechanical equivalent of heat. *Science & Education (Springer)*, 23(10):2007–2044, October 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

deBerg:2014:TCA

- [1293] Kevin de Berg. Teaching chemistry for all its worth: The interaction between facts, ideas, and language in Lavoisier’s and Priestley’s chemistry practice: The case of the study of the composition of air. *Science & Education (Springer)*, 23(10):2045–2068, October 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Woodcock:2014:SMM

- [1294] Brian A. Woodcock. “The scientific method” as myth and ideal. *Science & Education (Springer)*, 23(10):2069–2093, October 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Hofmann:2014:TTC

- [1295] James R. Hofmann. A tale of two crocoducks: Creationist misuses of molecular evolution. *Science & Education (Springer)*, 23(10):2095–2117, October 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Ricketts:2014:PET

- [1296] Amy Ricketts. Preservice elementary teachers’ ideas about scientific practices. *Science & Education (Springer)*, 23(10):2119–2135, October 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Karam:2014:BRP

- [1297] Ricardo Karam. Book review: Peter Achinstein: *Evidence and Method: Scientific Strategies of Isaac Newton and James Clerk Maxwell*. *Science & Education (Springer)*, 23(10):2137–2148, October 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Hadzigeorgiou:2014:BRR

- [1298] Yannis Hadzigeorgiou. Book review: Robert Richards: *The Romantic Conception of Life: Science and Philosophy in the Age of Goethe*. *Science & Education (Springer)*, 23(10):2149–2151, October 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Agar:2014:BRP

- [1299] Jon Agar. Book review: Peter Watson: *The Great Divide: History and Human Nature in the Old World and the New*. *Science & Education (Springer)*, 23(10):2153–2157, October 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-014-9719-5.pdf>.

Reiss:2014:BRA

- [1300] Michael J. Reiss. Book review: Adam Briggles and Carl Mitcham: *Ethics and Science: An Introduction*. *Science & Education (Springer)*, 23(10):2159–2160, October 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Greca:2014:BRU

- [1301] Ileana M. Greca. Book review: Ulrich Meyer: *The Nature of Time*. *Science & Education (Springer)*, 23(10):2161–2162, October 2014. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Peterson:2015:PMS

- [1302] Erik L. Peterson and Kostas Kampourakis. The paradigmatic Mendel at the sesquicentennial of “*Versuche über Pflanzen-Hybriden*”: Introduction to the thematic issue. *Science & Education (Springer)*, 24(1–2):1–8, January 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Orel:2015:MRL

- [1303] Vítězslav Orel and Margaret H. Peaslee. Mendel’s research legacy in the broader historical network. *Science & Education (Springer)*, 24(1–2):9–27, January 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Stamhuis:2015:WRE

- [1304] Ida H. Stamhuis. Why the rediscoverer ended up on the sidelines: Hugo De Vries’s theory of inheritance and the Mendelian laws. *Science & Education (Springer)*, 24(1–2):29–49, January 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Rheinberger:2015:RDM

- [1305] Hans-Jörg Rheinberger. Re-discovering Mendel: The case of Carl Correns. *Science & Education (Springer)*, 24(1–2):51–60, January 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Gillham:2015:BBB

- [1306] Nicholas W. Gillham. The battle between the biometricians and the Mendelians: How Sir Francis Galton's work caused his disciples to reach conflicting conclusions about the hereditary mechanism. *Science & Education (Springer)*, 24(1-2):61-75, January 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Allen:2015:HMT

- [1307] Garland E. Allen. How many times can you be wrong and still be right? T. H. Morgan, evolution, chromosomes and the origins of modern genetics. *Science & Education (Springer)*, 24(1-2):77-99, January 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Peacock:2015:MLS

- [1308] Margaret Peacock. Mendel lives: The survival of Mendelian genetics in the Lysenkoist classroom, 1937-1964. *Science & Education (Springer)*, 24(1-2):101-114, January 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Numbers:2015:GMC

- [1309] Ronald L. Numbers. Gregor Mendel: Creationist hero. *Science & Education (Springer)*, 24(1-2):115-123, January 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Richmond:2015:WMG

- [1310] Marsha L. Richmond. Women as Mendelians and geneticists. *Science & Education (Springer)*, 24(1-2):125-150, January 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Smith:2015:MMC

- [1311] Mike U. Smith and Niklas M. Gericke. Mendel in the modern classroom. *Science & Education (Springer)*, 24(1-2):151-172, January 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

El-Hani:2015:MGT

- [1312] Charbel N. El-Hani. Mendel in genetics teaching: Some contributions from history of science and articles for teachers. *Science & Education (Springer)*, 24(1-2):173-204, January 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Campanile:2015:MGP

- [1313] Megan F. Campanile, Norman G. Lederman, and Kostas Kampourakis. Mendelian genetics as a platform for teaching about nature of science and scientific inquiry: The value of textbooks. *Science & Education (Springer)*, 24(1–2):205–225, January 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anonymous:2015:AR

- [1314] Anonymous. Acknowledgments of reviewers. *Science & Education (Springer)*, 24(1–2):227–228, January 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Janssen:2015:MPS

- [1315] F. J. J. M. Janssen and B. van Berkel. Making philosophy of science education practical for science teachers. *Science & Education (Springer)*, 24(3):229–258, April 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Hadzigeorgiou:2015:CSE

- [1316] Yannis Hadzigeorgiou. A critique of science education as sociopolitical action from the perspective of liberal education. *Science & Education (Springer)*, 24(3):259–280, April 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Stuckey:2015:PWL

- [1317] Marc Stuckey, Peter Heering, Rachel Mamlok-Naaman, Avi Hofstein, and Ingo Eilks. The philosophical works of Ludwik Fleck and their potential meaning for teaching and learning science. *Science & Education (Springer)*, 24(3):281–298, April 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Legates:2015:CCM

- [1318] David R. Legates, Willie Soon, William M. Briggs, and Christopher Monckton of Brenchley. Climate consensus and ‘misinformation’: A rejoinder to agnotology, scientific consensus, and the teaching and learning of climate change. *Science & Education (Springer)*, 24(3):299–318, April 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). See [1133, 1134].

Taber:2015:BRB

- [1319] Keith S. Taber. Book review: Barry J. Fraser, Kenneth G. Tobin and Campbell J. McRobbie (eds): *Second International Handbook of Science*

Education. Science & Education (Springer), 24(3):319–337, April 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anderson:2015:BRP

- [1320] Katharine Anderson. Book review: Peter Heering, Stephen Klassen and Don Metz (eds): *Enabling Scientific Understanding Through Historical Instruments and Experiments in Formal and Non-formal Learning Environments*. Flensburg Studies in the History and Philosophy of Science in Science Education (Volume 2). *Science & Education (Springer)*, 24(3):339–341, April 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Underwood:2015:BRG

- [1321] Martin Underwood. Book review: Graham Farmelo: *Churchill's Bomb: A History of Science, War and Politics*. *Science & Education (Springer)*, 24(3):343–348, April 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Henke:2015:PTC

- [1322] Andreas Henke and Dietmar Höttecke. Physics teachers' challenges in using history and philosophy of science in teaching. *Science & Education (Springer)*, 24(4):349–385, May 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Garik:2015:TCH

- [1323] Peter Garik, Luciana Garbayo, Yann Benétreau-Dupin, Charles Winrich, Andrew Duffy, Nicholas Gross, and Manher Jariwala. Teaching the conceptual history of physics to physics teachers. *Science & Education (Springer)*, 24(4):387–408, May 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Schiffer:2015:EVF

- [1324] Hermann Schiffer and Andreia Guerra. Electricity and vital force: Discussing the nature of science through a historical narrative. *Science & Education (Springer)*, 24(4):409–434, May 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Tala:2015:NSC

- [1325] Suvi Tala and Veli-Matti Vesterinen. Nature of science contextualized: Studying nature of science with scientists. *Science & Education (Springer)*, 24(4):435–457, May 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Koliopoulos:2015:BRK

- [1326] Dimitris Koliopoulos. Book review: Kieran Egan, Annabella Cant and Gillian Judson (eds): *Wonderfull Education: The Centrality of Wonder in Teaching and Learning Across the Curriculum. Science & Education (Springer)*, 24(4):459–461, May 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Richards:2015:BRW

- [1327] Richard A. Richards. Book review: Wilkins, John S, and Ebach, Malte C, (2014) The Nature of Classification: *Relationships and Kinds in the Natural Sciences. Science & Education (Springer)*, 24(4):463–468, May 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Rowlands:2015:BRG

- [1328] Stuart Rowlands. Book review: Gloria Ann Stillman, Gabriele Kaiser, Werner Blum, Jill P. Brown (eds): *Teaching Mathematical Modelling: Connecting to Research and Practice. Science & Education (Springer)*, 24(4):469–476, May 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Heering:2015:BRD

- [1329] Peter Heering. Book review: Douglas Allchin: *Teaching the Nature of Science: Perspectives and Resources. Science & Education (Springer)*, 24(4):477–479, May 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Nehm:2015:BRK

- [1330] Ross H. Nehm. Book review: Karl S. Rosengren, Sarah K. Brem, E. Margaret Evans, and Gale M. Sinatra (eds): *Evolution Challenges: Integrating Research and Practice in Teaching and Learning about Evolution. Science & Education (Springer)*, 24(4):481–485, May 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Karam:2015:ITI

- [1331] Ricardo Karam. Introduction of the thematic issue on the interplay of physics and mathematics. *Science & Education (Springer)*, 24(5–6):487–494, July 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Brush:2015:MIS

- [1332] Stephen G. Brush. Mathematics as an instigator of scientific revolutions. *Science & Education (Springer)*, 24(5–6):495–513, July 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kragh:2015:MPI

- [1333] Helge Kragh. Mathematics and physics: The idea of a pre-established harmony. *Science & Education (Springer)*, 24(5–6):515–527, July 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Gingras:2015:CPF

- [1334] Yves Gingras. The creative power of formal analogies in physics: The case of Albert Einstein. *Science & Education (Springer)*, 24(5–6):529–541, July 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kjeldsen:2015:IBM

- [1335] Tinne Hoff Kjeldsen and Jesper Lützen. Interactions between mathematics and physics: The history of the concept of Function — Teaching with and about nature of mathematics. *Science & Education (Springer)*, 24(5–6):543–559, July 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Redish:2015:LPL

- [1336] Edward F. Redish and Eric Kuo. Language of physics, language of math: Disciplinary culture and dynamic epistemology. *Science & Education (Springer)*, 24(5–6):561–590, July 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-015-9749-7.pdf>.

Lopez-Gay:2015:OMP

- [1337] R. López-Gay, J. Martínez Sáez, and J. Martínez Torregrosa. Obstacles to mathematization in physics: The case of the differential. *Science & Education (Springer)*, 24(5–6):591–613, July 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Hansson:2015:RTM

- [1338] Lena Hansson, Örjan Hansson, Kristina Juter, and Andreas Redfors. Reality — theoretical models — mathematics: A ternary perspective on physics lessons in upper-secondary school. *Science & Education (Springer)*, 24(5–6):615–644, July 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kneubil:2015:PTM

- [1339] Fabiana B. Kneubil and Manoel R. Robilotta. Physics teaching: Mathematics as an epistemological tool. *Science & Education (Springer)*, 24(5–6):645–660, July 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Karam:2015:QED

- [1340] Ricardo Karam and Olaf Krey. *Quod erat demonstrandum*: Understanding and explaining equations in physics teacher education. *Science & Education (Springer)*, 24(5–6):661–698, July 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Mantyla:2015:OLT

- [1341] Terhi Mäntylä and Ari Hämäläinen. Obtaining laws through quantifying experiments: Justifications of pre-service physics teachers in the case of electric current, voltage and resistance. *Science & Education (Springer)*, 24(5–6):699–723, July 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Radtka:2015:NBB

- [1342] Catherine Radtka. Negotiating the boundaries between mathematics and physics. *Science & Education (Springer)*, 24(5–6):725–748, July 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Matthews:2015:RYJ

- [1343] Michael R. Matthews. Reflections on 25 years of journal editorship. *Science & Education (Springer)*, 24(5–6):749–805, July 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kampourakis:2015:SMR

- [1344] Kostas Kampourakis. Succeeding Michael R. Matthews. *Science & Education (Springer)*, 24(7–8):807–811, October 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-015-9770-x.pdf>.

Holton:2015:WML

- [1345] Gerald Holton. What makes a life worth living? An essay in honor of Michael Matthews. *Science & Education (Springer)*, 24(7–8):813–814, October 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Ruse:2015:RMT

- [1346] Michael Ruse. Religion, misallodoxy and the teaching of evolution: The influence of Michael Matthews. *Science & Education (Springer)*, 24(7–8):815–820, October 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Dagher:2015:SEE

- [1347] Zoubeida R. Dagher and Peter Heering. Science & education in educational perspectives: Recognizing the contributions of Michael R. Matthews. *Science & Education (Springer)*, 24(7–8):821–826, October 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

McCain:2015:ENS

- [1348] Kevin McCain. Explanation and the nature of scientific knowledge. *Science & Education (Springer)*, 24(7–8):827–854, October 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Peters-Burton:2015:OSR

- [1349] Erin E. Peters-Burton. Outcomes of a self-regulated learning curriculum model. *Science & Education (Springer)*, 24(7–8):855–885, October 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Leung:2015:UNS

- [1350] Jessica Shuk Ching Leung, Alice Siu Ling Wong, and Benny Hin Wai Yung. Understandings of nature of science and multiple perspective evaluation of science news by non-science majors. *Science & Education (Springer)*, 24(7–8):887–912, October 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Binns:2015:RSM

- [1351] Ian C. Binns and Randy L. Bell. Representation of scientific methodology in secondary science textbooks. *Science & Education (Springer)*, 24(7–8):913–936, October 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Lautesse:2015:TQP

- [1352] Philippe Lautesse, Adrien Vila Valls, Fabrice Ferlin, Jean-Loup Héraud, and Hugues Chabot. Teaching quantum physics in upper secondary school in France: ‘quanton’ versus ‘wave-particle’ duality, two approaches of the problem of reference. *Science & Education (Springer)*, 24(7–8):937–955, October 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Zangori:2015:EEE

- [1353] Laura Zangori, Cory T. Forbes, and Christina V. Schwarz. Exploring the effect of embedded scaffolding within curricular tasks on third-grade students' model-based explanations about hydrologic cycling. *Science & Education (Springer)*, 24(7–8):957–981, October 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Faria:2015:HSS

- [1354] Cláudia Faria, Elsa Guilherme, Raquel Gaspar, and Diana Boaventura. History of science and science museums. *Science & Education (Springer)*, 24(7–8):983–1000, October 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Irzik:2015:HPS

- [1355] Gürol Irzik. History and philosophy of science-based approach to science teaching at its best. *Science & Education (Springer)*, 24(7–8):1001–1008, October 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Monroy-Nasr:2015:AWC

- [1356] Zuraya Monroy-Nasr. Around the world in 76 chapters: A guided tour of research in history, philosophy and science teaching. *Science & Education (Springer)*, 24(7–8):1009–1022, October 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Akerson:2015:RHR

- [1357] Valarie L. Akerson. A review of the handbook of research on science education, volume II: New topics and new information. *Science & Education (Springer)*, 24(7–8):1023–1026, October 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Marbach-Ad:2015:UMR

- [1358] Gili Marbach-Ad. The use of multiple representations as a tool in biology education: Evaluation and implications for teaching. *Science & Education (Springer)*, 24(7–8):1027–1031, October 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Plutynski:2015:HP

- [1359] Anya Plutynski. Hail the platypus! *Science & Education (Springer)*, 24(7–8):1033–1038, October 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Elcoat:2015:RP

- [1360] Jo Elcoat. Revolutions in print. *Science & Education (Springer)*, 24(7–8):1039–1042, October 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Pigliucci:2015:TEW

- [1361] Massimo Pigliucci. Teaching evolution while aiming at the cautious middle. *Science & Education (Springer)*, 24(7–8):1043–1046, October 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Emmeche:2015:UM

- [1362] Claus Emmeche. Universities as marketplaces. *Science & Education (Springer)*, 24(7–8):1047–1054, October 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kampourakis:2015:PRD

- [1363] Kostas Kampourakis, Ross Nehm, Alice S. L. Wong, and Charbel N. El-Hani. Peer review and Darwinian selection. *Science & Education (Springer)*, 24(9–10):1055–1057, November 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-015-9789-z.pdf>.

Wilkenfeld:2015:IBE

- [1364] Daniel A. Wilkenfeld and Tania Lombrozo. Inference to the best explanation (IBE) versus explaining for the best inference (EBI). *Science & Education (Springer)*, 24(9–10):1059–1077, November 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Sandoval:2015:CNS

- [1365] William A. Sandoval and Elizabeth H. Redman. The contextual nature of scientists' views of theories, experimentation, and their coordination. *Science & Education (Springer)*, 24(9–10):1079–1102, November 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Fouad:2015:UHS

- [1366] Khadija E. Fouad, Heidi Masters, and Valarie L. Akerson. Using history of science to teach nature of science to elementary students. *Science & Education (Springer)*, 24(9–10):1103–1140, November 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Leden:2015:TWT

- [1367] Lotta Leden, Lena Hansson, Andreas Redfors, and Malin Ideland. Teachers' ways of talking about nature of science and its teaching. *Science & Education (Springer)*, 24(9–10):1141–1172, November 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Bagdonas:2015:ETA

- [1368] Alexandre Bagdonas and Cibelle Celestino Silva. Enhancing teachers' awareness about relations between science and religion. *Science & Education (Springer)*, 24(9–10):1173–1199, November 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Archila:2015:UHP

- [1369] Pablo Antonio Archila. Using history and philosophy of science to promote students' argumentation. *Science & Education (Springer)*, 24(9–10):1201–1226, November 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Ruse:2015:CTM

- [1370] Michael Ruse. Creationism takes its message to Europe. *Science & Education (Springer)*, 24(9–10):1227–1230, November 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Minelli:2015:SPP

- [1371] Alessandro Minelli. Scientific and philosophical perspectives on evolution and development. *Science & Education (Springer)*, 24(9–10):1231–1235, November 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kragh:2015:QD

- [1372] Helge Kragh. The quantum dissidents. *Science & Education (Springer)*, 24(9–10):1237–1239, November 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Jimenez-Aleixandre:2015:RNS

- [1373] María Pilar Jiménez-Aleixandre. Reconceptualizing the nature of science. *Science & Education (Springer)*, 24(9–10):1241–1244, November 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Aduriz-Bravo:2015:RSD

- [1374] Agustín Adúriz-Bravo. Recent semantic developments on models. *Science & Education (Springer)*, 24(9–10):1245–1250, November 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

daCunha:2015:UHP

- [1375] Ivan Ferreira da Cunha. Using history of philosophy in philosophy of science. *Science & Education (Springer)*, 24(9–10):1251–1253, November 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Bowler:2015:DI

- [1376] Peter J. Bowler. Darwin and Islam. *Science & Education (Springer)*, 24(9–10):1255–1256, November 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Etxeberria:2015:IAF

- [1377] Arantza Etxeberria. Is increasing autonomy a factor of evolution? *Science & Education (Springer)*, 24(9–10):1257–1262, November 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Lefkaditou:2015:DBA

- [1378] Ageliki Lefkaditou and Jon Røyne Kyllingstad. Discussing the biocultural approach to race. *Science & Education (Springer)*, 24(9–10):1263–1269, November 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Japyassu:2015:SN

- [1379] Hilton F. Japyassú. Not such nature. *Science & Education (Springer)*, 24(9–10):1271–1283, November 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Nunes-Neto:2015:ECG

- [1380] Nei de Freitas Nunes-Neto. The environmental crisis as a good case for an intellectual and practical integration between philosophy and science. *Science & Education (Springer)*, 24(9–10):1285–1299, November 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Skolnik:2015:WGW

- [1381] Julia Skolnik. Why are girls and women underrepresented in STEM, and what can be done about it? *Science & Education (Springer)*, 24(9–10):1301–1306, November 2015. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kampourakis:2016:NSS

- [1382] Kostas Kampourakis. (The) nature(s) of science(s) and (the) scientific method(s). *Science & Education (Springer)*, 25(1–2):1–2, March 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-016-9804-z.pdf>.

Park:2016:ULP

- [1383] Jisun Park, Jinwoong Song, and Ian Abrahams. Unintended learning in primary school practical science lessons from Polanyi's perspective of intellectual passion. *Science & Education (Springer)*, 25(1–2):3–20, March 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-015-9788-0.pdf>.

Tumay:2016:ELD

- [1384] Halil Tümay. Emergence, learning difficulties, and misconceptions in chemistry undergraduate students' conceptualizations of acid strength. *Science & Education (Springer)*, 25(1–2):21–46, March 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Bryce:2016:MMG

- [1385] T. G. K. Bryce and E. J. Blown. Manipulating models and grasping the ideas they represent. *Science & Education (Springer)*, 25(1–2):47–93, March 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-015-9802-6.pdf>.

Rosenhouse:2016:MAE

- [1386] Jason Rosenhouse. On mathematical anti-evolutionism. *Science & Education (Springer)*, 25(1–2):95–114, March 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Galili:2016:CBS

- [1387] Igal Galili. From comparison between scientists to gaining cultural scientific knowledge. *Science & Education (Springer)*, 25(1–2):115–145, March 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Dagher:2016:RNS

- [1388] Zoubeida R. Dagher and Sibel Erduran. Reconceptualizing the nature of science for science education. *Science & Education (Springer)*, 25(1–

2):147–164, March 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Morante:2016:NSK

- [1389] Silvia Morante and Giancarlo Rossi. The notion of scientific knowledge in biology. *Science & Education (Springer)*, 25(1–2):165–197, March 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Cordero:2016:PTT

- [1390] Alberto Cordero. The puzzles of time, then and now. *Science & Education (Springer)*, 25(1–2):199–201, March 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Brzozowski:2016:SFS

- [1391] Jerzy Brzozowski. Science fiction as a springboard for science education. *Science & Education (Springer)*, 25(1–2):203–206, March 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Barahona:2016:NDE

- [1392] Ana Barahona. Non-Darwinian evolutionary thought in the 19th century. *Science & Education (Springer)*, 25(1–2):207–211, March 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Richmond:2016:SME

- [1393] Marsha L. Richmond. STS meets environmental history. *Science & Education (Springer)*, 25(1–2):213–215, March 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Weber:2016:WML

- [1394] Bruce H. Weber. What makes life unique? *Science & Education (Springer)*, 25(1–2):217–220, March 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Clarke:2016:PHC

- [1395] Steven William Clarke. Popper and his critics revisited. *Science & Education (Springer)*, 25(1–2):221–227, March 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kampourakis:2016:TME

- [1396] Kostas Kampourakis. There is more to evolution than just natural selection. *Science & Education (Springer)*, 25(1–2):229–234, March 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Koliopoulos:2016:TLE

- [1397] Dimitris Koliopoulos. Teaching and learning of energy in K–12 education. *Science & Education (Springer)*, 25(1–2):235–239, March 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Freire:2016:MCS

- [1398] Olival Freire, Jr. Making 20th century science. *Science & Education (Springer)*, 25(1–2):241–243, March 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Pinheiro:2016:RMI

- [1399] Mario J. Pinheiro. Relational mechanics and implementation of Mach’s principle with Weber’s gravitational force. *Science & Education (Springer)*, 25(1–2):245–248, March 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kampourakis:2016:PP

- [1400] Kostas Kampourakis. Publish or perish? *Science & Education (Springer)*, 25(3–4):249–250, May 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-016-9828-4.pdf>.

Brigandt:2016:WDB

- [1401] Ingo Brigandt. Why the difference between explanation and argument matters to science education. *Science & Education (Springer)*, 25(3–4):251–275, May 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Chen:2016:EES

- [1402] Ying-Chih Chen, Brian Hand, and Soonhye Park. Examining elementary students’ development of oral and written argumentation practices through argument-based inquiry. *Science & Education (Springer)*, 25(3–4):277–320, May 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Sjostrom:2016:TER

- [1403] Jesper Sjöström, Ingo Eilks, and Vânia G. Zuin. Towards eco-reflexive science education. *Science & Education (Springer)*, 25(3–4):321–341, May 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

dePereira:2016:EMA

- [1404] Alexsandro Pereira de Pereira, Paulo Lima Junior, and Renato Felix Rodrigues. Explaining as mediated action. *Science & Education (Springer)*, 25(3–4):343–362, May 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Galamba:2016:CIS

- [1405] Arthur Galamba. Conflicting interpretations of scientific pedagogy. *Science & Education (Springer)*, 25(3–4):363–381, May 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Pavez:2016:UPD

- [1406] José M. Pavez, Claudia A. Vergara, David Santibañez, and Hernán Cofré. Using a professional development program for enhancing Chilean biology teachers' understanding of nature of science (NOS) and their perceptions about using history of science to teach NOS. *Science & Education (Springer)*, 25(3–4):383–405, May 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Williams:2016:EHG

- [1407] Cody Tyler Williams and David Wÿss Rudge. Emphasizing the history of genetics in an explicit and reflective approach to teaching the nature of science. *Science & Education (Springer)*, 25(3–4):407–427, May 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Dodick:2016:MTW

- [1408] Jeff Dodick. Major themes written in “Deep time”. *Science & Education (Springer)*, 25(3–4):429–432, May 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Matthews:2016:SMB

- [1409] Michael R. Matthews. Scientific method in the behavioural sciences. *Science & Education (Springer)*, 25(3–4):433–436, May 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Branch:2016:DHM

- [1410] Glenn Branch. Darwinning hearts and minds. *Science & Education (Springer)*, 25(3–4):437–442, May 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Pessoa:2016:UST

- [1411] Osvaldo Pessoa, Jr. Are untestable scientific theories acceptable? *Science & Education (Springer)*, 25(3–4):443–448, May 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Gray:2016:PPS

- [1412] Jeremy Gray. Poincaré, philosopher of science. *Science & Education (Springer)*, 25(3–4):449–452, May 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Mackenzie:2016:SER

- [1413] Jim Mackenzie. Science education rethought. *Science & Education (Springer)*, 25(3–4):453–455, May 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Martins:2016:LSA

- [1414] André Ferrer Pinto Martins. Learning science and about its nature: Two conferences and one book. *Science & Education (Springer)*, 25(3–4):457–460, May 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Ylikoski:2016:HCC

- [1415] Petri Ylikoski. Harry Collins and the crisis of expertise. *Science & Education (Springer)*, 25(3–4):461–464, May 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Zemplen:2016:NFA

- [1416] Gábor Á. Zemlén. A novel framework for argumentation. *Science & Education (Springer)*, 25(3–4):465–467, May 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Metz:2016:SEC

- [1417] Don Metz. Science education and citizenship. *Science & Education (Springer)*, 25(3–4):469–470, May 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kampourakis:2016:LMH

- [1418] Kostas Kampourakis. Learn the map, or how to use it? *Science & Education (Springer)*, 25(5–6):471–472, August 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-016-9839-1.pdf>.

Smith:2016:RBB

- [1419] Mike U. Smith and Harvey Siegel. On the relationship between belief and acceptance of evolution as goals of evolution education. *Science & Education (Springer)*, 25(5–6):473–496, August 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Christidou:2016:AGC

- [1420] Vasilía Christidou, Fotini Bonoti, and Argiro Kontopoulou. American and Greek children’s visual images of scientists. *Science & Education (Springer)*, 25(5–6):497–522, August 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

García-Carmona:2016:LAN

- [1421] Antonio García-Carmona and José Antonio Acevedo Díaz. Learning about the nature of science using newspaper articles with scientific content. *Science & Education (Springer)*, 25(5–6):523–546, August 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Fulford:2016:PIM

- [1422] Janice Marie Fulford and David Wýss Rudge. The portrayal of industrial melanism in American college general biology textbooks. *Science & Education (Springer)*, 25(5–6):547–574, August 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Gim:2016:STR

- [1423] Jinyeong Gim. Special theory of relativity in south Korean high school textbooks and new teaching guidelines. *Science & Education (Springer)*, 25(5–6):575–610, August 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Cheong:2016:AOC

- [1424] Yong Wook Cheong. An analysis of the ontological causal relation in physics and its educational implications. *Science & Education (Springer)*, 25(5–6):611–628, August 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Gomez:2016:SIR

- [1425] Pedro J. Sánchez Gómez. Students’ ideas and radical constructivism. *Science & Education (Springer)*, 25(5–6):629–650, August 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Zudini:2016:CEM

- [1426] Verena Zudini and Luciana Zuccheri. The contribution of Ernst Mach to embodied cognition and mathematics education. *Science & Education (Springer)*, 25(5–6):651–669, August 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Shank:2016:HGP

- [1427] Michael H. Shank. Hiking Galileo’s peaks and valleys. *Science & Education (Springer)*, 25(5–6):671–679, August 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Plutynski:2016:EPL

- [1428] Anya Plutynski. Explanatory pluralism in the life sciences. *Science & Education (Springer)*, 25(5–6):681–689, August 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Peterson:2016:BGH

- [1429] Erik L. Peterson. Beware the geno-hype; or, how to discuss scientific epistemology with those who ignore it. *Science & Education (Springer)*, 25(5–6):691–696, August 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Gericke:2016:GFT

- [1430] Niklas Gericke. Genetics as the foundation for teaching and learning. *Science & Education (Springer)*, 25(5–6):697–703, August 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Dolphin:2016:MGW

- [1431] Glenn R. Dolphin. Mott Greene’s Wegener — not the textbook example: *Alfred Wegener: Science, Exploration, and the Theory of Continental Drift*. Johns Hopkins University Press, Baltimore, ISBN: 978-1-4214-1712-7, 675 pp, \$44.95 USD (hardback). *Science & Education (Springer)*, 25(5–6):705–715, August 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Sharma:2016:UCC

- [1432] Ajay Sharma. Understanding the climate change ‘debate’. *Science & Education (Springer)*, 25(5–6):717–723, August 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Andrade:2016:IEE

- [1433] Eugenio Andrade. Incorporating an extended evolutionary synthesis into a systems biology perspective. *Science & Education (Springer)*, 25(5–6):725–730, August 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Moreno:2016:BM

- [1434] Alvaro Moreno. Beyond mechanism. *Science & Education (Springer)*, 25(5–6):731–736, August 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Carver:2016:PHL

- [1435] Rebecca B. Carver. Promoting health literacy among non-science undergraduates. *Science & Education (Springer)*, 25(5–6):737–740, August 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Ideland:2016:RHS

- [1436] Malin Ideland. A reflexive handbook in sustainable development. *Science & Education (Springer)*, 25(5–6):741–743, August 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Heering:2016:EPT

- [1437] Peter Heering. The educational potential of teaching science as culture. *Science & Education (Springer)*, 25(7–8):745–746, October 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-016-9855-1.pdf>.

Ariza:2016:MTC

- [1438] Yefrin Ariza, Pablo Lorenzano, and Agustín Adúriz-Bravo. Meta-theoretical contributions to the constitution of a model-based didactics of science. *Science & Education (Springer)*, 25(7–8):747–773, October 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Ferreira:2016:KBS

- [1439] Tiago Alfredo S. Ferreira, Charbel N. El-Hani, and Waldomiro José da Silva-Filho. Knowledge, belief, and science education. *Science & Education (Springer)*, 25(7–8):775–794, October 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Justi:2016:DCC

- [1440] Rosária Justi and Paula Cristina Cardoso Mendonça. Discussion of the controversy concerning a historical event among pre-service teachers. *Science & Education (Springer)*, 25(7–8):795–822, October 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Machado:2016:CHS

- [1441] Juliana Machado and Marco António Barbosa Braga. Can the history of science contribute to modelling in physics teaching? The case of Galilean studies and Mario Bunge’s epistemology. *Science & Education (Springer)*, 25(7–8):823–836, October 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kanderakis:2016:MHS

- [1442] Nikos Kanderakis. The mathematics of high school physics. *Science & Education (Springer)*, 25(7–8):837–868, October 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Toonders:2016:PF

- [1443] Winnie Toonders, Roald P. Verhoeff, and Hub Zwart. Performing the future. *Science & Education (Springer)*, 25(7–8):869–895, October 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-016-9853-3.pdf>.

Zhang:2016:IBS

- [1444] Lin Zhang. Is inquiry-based science teaching worth the effort? *Science & Education (Springer)*, 25(7–8):897–915, October 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

deBerg:2016:HPS

- [1445] Kevin C. de Berg. History and philosophy of science inside chemistry: Implications for chemistry education. *Science & Education (Springer)*, 25(7–8):917–922, October 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Borish:2016:NCE

- [1446] Steven Borish. The new challenges of epigenetics. *Science & Education (Springer)*, 25(7–8):923–926, October 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Talanquer:2016:SJT

- [1447] Vicente Talanquer. A short journey through the core ideas of physical chemistry. *Science & Education (Springer)*, 25(7–8):927–928, October 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Russo:2016:CUA

- [1448] Federica Russo. Can a unified approach help in teaching philosophy of science? *Science & Education (Springer)*, 25(7–8):929–931, October 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Fara:2016:DAD

- [1449] Patricia Fara. A different account of difference. *Science & Education (Springer)*, 25(7–8):933–936, October 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kragh:2016:BQP

- [1450] Helge Kragh. Bohr’s quantum philosophy. *Science & Education (Springer)*, 25(7–8):937–938, October 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Tuboly:2016:VVE

- [1451] Adam Tamas Tuboly. From Vienna to Vienna: European philosophy of science. *Science & Education (Springer)*, 25(7–8):939–942, October 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Widmalm:2016:PTS

- [1452] Sven Widmalm. The practice turn in science studies: Past and present. *Science & Education (Springer)*, 25(7–8):943–946, October 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kampourakis:2016:BUM

- [1453] Kostas Kampourakis. The bad use of metaphors and the use of bad metaphors. *Science & Education (Springer)*, 25(9–10):947–949, December 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-016-9870-2.pdf>.

Michel:2016:NSS

- [1454] Hanno Michel and Irene Neumann. Nature of science and science content learning. *Science & Education (Springer)*, 25(9–10):951–975,

December 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-016-9860-4.pdf>.

Galili:2016:TWG

- [1455] Igal Galili, Varda Bar, and Yaffa Brosh. Teaching weight — gravity and gravitation in middle school. *Science & Education (Springer)*, 25(9–10):977–1010, December 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Boyer:2016:PET

- [1456] Elisebeth Boyer. Preservice elementary teachers' instructional practices and the teaching science as argument framework. *Science & Education (Springer)*, 25(9–10):1011–1047, December 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Rundgren:2016:IIK

- [1457] Carl-Johan Rundgren, Martin Eriksson, and Shu-Nu Chang Rundgren. Investigating the intertwinement of knowledge, value, and experience of upper secondary students' argumentation concerning socio-scientific issues. *Science & Education (Springer)*, 25(9–10):1049–1071, December 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-016-9859-x.pdf>.

Burgin:2016:DAR

- [1458] Stephen R. Burgin, Jenifer Alonzo, and Victoria J. Hill. Dramatizing the authentic research of a local scientist to urban elementary students through professional theater. *Science & Education (Springer)*, 25(9–10):1073–1088, December 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Wan:2016:VC

- [1459] Zhi Hong Wan and Siu Ling Wong. Views from the chalkface. *Science & Education (Springer)*, 25(9–10):1089–1114, December 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kaya:2016:FRH

- [1460] Ebru Kaya and Sibel Erduran. From FRA to RFN, or how the family resemblance approach can be transformed for science curriculum analysis on nature of science. *Science & Education (Springer)*, 25(9–10):1115–1133, December 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Matthews:2016:BRM

- [1461] Michael R. Matthews. Book review: Mario Bunge: a Long and Productive Life: *Between Two Worlds: Memoirs of a Philosopher-Scientist*, Springer, Dordrecht. ISBN 978-3-319-29250-2, xviii + 496 pp., EUR 100 (hardback). *Science & Education (Springer)*, 25(9–10):1135–1148, December 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Shackelford:2016:WSG

- [1462] Jole Shackelford. Western science from Greek antiquity to quantum physics. *Science & Education (Springer)*, 25(9–10):1149–1151, December 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Meyer:2016:SM

- [1463] Diogo Meyer. Science that matters. *Science & Education (Springer)*, 25(9–10):1153–1156, December 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Heering:2016:EM

- [1464] Peter Heering. Exhibiting modernity. *Science & Education (Springer)*, 25(9–10):1157–1158, December 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Merlin:2016:MFI

- [1465] Francesca Merlin. The multi-faceted idea of chance in Darwin’s writings. *Science & Education (Springer)*, 25(9–10):1159–1164, December 2016. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kampourakis:2017:HDS

- [1466] Kostas Kampourakis. The “HPS dimension” of science education articles. *Science & Education (Springer)*, 26(1–2):1–2, March 2017. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-017-9883-5.pdf>.

Rosenhouse:2017:TAA

- [1467] Jason Rosenhouse. Thermodynamical arguments against evolution. *Science & Education (Springer)*, 26(1–2):3–25, March 2017. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Barnes:2017:NAC

- [1468] Ralph M. Barnes, Rebecca A. Church, and Samuel Draznin-Nagy. The nature of the arguments for Creationism, intelligent design, and evolu-

tion. *Science & Education (Springer)*, 26(1–2):27–47, March 2017. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Gouvea:2017:MVM

- [1469] Julia Gouvea and Cynthia Passmore. ‘Models of’ versus ‘models for’. *Science & Education (Springer)*, 26(1–2):49–63, March 2017. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Garcia-Carmona:2017:UNS

- [1470] Antonio García-Carmona and José Antonio Acevedo-Díaz. Understanding the nature of science through a critical and reflective analysis of the controversy between Pasteur and Liebig on fermentation. *Science & Education (Springer)*, 26(1–2):65–91, March 2017. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

McLaughlin:2017:ETC

- [1471] Anne Collins McLaughlin and Alicia Ebbitt McGill. Explicitly teaching critical thinking skills in a history course. *Science & Education (Springer)*, 26(1–2):93–105, March 2017. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Herbert:2017:CAP

- [1472] Sandra Herbert and Julianne Lynch. Classroom animals provide more than just science education. *Science & Education (Springer)*, 26(1–2):107–123, March 2017. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

King:2017:CNH

- [1473] Heather King and Marianne Achiam. The case for natural history. *Science & Education (Springer)*, 26(1–2):125–139, March 2017. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Flodin:2017:CCD

- [1474] Veronica S. Flodin. Characterisation of the context-dependence of the gene concept in research articles. *Science & Education (Springer)*, 26(1–2):141–170, March 2017. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-017-9879-1.pdf>.

Brooke:2017:DR

- [1475] John Hedley Brooke. Darwinism as religion. *Science & Education (Springer)*, 26(1–2):171–174, March 2017. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Matthews:2017:PPE

- [1476] Michael R. Matthews. In praise of philosophically-engaged history of science. *Science & Education (Springer)*, 26(1–2):175–184, March 2017. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Timberlake:2017:JKM

- [1477] Todd Timberlake. Johannes Kepler, the man who merged physics with astronomy. *Science & Education (Springer)*, 26(1–2):185–189, March 2017. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Hamlin:2017:YSM

- [1478] Christopher Hamlin. You say “Myth” like it’s a bad thing. *Science & Education (Springer)*, 26(1–2):191–193, March 2017. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

vonLinsingen:2017:PLS

- [1479] Irlan von Linsingen. Philosophical, logical and scientific perspectives in engineering education. *Science & Education (Springer)*, 26(1–2):195–199, March 2017. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kampourakis:2017:STU

- [1480] Kostas Kampourakis. Science teaching in university science departments. *Science & Education (Springer)*, 26(3–4):201–203, May 2017. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-017-9903-5.pdf>.

Haglund:2017:GUL

- [1481] Jesper Haglund. Good use of a ‘bad’ metaphor. *Science & Education (Springer)*, 26(3–4):205–214, May 2017. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-017-9892-4.pdf>.

Moreira-dos-Santos:2017:BKU

- [1482] Frederik Moreira dos Santos and Charbel N. El-Hani. Belief, knowledge and understanding. *Science & Education (Springer)*, 26(3–4):215–245, May 2017. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Xiao:2017:ABA

- [1483] Sihan Xiao and William A. Sandoval. Associations between attitudes towards science and children’s evaluation of information about socio-

scientific issues. *Science & Education (Springer)*, 26(3–4):247–269, May 2017. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Anderson:2017:WAS

- [1484] Dayle Anderson and Azra Moeed. Working alongside scientists. *Science & Education (Springer)*, 26(3–4):271–298, May 2017. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Heraud:2017:RQO

- [1485] Jean-Loup Héraud, Philippe Lautesse, Fabrice Ferlin, and Hugues Chabot. Representing the quantum object through fiction in teaching. *Science & Education (Springer)*, 26(3–4):299–322, May 2017. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Haglund:2017:TBV

- [1486] Jesper Haglund and Magnus Hultén. Tension between visions of science education. *Science & Education (Springer)*, 26(3–4):323–344, May 2017. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-017-9895-1.pdf>.

Archila:2017:UDP

- [1487] Pablo Antonio Archila. Using drama to promote argumentation in science education. *Science & Education (Springer)*, 26(3–4):345–375, May 2017. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Korte:2017:IET

- [1488] Stefan Korte, Roland Berger, and Martin Hänze. The impact of explicit teaching of methodological aspects of physics on scientific beliefs and interest. *Science & Education (Springer)*, 26(3–4):377–396, May 2017. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Silverman:2017:SCA

- [1489] Mark P. Silverman. Scientific controversies: Authentic and contrived. *Science & Education (Springer)*, 26(3–4):397–405, May 2017. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Jessee:2017:RRH

- [1490] E. Jerry Jessee. Radiation, risk, and history. *Science & Education (Springer)*, 26(3–4):407–409, May 2017. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Falk:2017:IG

- [1491] Raphael Falk. The intimate gene. *Science & Education (Springer)*, 26(3–4):411–415, May 2017. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Tweney:2017:WC

- [1492] Ryan D. Tweney. Wundt for the 21st century. *Science & Education (Springer)*, 26(3–4):417–424, May 2017. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Videira:2017:NEN

- [1493] Antonio A. P. Videira. Neither Einstein nor Bergson, but both! *Science & Education (Springer)*, 26(3–4):425–428, May 2017. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Bollhagen:2017:SCE

- [1494] Andrew Bollhagen and John Bickle. Sounding the call for external validity in decision neuroscience. *Science & Education (Springer)*, 26(3–4):429–433, May 2017. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Cohen:2017:GAR

- [1495] Michael R. Cohen. Generating an authentic relationship between science and school science. *Science & Education (Springer)*, 26(3–4):435–438, May 2017. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Coelho:2017:TSC

- [1496] Ricardo Lopes Coelho. Time and space, concepts and phenomena. *Science & Education (Springer)*, 26(3–4):439–443, May 2017. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Richmond:2017:VHM

- [1497] Marsha L. Richmond. The value of home-made science. *Science & Education (Springer)*, 26(3–4):445–447, May 2017. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kampourakis:2017:CIV

- [1498] K. Kampourakis. Conference issues vs. conference proceedings. *Science & Education (Springer)*, 26(5):449–450, July 2017. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-017-9922-2.pdf>.

Kotter:2017:CBS

- [1499] Mario Kötter and Marcus Hammann. Controversy as a blind spot in teaching nature of science. *Science & Education (Springer)*, 26(5):451–482, July 2017. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Leden:2017:BWS

- [1500] Lotta Leden, Lena Hansson, and Andreas Redfors. From black and white to shades of grey. *Science & Education (Springer)*, 26(5):483–511, July 2017. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-017-9920-4.pdf>.

Yacoubian:2017:AIS

- [1501] Hagop A. Yacoubian, Layan Al-Khatib, and Taline Mardrossian. Analysis of the image of scientists portrayed in the Lebanese national science textbooks. *Science & Education (Springer)*, 26(5):513–528, July 2017. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Cavicchi:2017:SBS

- [1502] Elizabeth Cavicchi. Shaping and being shaped by environments for learning science. *Science & Education (Springer)*, 26(5):529–556, July 2017. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Ostergaard:2017:ER

- [1503] Edvin Østergaard. Earth at rest. *Science & Education (Springer)*, 26(5):557–582, July 2017. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-017-9906-2.pdf>.

Reiners:2017:CAU

- [1504] Christiane S. Reiners, Markus Bliersbach, and Karl Marniok. The cultural argument for understanding nature of science. *Science & Education (Springer)*, 26(5):583–610, July 2017. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kampourakis:2017:HPS

- [1505] Kostas Kampourakis. History and philosophy of science courses for science students. *Science & Education (Springer)*, 26(6):611–612, August 2017. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-017-9921-3.pdf>.

Kruse:2017:ICN

- [1506] Jerrid W. Kruse, Jaclyn M. Easter, Hallie S. Edgerly, Colin Seebach, and Neal Patel. The impact of a course on nature of science pedagogical views and rationales. *Science & Education (Springer)*, 26(6):613–636, August 2017. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kutluca:2017:CPS

- [1507] A. Y. Kutluca and A. Aydın. Changes in pre-service science teachers' understandings after being involved in explicit nature of science and socioscientific argumentation processes. *Science & Education (Springer)*, 26(6):637–668, August 2017. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Ma:2017:HSC

- [1508] Yongjun Ma and Yanlan Wan. History of science content analysis of Chinese science textbooks from the perspective of acculturation. *Science & Education (Springer)*, 26(6):669–690, August 2017. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Rizos:2017:TTO

- [1509] Ioannis Rizos, Anastasios (Tasos) Patronis, and Dionyssios Lappas. “There is one geometry and in each case there is a different formula”. *Science & Education (Springer)*, 26(6):691–710, August 2017. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Lombardi:2017:MFC

- [1510] Olimpia Lombardi. The many faces of chemistry from a philosophical perspective. *Science & Education (Springer)*, 26(6):711–718, August 2017. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Develaki:2017:ASE

- [1511] Maria Develaki. Addressing science educational issues and goals from a modelling-based perspective — an integrating account. *Science & Education (Springer)*, 26(6):719–734, August 2017. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Richmond:2017:HGN

- [1512] Sheldon Richmond. How to get to no, or arguing for the sake of truth. *Science & Education (Springer)*, 26(6):735–738, August 2017. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Spero:2017:DWT

- [1513] Susan Spero and Lisa Hubbell. Dioramas as a window for teaching and learning in natural history museums. *Science & Education (Springer)*, 26(6):739–741, August 2017. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kalman:2017:RTT

- [1514] Calvin S. Kalman. Research on teaching thinking. *Science & Education (Springer)*, 26(6):743–745, August 2017. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kampourakis:2017:VHS

- [1515] Kostas Kampourakis. The variety of HPST scholarship. *Science & Education (Springer)*, 26(7–9):747–748, November 2017. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-017-9942-y.pdf>.

Hansen:2017:RSI

- [1516] Julia Hansen and Marcus Hammann. Risk in science instruction. *Science & Education (Springer)*, 26(7–9):749–775, November 2017. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kokkonen:2017:MRC

- [1517] Tommi Kokkonen. Models as relational categories. *Science & Education (Springer)*, 26(7–9):777–798, November 2017. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-017-9928-9.pdf>.

Gasparatou:2017:SST

- [1518] Renia Gasparatou. Scientism and scientific thinking. *Science & Education (Springer)*, 26(7–9):799–812, November 2017. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Grinell:2017:CET

- [1519] Smith Grinell and Colette Rabin. Caring enough to teach science. *Science & Education (Springer)*, 26(7–9):813–839, November 2017. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Alpaslan:2017:HSP

- [1520] Muhammet Mustafa Alpaslan, Bugrahan Yalvac, and Cathleen Loving. High school physics students' personal epistemologies and school science

practice. *Science & Education (Springer)*, 26(7–9):841–865, November 2017. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Guney:2017:DSC

- [1521] Burcu Gülay Güney and Hayati Şeker. Discovering socio-cultural aspects of science through artworks. *Science & Education (Springer)*, 26(7–9): 867–887, November 2017. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Leblebicioglu:2017:CSV

- [1522] G. Leblebicioglu, D. Metin, E. Capkinoglu, P. S. Cetin, E. Eroglu Dogan, and R. Schwartz. Changes in students' views about nature of scientific inquiry at a science camp. *Science & Education (Springer)*, 26(7–9): 889–917, November 2017. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

n:2017:LCU

- [1523] Gamze Çetinkaya-Aydin and Jale Çakıroğlu. Learner characteristics and understanding nature of science. *Science & Education (Springer)*, 26(7–9):919–951, November 2017. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Tibell:2017:BPT

- [1524] Lena A. E. Tibell and Ute Harms. Biological principles and threshold concepts for understanding natural selection. *Science & Education (Springer)*, 26(7–9):953–973, November 2017. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-017-9935-x.pdf>.

Bohlin:2017:CCO

- [1525] Gustav Bohlin, Andreas Göransson, Gunnar E. Höst, and Lena A. E. Tibell. A conceptual characterization of online videos explaining natural selection. *Science & Education (Springer)*, 26(7–9):975–999, November 2017. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-017-9938-7.pdf>.

Develaki:2017:UCS

- [1526] Maria Develaki. Using computer simulations for promoting model-based reasoning. *Science & Education (Springer)*, 26(7–9):1001–1027, November 2017. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Wang:2017:CME

- [1527] Xiao qin Wang, Chun yan Qi, and Ke Wang. A categorization model for educational values of the history of mathematics. *Science & Education (Springer)*, 26(7–9):1029–1052, November 2017. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

vanDijk:2017:WDW

- [1528] Esther M. van Dijk. What do we need to live well? *Science & Education (Springer)*, 26(7–9):1053–1057, November 2017. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Blancke:2017:USN

- [1529] Stefaan Blancke. Understanding science, naturally. *Science & Education (Springer)*, 26(7–9):1059–1062, November 2017. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Nash:2017:VSL

- [1530] Erin J. Nash. Are values in science like a tapestry or a patchwork quilt? *Science & Education (Springer)*, 26(7–9):1063–1069, November 2017. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Montévil:2017:PAB

- [1531] Maël Montévil. Philosophical accounts of biological functions. *Science & Education (Springer)*, 26(7–9):1071–1073, November 2017. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Earley:2017:SHS

- [1532] Joseph E. Earley. Should the historical star-system in chemical education be replaced? *Science & Education (Springer)*, 26(7–9):1075–1078, November 2017. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Richmond:2017:ECU

- [1533] Sheldon Richmond. Everyone can understand quantum mechanics — really? *Science & Education (Springer)*, 26(7–9):1079–1083, November 2017. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kampourakis:2017:GE

- [1534] Kostas Kampourakis. Genetics education. *Science & Education (Springer)*, 26(10):1085–1086, December 2017. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-017-9945-8.pdf>.

Boerwinkel:2017:RCD

- [1535] Dirk Jan Boerwinkel, Anat Yarden, and Arend Jan Waarlo. Reaching a consensus on the definition of genetic literacy that is required from a Twenty-First-Century citizen. *Science & Education (Springer)*, 26(10):1087–1114, December 2017. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-017-9934-y.pdf>.

Duncan:2017:STI

- [1536] Ravit Golan Duncan, Jinnie Choi, Moraima Castro-Faix, and Veronica L. Cavera. A study of two instructional sequences informed by alternative learning progressions in genetics. *Science & Education (Springer)*, 26(10):1115–1141, December 2017. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Haskel-Ittah:2017:TBM

- [1537] Michal Haskel-Ittah and Anat Yarden. Toward bridging the mechanistic gap between genes and traits by emphasizing the role of proteins in a computational environment. *Science & Education (Springer)*, 26(10):1143–1160, December 2017. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Schmiemann:2017:AGU

- [1538] Philipp Schmiemann, Ross H. Nehm, and Robyn E. Tornabene. Assessment of genetics understanding. *Science & Education (Springer)*, 26(10):1161–1191, December 2017. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-017-9925-z.pdf>.

Puig:2017:LGE

- [1539] Blanca Puig, Noa Ageitos, and María Pilar Jiménez-Aleixandre. Learning gene expression through modelling and argumentation. *Science & Education (Springer)*, 26(10):1193–1222, December 2017. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Gericke:2017:ERA

- [1540] Niklas Gericke, Rebecca Carver, Jérémy Castéra, Neima Alice Menezes Evangelista, Claire Coiffard Marre, and Charbel N. El-Hani. Exploring relationships among belief in genetic determinism, genetics knowledge, and social factors. *Science & Education (Springer)*, 26(10):1223–1259, December 2017. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-017-9950-y.pdf>.

Jamieson:2017:GDG

- [1541] Annie Jamieson and Gregory Radick. Genetic determinism in the genetics curriculum. *Science & Education (Springer)*, 26(10):1261–1290, December 2017. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-017-9900-8.pdf>.

Clough:2018:TLL

- [1542] Michael P. Clough. Teaching and learning about the nature of science. *Science & Education (Springer)*, 27(1–2):1–5, March 2018. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-018-9964-0.pdf>.

Galili:2018:PMI

- [1543] Igal Galili. Physics and mathematics as interwoven disciplines in science education. *Science & Education (Springer)*, 27(1–2):7–37, March 2018. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Park:2018:GCE

- [1544] Wonyong Park and Jinwoong Song. Goethe’s conception of “Experiment as mediator” and implications for practical work in school science. *Science & Education (Springer)*, 27(1–2):39–61, March 2018. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Lee:2018:CIV

- [1545] Eun Ah Lee and Matthew J. Brown. Connecting inquiry and values in science education. *Science & Education (Springer)*, 27(1–2):63–79, March 2018. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Henriksen:2018:WL

- [1546] Ellen Karoline Henriksen, Carl Angell, Arnt Inge Vistnes, and Berit Bungum. What is light? *Science & Education (Springer)*, 27(1–2):81–111, March 2018. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Bruguiere:2018:CMM

- [1547] Catherine Bruguière, Olivier Perru, and Frédéric Charles. The concept of metamorphosis and its metaphors. *Science & Education (Springer)*, 27(1–2):113–132, March 2018. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Larison:2018:TSP

- [1548] Karen D. Larison. Taking the scientist's perspective. *Science & Education (Springer)*, 27(1–2):133–157, March 2018. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Sezen-Barrie:2018:UPV

- [1549] Asli Sezen-Barrie. Utilizing professional vision in supporting preservice teachers' learning about contextualized scientific practices. *Science & Education (Springer)*, 27(1–2):159–182, March 2018. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Wilson:2018:RPP

- [1550] James A. Wilson. Reducing pseudoscientific and paranormal beliefs in university students through a course in science and critical thinking. *Science & Education (Springer)*, 27(1–2):183–210, March 2018. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-018-9956-0.pdf>.

Arabatzis:2018:BRH

- [1551] Theodore Arabatzis. Book review: How *Physica* became physics. J. L. Heilbron (2015). *Physics: A Short History from Quintessence to Quarks*. Oxford University Press, Oxford. ISBN: 978-0-19-874685-0, ix + 228 pages, price: £10.99. *Science & Education (Springer)*, 27(1–2):211–218, March 2018. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Harman:2018:BRP

- [1552] Oren Harman. Book review: Progress is not an illusion: Derek Wilson (2017). *Superstition and Science: Mystics, Sceptics, Truth-Seekers and Charlatans*. Robinson Press, London. ISBN: 978-1-4721-3592-6. 310 pp. £14.99 (paperback). *Science & Education (Springer)*, 27(1–2):219–224, March 2018. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Baravalle:2018:BRD

- [1553] Lorenzo Baravalle. Book review: The (dis)Unity of cultural evolutionary theory. Tim Lewens (2015) *Cultural Evolution: Conceptual Challenges*. Oxford University Press, Oxford. ISBN: 978-0-19-967418-3, 205 Pages, Price: \$45.00 (Hardcover). *Science & Education (Springer)*, 27(1–2):225–231, March 2018. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Sadar:2018:BRH

- [1554] Anthony J. Sadar. Book review: The historical heart of atmospheric science. James Rodger Fleming (2016). *Inventing Atmospheric Science: Bjerknes, Rossby, Wexler, and the Foundations of Modern Meteorology*. The MIT Press, Cambridge. 978 0 262-03394-7. 312 Pages, Price: \$31.00 (Hardcover). *Science & Education (Springer)*, 27(1–2):233–235, March 2018. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Osborne:2018:BRF

- [1555] Michael A. Osborne. Book review: Fever in Philadelphia. Apel, Thomas A. (2016) *Feverish Bodies, Enlightened Minds: Science and the Yellow Fever Controversy in the Early American Republic*. Stanford University Press, Stanford, ISBN: 978-0-8047-9740-5, 208 pages, price \$60.00 (hardback). *Science & Education (Springer)*, 27(1–2):237–238, March 2018. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Crippen:2018:BRW

- [1556] Matthew Crippen. Book review: William James, Darwinian theory and personal evolution. Lucas McGranahan (2017) *Darwin and Pragmatism: William James on Evolution and Self-Transformation*. New York: Routledge. ISBN: 978-1-84893-596-9, Pages, 186, price: \$120 (Hardcover). *Science & Education (Springer)*, 27(1–2):239–241, March 2018. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kampourakis:2018:BRH

- [1557] Kostas Kampourakis. Book review: Human nature from multiple perspectives. Tibayrenc, M., Ayala, F. J. (Eds.). (2017). *On human nature: biology, psychology, ethics, politics, and religion*. San Diego: Academic Press, ISBN: 978-0-12-420190-3, 814 pages, 129.95 USD (hardback). *Science & Education (Springer)*, 27(1–2):243–244, March 2018. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kelly:2018:DEA

- [1558] Gregory J. Kelly. Developing epistemic aims and supports for engaging students in scientific practices. *Science & Education (Springer)*, 27(3–4):245–246, May 2018. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-018-9974-y>; <https://link.springer.com/content/pdf/10.1007/s11191-018-9974-y.pdf>.

Brock:2018:LBS

- [1559] Richard Brock. Lucky belief in science education. *Science & Education (Springer)*, 27(3–4):247–258, May 2018. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-018-9972-0>; <https://link.springer.com/content/pdf/10.1007/s11191-018-9972-0.pdf>.

Gandolfi:2018:DPD

- [1560] Haira Emanuela Gandolfi. Different people in different places. *Science & Education (Springer)*, 27(3–4):259–297, May 2018. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-018-9971-1>; <https://link.springer.com/content/pdf/10.1007/s11191-018-9971-1.pdf>.

Williams:2018:MCP

- [1561] Mobolaji Williams. The missing curriculum in physics problem-solving education. *Science & Education (Springer)*, 27(3–4):299–319, May 2018. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-018-9970-2>.

Wan:2018:ICC

- [1562] Dongsheng Wan, Hongshia Zhang, and Bing Wei. Impact of Chinese culture on pre-service science teachers' views of the nature of science. *Science & Education (Springer)*, 27(3–4):321–355, May 2018. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-018-9968-9>.

Niss:2018:WPP

- [1563] Martin Niss. What is physics problem-solving competency? The views of Arnold Sommerfeld and Enrico Fermi. *Science & Education (Springer)*, 27(3–4):357–369, May 2018. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-018-9973-z>.

Clary:2018:EUM

- [1564] Renee M. Clary. The evolution of U.S. museums and science centers as informal learning environments. *Science & Education (Springer)*, 27(3–4):371–377, May 2018. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-018-9967-x>.

Lyons:2018:SCE

- [1565] Sherrie Lyons. Sacred cows exposed. *Science & Education (Springer)*, 27(3–4):379–382, May 2018. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-018-9962-2>.

Luthy:2018:RSV

- [1566] Christoph Lüthy. “The reinvention of seeing”: Vermeer, Leuwenhoek, and their optical instruments. *Science & Education (Springer)*, 27(3–4):383–386, May 2018. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-018-9969-8>.

Davson-Galle:2018:RSI

- [1567] Peter Davson-Galle. Radical scepticism: an issue for science education? *Science & Education (Springer)*, 27(3–4):387–404, May 2018. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-018-9966-y>.

Kampourakis:2018:WII

- [1568] Kostas Kampourakis. What is the impact of the impact factor? *Science & Education (Springer)*, 27(5–6):405–406, August 2018. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-018-9991-x>; <https://link.springer.com/content/pdf/10.1007/s11191-018-9991-x.pdf>.

Yucel:2018:SOE

- [1569] Robyn Yucel. Scientists’ ontological and epistemological views about science from the perspective of critical realism. *Science & Education (Springer)*, 27(5–6):407–433, August 2018. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-018-9983-x>.

Garcia-Carmona:2018:NSP

- [1570] Antonio García-Carmona and José Antonio Acevedo-Díaz. The nature of scientific practice and science education. *Science & Education (Springer)*, 27(5–6):435–455, August 2018. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-018-9984-9>.

Kaya:2018:LSA

- [1571] Sila Kaya, Sibel Erduran, Naomi Birdthistle, and Orla McCormack. Looking at the social aspects of nature of science in science education through a new lens. *Science & Education (Springer)*, 27(5–6): 457–478, August 2018. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-018-9990-y>.

Fuselier:2018:IOK

- [1572] Linda Fuselier, Perri K. Eason, J. Kasi Jackson, and Sarah Spaulding. Images of objective knowledge construction in sexual selection chapters of evolution textbooks. *Science & Education (Springer)*, 27(5–6): 479–499, August 2018. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-018-9978-7>.

Godec:2018:ESE

- [1573] Spela Godec, Heather King, Louise Archer, Emily Dawson, and Amy Seakins. Examining student engagement with science through a Bourdieusian notion of field. *Science & Education (Springer)*, 27(5–6):501–521, August 2018. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-018-9988-5>; <https://link.springer.com/content/pdf/10.1007/s11191-018-9988-5.pdf>.

Lombard:2018:CDT

- [1574] François Lombard and Laura Weiss. Can didactic transposition and popularization explain transformations of genetic knowledge from research to classroom? *Science & Education (Springer)*, 27(5–6):523–545, August 2018. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-018-9977-8>.

McCain:2018:IF

- [1575] Kevin McCain. Indispensable falsehoods. *Science & Education (Springer)*, 27(5–6):547–550, August 2018. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-018-9985-8>.

Matthews:2018:IHS

- [1576] Michael R. Matthews. Illustrating the history of science. *Science & Education (Springer)*, 27(5–6):551–554, August 2018. CODEN SCEDE9.

ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-018-9980-0>.

Zemplen:2018:SEI

- [1577] Gábor Á. Zemplén. Siegel's educational ideal and non-instrumental philosophical practice. *Science & Education (Springer)*, 27(5–6):555–562, August 2018. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-018-9979-6>.

Stern:2018:AMN

- [1578] Florian Stern. Attitudes measurement: Nature, issues, methods, and recommendations. *Science & Education (Springer)*, 27(5–6):563–566, August 2018. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-018-9975-x>.

Kotter:2018:SCC

- [1579] Mario Kötter. Societal controversies, critical thinking, and moral education. *Science & Education (Springer)*, 27(5–6):567–571, August 2018. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-018-9976-9>.

Freire:2018:DBS

- [1580] Olival Freire, Jr. Is a dialogue between science and religion possible? *Science & Education (Springer)*, 27(5–6):573–574, August 2018. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-018-9982-y>.

Buklijas:2018:LR

- [1581] Tatjana Buklijas. Life reconsidered. *Science & Education (Springer)*, 27(5–6):575–580, August 2018. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-018-9987-6>.

Leuschner:2018:DIR

- [1582] Anna Leuschner and Anke Bueter. Dimensions of inductive risk: Prospects, boundaries, new facets. *Science & Education (Springer)*, 27(5–6):581–588, August 2018. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-018-9989-4>.

Kampourakis:2018:DDR

- [1583] Kostas Kampourakis. Darwinism, democracy, and race. *Science & Education (Springer)*, 27(5–6):589–590, August 2018. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-018-9986-7>.

Kampourakis:2018:MCS

- [1584] Kostas Kampourakis. On the meaning of concepts in science education. *Science & Education (Springer)*, 27(7–8):591–592, October 2018. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-018-0004-x.pdf>.

Kersting:2018:UCS

- [1585] Magdalena Kersting and Rolf Steier. Understanding curved spacetime. *Science & Education (Springer)*, 27(7–8):593–623, October 2018. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Lessl:2018:NEN

- [1586] Thomas Lessl. Naïve empiricism and the nature of science in narratives of conflict between science and religion. *Science & Education (Springer)*, 27(7–8):625–636, October 2018. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Olson:2018:INS

- [1587] Joanne K. Olson. The inclusion of the nature of science in nine recent international science education standards documents. *Science & Education (Springer)*, 27(7–8):637–660, October 2018. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Tsybulsky:2018:CIT

- [1588] Dina Tsybulsky. Comparing the impact of two science-as-inquiry methods on the NOS understanding of high-school biology students. *Science & Education (Springer)*, 27(7–8):661–683, October 2018. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Nylehn:2018:SCG

- [1589] Jorun Nyléhn and Marianne Ødegaard. The “Species” concept as a gateway to nature of science. *Science & Education (Springer)*, 27(7–8):685–714, October 2018. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Cardoso:2018:WIE

- [1590] Alexandra Cardoso, Tiago Ribeiro, and Clara Vasconcelos. What is inside the Earth? *Science & Education (Springer)*, 27(7–8):715–736, October 2018. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Pribyl:2018:PFA

- [1591] Jiří Příbyl, Petr Eisenmann, and Ján Gunčaga. The phenomenon of false assumption in historical and educational texts. *Science & Education (Springer)*, 27(7–8):737–767, October 2018. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Bratkovich:2018:SLL

- [1592] Meghan Odsliv Bratkovich. Shining light on language for, in, and as science content. *Science & Education (Springer)*, 27(7–8):769–782, October 2018. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Ideland:2018:SCG

- [1593] Malin Ideland. Science, coloniality, and “the great rationality divide”. *Science & Education (Springer)*, 27(7–8):783–803, October 2018. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-018-0006-8.pdf>.

Jacquart:2018:LAR

- [1594] Melissa Jacquart. Learning about reality through models and computer simulations. *Science & Education (Springer)*, 27(7–8):805–810, October 2018. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Magnani:2018:BDC

- [1595] Lorenzo Magnani. Beyond Darwin: Cognitive niches and extragenetic information. *Science & Education (Springer)*, 27(7–8):811–813, October 2018. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Lancor:2018:MLG

- [1596] Rachael Anderman Lancor. Metaphors for learning: a guide for teachers. *Science & Education (Springer)*, 27(7–8):815–820, October 2018. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

deFelipe:2018:MCF

- [1597] Íñigo Ongay de Felipe. Making a case in favor of not yet applied science. *Science & Education (Springer)*, 27(7–8):821–824, October 2018. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Stern:2018:HRG

- [1598] Florian Stern. The history of research in genetics, development, and evolution. *Science & Education (Springer)*, 27(7–8):825–828, October 2018. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kampourakis:2018:SU

- [1599] Kostas Kampourakis. Science and uncertainty. *Science & Education (Springer)*, 27(9–10):829–830, December 2018. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-018-0019-3.pdf>.

Alameh:2018:TPG

- [1600] Sahar Alameh and Fouad Abd-El-Khalick. Towards a philosophically guided schema for studying scientific explanation in science education. *Science & Education (Springer)*, 27(9–10):831–861, December 2018. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Aguiar:2018:TAE

- [1601] Orlando Aguiar, Jr., Hannah Sevian, and Charbel N. El-Hani. Teaching about energy. *Science & Education (Springer)*, 27(9–10):863–893, December 2018. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Ampatzidis:2018:CSB

- [1602] Georgios Ampatzidis and Marida Ergazaki. Challenging students' belief in the 'balance of nature' idea. *Science & Education (Springer)*, 27(9–10):895–919, December 2018. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Santini:2018:MCI

- [1603] Jérôme Santini, Tracy Bloor, and Gérard Sensevy. Modeling conceptualization and investigating teaching effectiveness. *Science & Education (Springer)*, 27(9–10):921–961, December 2018. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Melo:2018:TBD

- [1604] Énery Melo and Manuel Bächtold. A theater-based device for training teachers on the nature of science. *Science & Education (Springer)*, 27(9–10):963–986, December 2018. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Lindholm:2018:PC

- [1605] Markus Lindholm. Promoting curiosity? *Science & Education (Springer)*, 27(9–10):987–1002, December 2018. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-018-0015-7.pdf>.

Roffe:2018:CPM

- [1606] Ariel Jonathan Roffé. Contemporary perspectives on the meaning, roles, and implications of chance in evolution. *Science & Education (Springer)*, 27(9–10):1003–1016, December 2018. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Emmeche:2018:DPN

- [1607] Claus Emmeche. A disappointed philosopher of nature. *Science & Education (Springer)*, 27(9–10):1017–1020, December 2018. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Greca:2018:BRE

- [1608] Ileana M. Greca and Luis Rodríguez-Cano. Book review: An Einstein encyclopaedia: Alice Calaprice, Daniel Kennefick and Robert Schulmann (2015). *An Einstein Encyclopaedia*. Princeton University Press, Princeton. ISBN: 978-0-691-14174-9, 347 pages, price: \$24.95 (paperback). *Science & Education (Springer)*, 27(9–10):1021–1023, December 2018. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Heering:2018:PPP

- [1609] Peter Heering. Profound problems with (and potentials of) pressure in analyzing hydrostatics. *Science & Education (Springer)*, 27(9–10):1025–1027, December 2018. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Horsthemke:2018:RNC

- [1610] Kai Horsthemke. Rhetorical, narrative, cognitive, and epistemological perspectives on science and culture. *Science & Education (Springer)*, 27(9–10):1029–1032, December 2018. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Benetreau-Dupin:2018:RMB

- [1611] Yann Benétreau-Dupin. Revisiting model-based learning. *Science & Education (Springer)*, 27(9–10):1033–1037, December 2018. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kampourakis:2019:EPS

- [1612] Kostas Kampourakis. Empirical philosophy of science. *Science & Education (Springer)*, 28(1–2):1–3, March 2019. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-019-00035-3>; <https://link.springer.com/content/pdf/10.1007/s11191-019-00035-3.pdf>

Bhakthavatsalam:2019:VFT

- [1613] Sindhuja Bhakthavatsalam. The value of false theories in science education. *Science & Education (Springer)*, 28(1–2):5–23, March 2019. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-019-00028-2>.

Causton:2019:BIS

- [1614] Edward Causton. Bringing inferentialism to science education. *Science & Education (Springer)*, 28(1–2):25–43, March 2019. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-019-00027-3>.

Boesch:2019:STS

- [1615] Brandon Boesch. Skill transmittance in science education. *Science & Education (Springer)*, 28(1–2):45–61, March 2019. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-018-0020-x>.

Ariely:2019:ALA

- [1616] Moriah Ariely, Zohar Livnat, and Anat Yarden. Analyzing the language of an adapted primary literature article. *Science & Education (Springer)*, 28(1–2):63–85, March 2019. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-019-00033-5>.

Billingsley:2019:ESS

- [1617] Berry Billingsley and Mehdi Nassaji. Exploring secondary school students' stances on the predictive and explanatory power of science. *Science & Education (Springer)*, 28(1–2):87–107, March 2019. CODEN SCEDE9.

ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-019-00031-7>; <https://link.springer.com/content/pdf/10.1007/s11191-019-00031-7.pdf>

Fasce:2019:SV

- [1618] Angelo Fasce and Alfonso Picó. Science as a vaccine. *Science & Education (Springer)*, 28(1-2):109–125, March 2019. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-018-00022-0>.

Flynn:2019:UIF

- [1619] Simon Flynn and Mark Hardman. The use of interactive fiction to promote conceptual change in science. *Science & Education (Springer)*, 28(1-2):127–152, March 2019. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-019-00032-6>.

Caiman:2019:RAP

- [1620] Cecilia Caiman and Britt Jakobson. The role of art practice in elementary school science. *Science & Education (Springer)*, 28(1-2):153–175, March 2019. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-019-00036-2>; <https://link.springer.com/content/pdf/10.1007/s11191-019-00036-2.pdf>.

Aduriz-Bravo:2019:TPS

- [1621] Agustín Adúriz-Bravo. Teaching the philosophy of science to undergraduate science students. *Science & Education (Springer)*, 28(1-2):177–182, March 2019. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-019-00029-1>.

Flodin:2019:BHG

- [1622] Veronica S. Flodin. A brief history of the gene concept. *Science & Education (Springer)*, 28(1-2):183–187, March 2019. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-019-00024-6>.

Riley:2019:DRP

- [1623] James Riley. Do religious people hate science? *Science & Education (Springer)*, 28(1-2):189–191, March 2019. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-019-00026-4>.

Taape:2019:KEM

- [1624] Tillmann Taape. Knowing the early modern world: Van Helmont's universal philosophy. *Science & Education (Springer)*, 28(1–2):193–195, March 2019. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-019-00023-7>.

Lederman:2019:TNS

- [1625] Norman G. Lederman, Fouad Abd-El-Khalick, and Mike U. Smith. Teaching nature of scientific knowledge to kindergarten through university students. *Science & Education (Springer)*, 28(3–5):197–203, July 2019. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-019-00057-x.pdf>; <https://link.springer.com/article/10.1007/s11191-019-00057-x>; <https://link.springer.com/content/pdf/10.1007/s11191-019-00057-x.pdf>.

Cofre:2019:CRS

- [1626] Hernán Cofré, Paola Núñez, David Santibáñez, José M. Pavez, Martina Valencia, and Claudia Vergara. A critical review of students' and teachers' understandings of nature of science. *Science & Education (Springer)*, 28(3–5):205–248, July 2019. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-019-00051-3.pdf>; <https://link.springer.com/article/10.1007/s11191-019-00051-3>. See correction [1691].

Lederman:2019:CRB

- [1627] Norman G. Lederman. Contextualizing the relationship between nature of scientific knowledge and scientific inquiry. *Science & Education (Springer)*, 28(3–5):249–267, July 2019. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-019-00030-8>.

Summers:2019:ERN

- [1628] Ryan Summers and Fouad Abd-El-Khalick. Examining the representations of NOS in educational resources. *Science & Education (Springer)*, 28(3–5):269–289, July 2019. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-018-0018-4>.

Yeh:2019:ICA

- [1629] Yi-Fen Yeh, Sibel Erduran, and Ying-Shao Hsu. Investigating coherence about nature of science in science curriculum documents. *Science & Education (Springer)*, 28(3–5):291–310, July 2019. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-019-00053-1>.

Erduran:2019:CFR

- [1630] Sibel Erduran, Zoubeida R. Dagher, and Christine V. McDonald. Contributions of the family resemblance approach to nature of science in science education. *Science & Education (Springer)*, 28(3–5):311–328, July 2019. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-019-00052-2>.

Herman:2019:ECS

- [1631] Benjamin C. Herman, David C. Owens, Robert T. Oertli, Laura A. Zangori, and Mark H. Newton. Exploring the complexity of students' scientific explanations and associated nature of science views within a place-based socioscientific issue context. *Science & Education (Springer)*, 28(3–5):329–366, July 2019. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-019-00034-4.pdf>; <https://link.springer.com/article/10.1007/s11191-019-00034-4>.

Nouri:2019:IRS

- [1632] Noushin Nouri, William F. McComas, and Gerardo J. Aponte-Martinez. Instructors' rationales and strategies for teaching history of science in preservice settings. *Science & Education (Springer)*, 28(3–5):367–389, July 2019. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-019-00055-z>.

Akerson:2019:TLN

- [1633] Valarie L. Akerson, Ingrid Carter, Khemmawadee Pongsanon, and Vanashri Nargund-Joshi. Teaching and learning nature of science in elementary classrooms. *Science & Education (Springer)*, 28(3–5):391–411, July 2019. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-019-00045-1>.

Brunner:2019:TUE

- [1634] Jeanne L. Brunner. Teachers' use of educative features in guides for nature of science read-alouds. *Science & Education (Springer)*, 28(3–5):413–437, July 2019. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-019-00039-z>.

Cigdemoglu:2019:IST

- [1635] Ceyhan Cigdemoglu and Fitnat Köseoğlu. Improving science teachers' views about scientific inquiry. *Science & Education (Springer)*, 28(3–5):439–469, July 2019. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-019-00054-0>.

Gray:2019:NMT

- [1636] Kathryn L. Gray and Khadija E. Fouad. A novel method for teaching the difference and relationship between theories and laws to high school students. *Science & Education (Springer)*, 28(3–5):471–501, July 2019. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-019-00040-6>.

Galili:2019:TRD

- [1637] Igal Galili. Towards a refined depiction of nature of science. *Science & Education (Springer)*, 28(3–5):503–537, July 2019. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-019-00042-4>.

Antink-Meyer:2019:NEK

- [1638] Allison Antink-Meyer and Ryan A. Brown. Nature of engineering knowledge. *Science & Education (Springer)*, 28(3–5):539–559, July 2019. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-019-00038-0>.

Pleasants:2019:FIR

- [1639] Jacob Pleasants, Michael P. Clough, Joanne K. Olson, and Glen Miller. Fundamental issues regarding the nature of technology. *Science & Education (Springer)*, 28(3–5):561–597, July 2019. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-019-00056-y>.

Khine:2019:NSS

- [1640] Myint Swe Khine. Nature of science in school science textbooks. *Science & Education (Springer)*, 28(3–5):599–601, July 2019. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-019-00025-5>.

Kampourakis:2019:SSS

- [1641] Kostas Kampourakis. Science, society, and scientific literacy. *Science & Education (Springer)*, 28(6–7):603–604, September 2019. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-019-00066-w>; <https://link.springer.com/content/pdf/10.1007/s11191-019-00066-w.pdf>.

Kahn:2019:CAP

- [1642] Sami Kahn and Dana L. Zeidler. A conceptual analysis of perspective taking in support of socioscientific reasoning. *Science & Education (Springer)*, 28(6–7):605–638, September 2019. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-019-00044-2>.

Hancock:2019:SSS

- [1643] Tamara S. Hancock, Patricia J. Friedrichsen, Andrew T. Kinslow, and Troy D. Sadler. Selecting socio-scientific issues for teaching. *Science & Education (Springer)*, 28(6–7):639–667, September 2019. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-019-00065-x>; <https://link.springer.com/content/pdf/10.1007/s11191-019-00065-x.pdf>.

Can:2019:ATF

- [1644] S. Nazli Can and Deniz Saribas. An argumentative tool for facilitating critical evaluation. *Science & Education (Springer)*, 28(6–7):669–687, September 2019. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-019-00068-8>.

Dunlop:2019:CS

- [1645] Lynda Dunlop and Fernanda Veneu. Controversies in science. *Science & Education (Springer)*, 28(6–7):689–710, September 2019. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-019-00048-y>.

Stuart:2019:ESI

- [1646] Michael T. Stuart. Everyday scientific imagination. *Science & Education (Springer)*, 28(6–7):711–730, September 2019. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-019-00067-9>.

Oh:2019:FMB

- [1647] Phil Seok Oh. Features of modeling-based abductive reasoning as a disciplinary practice of inquiry in Earth science. *Science & Education (Springer)*, 28(6–7):731–757, September 2019. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-019-00058-w>.

Besse:2019:LAA

- [1648] M. Besse, S. Fragnière, A. Müller, M. Piguet, L. Dubois, D. Miéville, S. Schoeb, and D. Schumacher. Learning about archaeology and prehistoric life. *Science & Education (Springer)*, 28(6–7):759–795, September 2019. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-019-00047-z>; <https://link.springer.com/content/pdf/10.1007/s11191-019-00047-z.pdf>. See correction [1690].

McCain:2019:MUI

- [1649] Kevin McCain. Making understanding intelligible. *Science & Education (Springer)*, 28(6–7):797–799, September 2019. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-019-00041-5>.

Gasparatou:2019:SU

- [1650] Renia Gasparatou. On scientism, unlimited. *Science & Education (Springer)*, 28(6–7):801–802, September 2019. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-019-00037-1>.

Harman:2019:DRD

- [1651] Oren Harman. Darwin’s really dangerous idea. *Science & Education (Springer)*, 28(6–7):803–812, September 2019. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-019-00060-2>.

Cofre:2019:WPE

- [1652] Hernán Cofré. World patterns in evolution education. *Science & Education (Springer)*, 28(6–7):813–818, September 2019. CODEN SCEDE9.

ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-019-00049-x>.

Erduran:2019:SEC

- [1653] Sibel Erduran. Synthesis of epistemic cognition. *Science & Education (Springer)*, 28(6–7):819–821, September 2019. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-019-00061-1>.

Kampourakis:2019:RUC

- [1654] Kostas Kampourakis. A (really useful) companion to the history of science. *Science & Education (Springer)*, 28(6–7):823–825, September 2019. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-019-00046-0>.

Richmond:2019:NOC

- [1655] Sheldon Richmond. No one can understand quantum mechanics [at least not until after it is replaced by a superior theory]. *Science & Education (Springer)*, 28(6–7):827–831, September 2019. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-019-00043-3>.

Pierson:2019:LPS

- [1656] Ashlyn E. Pierson, Douglas B. Clark, and Gregory J. Kelly. Learning progressions and science practices. *Science & Education (Springer)*, 28(8):833–841, October 2019. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-019-00070-0>; <https://link.springer.com/content/pdf/10.1007/s11191-019-00070-0.pdf>.

Guy-Gaytan:2019:TBL

- [1657] Candice Guy-Gaytán, Julia S. Gouvea, Chris Griesemer, and Cynthia Passmore. Tensions between learning models and engaging in modeling. *Science & Education (Springer)*, 28(8):843–864, October 2019. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-019-00064-y>.

Hardahl:2019:BPP

- [1658] Liv Kondrup Hardahl, Per-Olof Wickman, and Cecilia Caiman. The body and the production of phenomena in the science laboratory. *Science & Education (Springer)*, 28(8):865–895, October 2019. CODEN

SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-019-00063-z>.

Pierson:2019:SMP

- [1659] Ashlyn E. Pierson and Douglas B. Clark. Sedimentation of modeling practices. *Science & Education (Springer)*, 28(8):897–925, October 2019. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-019-00050-4>.

Farris:2019:LIM

- [1660] Amy Voss Farris, Amanda C. Dickes, and Pratim Sengupta. Learning to interpret measurement and motion in fourth grade computational modeling. *Science & Education (Springer)*, 28(8):927–956, October 2019. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-019-00069-7>.

Sikorski:2019:CDU

- [1661] Tiffany-Rose Sikorski. Context-dependent “Upper anchors” for learning progressions. *Science & Education (Springer)*, 28(8):957–981, October 2019. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-019-00074-w>.

Kampourakis:2019:F

- [1662] Kostas Kampourakis. Farewell. *Science & Education (Springer)*, 28(9–10):983–984, December 2019. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-019-00087-5>; <https://link.springer.com/content/pdf/10.1007/s11191-019-00087-5.pdf>.

Brock:2019:KSM

- [1663] Richard Brock and David Hay. Keeping students out of Mary’s (class)room. *Science & Education (Springer)*, 28(9–10):985–1000, December 2019. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-019-00079-5>; <https://link.springer.com/content/pdf/10.1007/s11191-019-00079-5.pdf>.

Fuselier:2019:DBC

- [1664] Linda Fuselier, Justin McFadden, and Katherine Ray King. Do biologists’ conceptions of science as a social epistemology align with critical contextual empiricism? *Science & Education (Springer)*, 28(9–10):

1001–1025, December 2019. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-019-00084-8>.

Peters-Burton:2019:EUV

- [1665] Erin E. Peters-Burton, Jennifer C. Parrish, and Bridget K. Mulvey. Extending the utility of the views of nature of science assessment through epistemic network analysis. *Science & Education (Springer)*, 28(9–10):1027–1053, December 2019. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-019-00081-x>.

Park:2019:WMP

- [1666] Wonyong Park, Seungran Yang, and Jinwoong Song. When modern physics meets nature of science. *Science & Education (Springer)*, 28(9–10):1055–1083, December 2019. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-019-00075-9>.

Lorsbach:2019:CCD

- [1667] Anthony W. Lorsbach, Allison Antink Meyer, and Anna Maria Arias. The correspondence of Charles Darwin as a tool for reflecting on nature of science. *Science & Education (Springer)*, 28(9–10):1085–1103, December 2019. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-019-00080-y>.

Williams:2019:EHS

- [1668] Cody Tyler Williams and David Wÿss Rudge. Effects of historical story telling on student understanding of nature of science. *Science & Education (Springer)*, 28(9–10):1105–1133, December 2019. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-019-00073-x>.

Batista:2019:WTG

- [1669] Renata da Fonseca Moraes Batista and Cibelle Celestino Silva. When things go wrong. *Science & Education (Springer)*, 28(9–10):1135–1151, December 2019. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-019-00071-z>.

Rutt:2019:DPT

- [1670] Alexis Rutt and Frackson Mumba. Developing preservice teachers' understanding of and pedagogical content knowledge for history of science–

integrated science instruction. *Science & Education (Springer)*, 28(9–10): 1153–1179, December 2019. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-019-00089-3>.

Jin:2019:HLP

- [1671] Hui Jin, Cesar Delgado, Malcolm I. Bauer, E. Caroline Wylie, Dante Cisterna, and Kenneth F. Llort. A hypothetical learning progression for quantifying phenomena in science. *Science & Education (Springer)*, 28(9–10):1181–1208, December 2019. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-019-00076-8>.

Ageitos:2019:ERP

- [1672] Noa Ageitos, Blanca Puig, and Laura Colucci-Gray. Examining reasoning practices and epistemic actions to explore students' understanding of genetics and evolution. *Science & Education (Springer)*, 28(9–10): 1209–1233, December 2019. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-019-00086-6>.

Smith:2019:MEE

- [1673] Mike U. Smith and Harvey Siegel. Must evolution education that aims at belief be indoctrinating? *Science & Education (Springer)*, 28(9–10): 1235–1247, December 2019. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-019-00095-5>.

Martinez:2019:OSP

- [1674] Sergio F. Martínez. Orienting scientific progress. *Science & Education (Springer)*, 28(9–10):1249–1251, December 2019. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-019-00072-y>.

Rowlands:2019:LRC

- [1675] Stuart Rowlands. The latest research on conceptual change from developmental psychology. *Science & Education (Springer)*, 28(9–10):1253–1262, December 2019. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-019-00077-7>.

Ludwig:2019:EGP

- [1676] David Ludwig. Epistemology from a global perspective. *Science & Education (Springer)*, 28(9–10):1263–1265, December 2019. CODEN

SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-019-00083-9>.

Schloegel:2019:BRD

- [1677] Judy Johns Schloegel. Book review: *The Development of Nuclear Physics Between the Wars*. *Science & Education (Springer)*, 28(9–10):1267–1271, December 2019. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-019-00085-7>.

Schulz:2019:SFU

- [1678] Roland M. Schulz. Shifting the focus of undergraduate physics and engineering courses. *Science & Education (Springer)*, 28(9–10):1273–1278, December 2019. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-019-00078-6>.

Erduran:2020:EVS

- [1679] Sibel Erduran. Editorial vision for *Science & Education*. *Science & Education (Springer)*, 29(1):1–5, February 2020. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-020-00102-0.pdf>.

He:2020:ICL

- [1680] Xinyu He, Yang Deng, Saisai Yu, and Houxiong Wang. The influence of context on the large-scale assessment of high school students' epistemic cognition of scientific argumentation. *Science & Education (Springer)*, 29(1):7–41, February 2020. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Milanovic:2020:AYO

- [1681] Vesna D. Milanovic and Dragica D. Trivic. Arguments of 14-year-olds in the context of history of the development of organic chemistry. *Science & Education (Springer)*, 29(1):43–74, February 2020. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Wiblom:2020:NAM

- [1682] Jonna Wiblom, Maria Andrée, and Carl-Johan Rundgren. Navigating alarming media messages about nutrition and health. *Science & Education (Springer)*, 29(1):75–100, February 2020. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-019-00099-1.pdf>.

Alcantara:2020:HNS

- [1683] Marlon C. Alcantara, Marco Braga, and Charles van den Heuvel. Historical networks in science education. *Science & Education (Springer)*, 29(1):101–121, February 2020. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Koster:2020:SVU

- [1684] Edwin Koster and Henk W. de Regt. Science and values in undergraduate education. *Science & Education (Springer)*, 29(1):123–143, February 2020. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-019-00093-7.pdf>.

Zidny:2020:MPR

- [1685] Robby Zidny, Jesper Sjöström, and Ingo Eilks. A multi-perspective reflection on how indigenous knowledge and related ideas can improve science education for sustainability. *Science & Education (Springer)*, 29(1):145–185, February 2020. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). See correction [1835].

Dolphin:2020:TIC

- [1686] Glenn Dolphin. Timefulness: an important conceptualization but needing a better approach. *Science & Education (Springer)*, 29(1):187–197, February 2020. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-019-00097-3.pdf>.

Lacey:2020:OSE

- [1687] Hugh Lacey. Objectivity and science education. *Science & Education (Springer)*, 29(1):199–201, February 2020. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Kosso:2020:MTS

- [1688] Peter Kosso. A methodological toolkit for science. *Science & Education (Springer)*, 29(1):203–206, February 2020. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Justi:2020:CST

- [1689] Rosária Justi. Contributions of science and technology education to the exercise of students' citizenship. *Science & Education (Springer)*, 29(1):207–211, February 2020. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Besse:2020:CLA

- [1690] M. Besse, S. Fragnière, A. Müller, M. Piguët, L. Dubois, D. Miéville, S. Schoeb, and D. Schumacher. Correction to: Learning About Archaeology and Prehistoric Life. *Science & Education (Springer)*, 29(1):213–219, February 2020. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-019-00059-9.pdf>. See [1648].

Cofre:2020:CCR

- [1691] Hernán Cofré, Paola Núñez, David Santibáñez, José M. Pavez, Martina Valencia, and Claudia Vergara. Correction to: A Critical Review of Students' and Teachers' Understandings of Nature of Science. *Science & Education (Springer)*, 29(1):221–232, February 2020. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-019-00062-0.pdf>. See [1626].

Erduran:2020:SEE

- [1692] Sibel Erduran. Science education in the era of a pandemic. *Science & Education (Springer)*, 29(2):233–235, April 2020. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-020-00122-w.pdf>.

Emran:2020:USP

- [1693] Ameer Emran, Ornit Spektor-levy, Ofra Paz Tal, and Orit Ben Zvi Asaraf. Understanding students' perceptions of the nature of science in the context of their gender and their parents' occupation. *Science & Education (Springer)*, 29(2):237–261, April 2020. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Mesci:2020:EFP

- [1694] Günküt Mesci, Renee S. Schwartz, and Brandy Ann-Skjold Pleasants. Enabling factors of preservice science teachers' pedagogical content knowledge for nature of science and nature of scientific inquiry. *Science & Education (Springer)*, 29(2):263–297, April 2020. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Akgun:2020:HDU

- [1695] Selin Akgun and Ebru Kaya. How do university students perceive the nature of science? *Science & Education (Springer)*, 29(2):299–330, April 2020. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Chen:2020:DPM

- [1696] Ying-Chih Chen. Dialogic pathways to manage uncertainty for productive engagement in scientific argumentation. *Science & Education (Springer)*, 29(2):331–375, April 2020. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Najami:2020:LVE

- [1697] Naim Najami, Muhamad Hugerat, Fattma Kabya, and Avi Hofstein. The laboratory as a vehicle for enhancing argumentation among pre-service science teachers. *Science & Education (Springer)*, 29(2):377–393, April 2020. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Betti:2020:ABE

- [1698] Lia Betti, Peter Shaw, and Volker Behrends. Acceptance of biological evolution by first-year life sciences University students. *Science & Education (Springer)*, 29(2):395–409, April 2020. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-020-00110-0.pdf>.

Siani:2020:EDB

- [1699] Merav Siani and Anat Yarden. “Evolution? I don’t believe in it”. *Science & Education (Springer)*, 29(2):411–441, April 2020. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Garcia-Carmona:2020:IBS

- [1700] Antonio García-Carmona. From inquiry-based science education to the approach based on scientific practices. *Science & Education (Springer)*, 29(2):443–463, April 2020. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Richmond:2020:PGT

- [1701] Sheldon Richmond. The physicist as Gulliver traveling the matrix. *Science & Education (Springer)*, 29(2):465–468, April 2020. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Ginnobili:2020:PCE

- [1702] Santiago Ginnobili. Prediction and contingency in evolution by natural selection. *Science & Education (Springer)*, 29(2):469–477, April 2020. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Greif:2020:DD

- [1703] Hajo Greif. Darwinian dialectics. *Science & Education (Springer)*, 29(2): 479–482, April 2020. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-020-00106-w.pdf>.

Tsybulsky:2020:CTI

- [1704] Dina Tsybulsky. Conceptual trends and issues in biology didactics. *Science & Education (Springer)*, 29(2):483–485, April 2020. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Erduran:2020:BNS

- [1705] Sibel Erduran. Bringing nuance to “the science” in public policy and science understanding. *Science & Education (Springer)*, 29(3):487–489, June 2020. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-020-00137-3.pdf>.

Cheung:2020:EIN

- [1706] Kason Ka Ching Cheung. Exploring the inclusion of nature of science in biology curriculum and high-stakes assessments in Hong Kong. *Science & Education (Springer)*, 29(3):491–512, June 2020. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

deCarvalho:2020:HSW

- [1707] Ítalo Nascimento de Carvalho, Charbel N. El-Hani, and Nei Nunes-Neto. How should we select conceptual content for biology high school curricula? *Science & Education (Springer)*, 29(3):513–547, June 2020. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Mohan:2020:PST

- [1708] Ashwin Krishnan Mohan. Philosophical standpoints of textbooks in quantum mechanics. *Science & Education (Springer)*, 29(3):549–569, June 2020. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Burke:2020:REP

- [1709] Lydia E. Carol-Ann Burke and John Wallace. Re-examining postcolonial science education within a power-knowledge framework. *Science & Education (Springer)*, 29(3):571–588, June 2020. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Emden:2020:CFC

- [1710] Markus Emden and Mario Gerwig. Can Faraday's *The Chemical History of a Candle* inform the teaching of experimentation? *Science & Education (Springer)*, 29(3):589–616, June 2020. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Bancong:2020:EHS

- [1711] Hartono Bancong and Jinwoong Song. Exploring how students construct collaborative thought experiments during physics problem-solving activities. *Science & Education (Springer)*, 29(3):617–645, June 2020. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Archila:2020:UHS

- [1712] Pablo Antonio Archila, Jorge Molina, and Anne-Marie Truscott de Mejía. Using historical scientific controversies to promote undergraduates' argumentation. *Science & Education (Springer)*, 29(3):647–671, June 2020. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-020-00126-6.pdf>.

Giri:2020:ESA

- [1713] Vetti Giri and M. U. Paily. Effect of scientific argumentation on the development of critical thinking. *Science & Education (Springer)*, 29(3):673–690, June 2020. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Silva:2020:TCA

- [1714] Hesley Machado Silva and Eduardo Fleury Mortimer. Teachers' conceptions about the origin of humans in the context of three Latin American countries with different forms and degrees of secularism. *Science & Education (Springer)*, 29(3):691–711, June 2020. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Aini:2020:IPS

- [1715] Rahmi Qurota Aini, Arif Rachmatullah, Muhammad Dika Harliadi, and Minsu Ha. Indonesian pre-service biology teachers' and biology education professors' views on evolution. *Science & Education (Springer)*, 29(3):713–741, June 2020. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Mesci:2020:IPB

- [1716] Günküt Mesci. The influence of PCK-based NOS teaching on pre-service science teachers' NOS views. *Science & Education (Springer)*, 29(3):743–769, June 2020. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Munford:2020:IPS

- [1717] Danusa Munford. Introducing prospective science teachers to the landscape of science education. *Science & Education (Springer)*, 29(3):771–780, June 2020. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Erduran:2020:NS

- [1718] Sibel Erduran. Nature of “STEM”? *Science & Education (Springer)*, 29(4):781–784, August 2020. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-020-00150-6.pdf>.

Reynante:2020:EPP

- [1719] Brandon M. Reynante, Megan E. Selbach-Allen, and Daniel R. Pimentel. Exploring the promises and perils of integrated STEM through disciplinary practices and epistemologies. *Science & Education (Springer)*, 29(4):785–803, August 2020. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

McComas:2020:CSE

- [1720] William F. McComas and Stephen R. Burgin. A critique of “STEM” education. *Science & Education (Springer)*, 29(4):805–829, August 2020. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Pleasants:2020:INS

- [1721] Jacob Pleasants. Inquiring into the nature of STEM problems. *Science & Education (Springer)*, 29(4):831–855, August 2020. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Ortiz-Revilla:2020:FED

- [1722] Jairo Ortiz-Revilla, Agustín Adúriz-Bravo, and Ileana M. Greca. A framework for epistemological discussion on integrated STEM education. *Science & Education (Springer)*, 29(4):857–880, August 2020. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Quinn:2020:CMN

- [1723] Candice M. Quinn, Joshua W. Reid, and Grant E. Gardner. $S+T+M = E$ as a convergent model for the nature of STEM. *Science & Education (Springer)*, 29(4):881–898, August 2020. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Park:2020:NSD

- [1724] Wonyong Park, Jen-Yi Wu, and Sibel Erduran. The nature of STEM disciplines in the science education standards documents from the USA, Korea and Taiwan. *Science & Education (Springer)*, 29(4):899–927, August 2020. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-020-00139-1.pdf>.

Millar:2020:TIP

- [1725] Victoria Millar. Trends, issues and possibilities for an interdisciplinary STEM curriculum. *Science & Education (Springer)*, 29(4):929–948, August 2020. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Develaki:2020:CCP

- [1726] Maria Develaki. Comparing crosscutting practices in STEM disciplines. *Science & Education (Springer)*, 29(4):949–979, August 2020. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

McGowan:2020:EED

- [1727] Veronica Cassone McGowan and Philip Bell. Engineering education as the development of critical sociotechnical literacy. *Science & Education (Springer)*, 29(4):981–1005, August 2020. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-020-00151-5.pdf>.

Mangiante:2020:SET

- [1728] Elaine Silva Mangiante and Kaitlin A. Gabriele-Black. Supporting elementary teachers’ collective inquiry into the “E” in STEM. *Science & Education (Springer)*, 29(4):1007–1034, August 2020. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Christensen:2020:UBE

- [1729] Dana Christensen and Doug Lombardi. Understanding biological evolution through computational thinking. *Science & Education (Springer)*,

29(4):1035–1077, August 2020. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Reiss:2020:SEL

- [1730] Michael J. Reiss. Science education in the light of COVID-19. *Science & Education (Springer)*, 29(4):1079–1092, August 2020. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-020-00143-5.pdf>.

McEwen:2020:CBB

- [1731] Birgitta Mc Ewen. The connection between the body and the environment: a changing view. *Science & Education (Springer)*, 29(4):1093–1096, August 2020. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). See correction [1801].

Mohan:2020:NSN

- [1732] Ashwin Mohan and Gregory J. Kelly. Nature of science and nature of scientists. *Science & Education (Springer)*, 29(5):1097–1116, October 2020. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Fooladi:2020:BEO

- [1733] Erik C. Fooladi. Between education and opinion-making. *Science & Education (Springer)*, 29(5):1117–1138, October 2020. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-020-00156-0.pdf>.

Lombard:2020:BER

- [1734] François Lombard, Daniel K. Schneider, Marie Merminod, and Laura Weiss. Balancing emotion and reason to develop critical thinking about popularized neurosciences. *Science & Education (Springer)*, 29(5):1139–1176, October 2020. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-020-00154-2.pdf>.

Dempster:2020:WKW

- [1735] Edith R. Dempster. What knowledge is worth knowing? *Science & Education (Springer)*, 29(5):1177–1199, October 2020. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Alisir:2020:ERH

- [1736] Zeynep Neslihan Alisir and Serhat Irez. The effect of replicating historical scientific apparatus on high school students' attitudes towards

science and their understanding of nature of science. *Science & Education (Springer)*, 29(5):1201–1234, October 2020. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Fuertes-Prieto:2020:PST

- [1737] Miguel Ángel Fuertes-Prieto, Santiago Andrés-Sánchez, Diego Corrochano-Fernández, Carmen Urones-Jambrina, Ma. Laura Delgado-Martín, Pablo Herrero-Tejón, and Camilo Ruiz. Pre-service teachers' false beliefs in superstitions and pseudosciences in relation to science and technology. *Science & Education (Springer)*, 29(5):1235–1254, October 2020. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Eren-Sisman:2020:STP

- [1738] Ece N. Eren-Şişman, Ceyhan Çiğdemöglü, Uygur Kanlı, and Fitnat Köseoğlu. Science teachers' professional development about science centers. *Science & Education (Springer)*, 29(5):1255–1290, October 2020. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Jimenez-Liso:2020:CHW

- [1739] Maria Rut Jiménez-Liso, Luisa López-Banet, and Justin Dillon. Changing how we teach acid–base chemistry. *Science & Education (Springer)*, 29(5):1291–1315, October 2020. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-020-00142-6.pdf>.

Picon:2020:CPS

- [1740] Raúl Orduña Picón, Hannah Sevian, and Eduardo F. Mortimer. Conceptual profile of substance. *Science & Education (Springer)*, 29(5):1317–1360, October 2020. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Landa:2020:SPS

- [1741] Ilse Landa, Hanna Westbroek, Fred Janssen, Jacqueline van Muijlwijk, and Martijn Meeter. Scientific perspectivism in secondary-school chemistry education. *Science & Education (Springer)*, 29(5):1361–1388, October 2020. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-020-00145-3.pdf>.

Ha:2020:CDC

- [1742] Sangwoo Ha and Minchul Kim. Challenges of designing and carrying out laboratory experiments about Newton's second law. *Science & Education*

(*Springer*), 29(5):1389–1416, October 2020. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Lampert:2020:TNS

- [1743] Yvonne Lampert. Teaching the nature of science from a philosophical perspective. *Science & Education (Springer)*, 29(5):1417–1439, October 2020. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Reiss:2020:WIH

- [1744] Michael J. Reiss. But who is it for? The history of school science in England. *Science & Education (Springer)*, 29(5):1441–1446, October 2020. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Bizzo:2020:BEC

- [1745] Nelio Bizzo. Biological evolution and children’s books: Whimsical storytelling and Darwinian origins. *Science & Education (Springer)*, 29(5):1447–1450, October 2020. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Donovan:2020:GI

- [1746] Brian Donovan and Ross H. Nehm. Genetics and identity. *Science & Education (Springer)*, 29(6):1451–1458, December 2020. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-020-00180-0.pdf>.

Willinsky:2020:CRH

- [1747] John Willinsky. The confounding of race in high school biology textbooks, 2014–2019. *Science & Education (Springer)*, 29(6):1459–1476, December 2020. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). See correction [1748].

Willinsky:2020:CCR

- [1748] John Willinsky. Correction to: The confounding of race in high school biology textbooks, 2014-2019. *Science & Education (Springer)*, 29(6):1477–1478, December 2020. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-020-00114-w.pdf>. See [1747].

Donovan:2020:BHG

- [1749] Brian M. Donovan, Monica Weindling, and Dennis M. Lee. From basic to humane genomics literacy. *Science & Education (Springer)*, 29(6):1479–1511, December 2020. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Tawa:2020:DSC

- [1750] John Tawa. Does social constructionist curricula both decrease essentialist and increase nominalist beliefs about race? *Science & Education (Springer)*, 29(6):1513–1540, December 2020. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Hubbard:2020:UAP

- [1751] Amelia R. Hubbard and Laurel A. Monnig. Using anthropological principles to transform the teaching of human “Difference” and genetic variation in College classrooms. *Science & Education (Springer)*, 29(6):1541–1565, December 2020. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <http://link.springer.com/content/pdf/10.1007/s11191-020-00164-0.pdf>.

Stuhlsatz:2020:ICS

- [1752] Molly A. M. Stuhlsatz, Zoë E. Buck Bracey, and Brian M. Donovan. Investigating conflation of sex and gender language in student writing about genetics. *Science & Education (Springer)*, 29(6):1567–1594, December 2020. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Morin-Chasse:2020:BGP

- [1753] Alexandre Morin-Chassé. Behavioral genetics, population genetics, and genetic essentialism. *Science & Education (Springer)*, 29(6):1595–1619, December 2020. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Tornabene:2020:MBG

- [1754] Robyn E. Tornabene, Gena C. Sbeglia, and Ross H. Nehm. Measuring belief in genetic determinism: a psychometric evaluation of the PUGGS instrument. *Science & Education (Springer)*, 29(6):1621–1657, December 2020. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

Levrini:2021:PST

- [1755] Olivia Levrini, Paola Fantini, and Giulia Tasquier. The present shock and time re-appropriation in the pandemic era. *Science & Education (Springer)*, 30(1):1–31, February 2021. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-020-00159-x>.

Soysal:2021:TS

- [1756] Yilmaz Soysal. Talking science. *Science & Education (Springer)*, 30(1):33–65, February 2021. CODEN SCEDE9. ISSN 0926-7220 (print),

1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-020-00163-1>.

Ren:2021:IPM

- [1757] Xiaohong Ren, Xiaoyan Wang, and Mengting Li. The impact of personal moral philosophies on the safe practice of students in chemistry and related majors. *Science & Education (Springer)*, 30(1):67–80, February 2021. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-020-00165-z>.

DeFeo:2021:MSF

- [1758] Dayna Jean DeFeo, Trang C. Tran, and Sarah Gerken. Mediating students' fixation with grades in an inquiry-based undergraduate biology course. *Science & Education (Springer)*, 30(1):81–102, February 2021. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-020-00161-3>.

Aydeniz:2021:DIB

- [1759] Mehmet Aydeniz, Kader Bilican, and Burcu Senler. Development of the inquiry-based science teaching efficacy scale for primary teachers. *Science & Education (Springer)*, 30(1):103–120, February 2021. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-020-00168-w>.

Li:2021:ESC

- [1760] Xiaoshan Li and Wenjing Wang. Exploring spatial cognitive process among STEM students and its role in STEM education. *Science & Education (Springer)*, 30(1):121–145, February 2021. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-020-00167-x>.

Toscano:2021:BPA

- [1761] Maurizio Toscano and John Quay. Beyond a pragmatic account of the aesthetic in science education. *Science & Education (Springer)*, 30(1):147–163, February 2021. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-020-00162-2>.

Schwartzter:2021:GPT

- [1762] Maayan Schwartzter, Michael Elazar, and Shulamit Kapon. Guiding physics teachers by following in Galileo's footsteps. *Science & Education (Springer)*, 30(1):165–179, February 2021. CODEN SCEDE9.

ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-020-00160-4>.

Paton:2021:RMM

- [1763] Michael John Paton. A review of Michael Matthews' *Feng Shui. Science & Education (Springer)*, 30(1):181–187, February 2021. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-020-00170-2>.

Kistler:2021:BRE

- [1764] Max Kistler. Book review: Elly Vintiadis, Constantin Mekios (eds): *Brute Facts, Emergence, and Scientific Explanation. Science & Education (Springer)*, 30(1):189–199, February 2021. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-020-00169-9>.

Erduran:2021:SEP

- [1765] Sibel Erduran. Science education and the pandemic, 1 year on. *Science & Education (Springer)*, 30(2):201–204, April 2021. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00201-6>. See correction [1836].

Erduran:2021:LRC

- [1766] Sibel Erduran. List of reviewers contributing to volume 29, 2020. *Science & Education (Springer)*, 30(2):205–208, April 2021. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00204-3>.

Pietrocola:2021:RSS

- [1767] Maurício Pietrocola, Ernani Rodrigues, and Samuel Schnorr. Risk society and science education. *Science & Education (Springer)*, 30(2):209–233, April 2021. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-020-00176-w>.

Saribas:2021:PST

- [1768] Deniz Saribas and Ertan Çetinkaya. Pre-service teachers' analysis of claims about COVID-19 in an online course. *Science & Education (Springer)*, 30(2):235–266, April 2021. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-020-00181-z>.

Archila:2021:PUO

- [1769] Pablo Antonio Archila, Jorge Molina, and Silvia Restrepo. Providing undergraduates with opportunities to explicitly reflect on how news articles promote the public (mis)understanding of science. *Science & Education (Springer)*, 30(2):267–291, April 2021. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-020-00175-x>.

Lee:2021:BCR

- [1770] Jun-Ki Lee, Rahmi Qurota Aini, and Sein Shin. Biological conceptualization of race. *Science & Education (Springer)*, 30(2):293–316, April 2021. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-020-00178-8>.

Klaver:2021:MPA

- [1771] Lida T. Klaver and Juliette H. Walma van der Molen. Measuring pupils' attitudes towards socioscientific issues. *Science & Education (Springer)*, 30(2):317–344, April 2021. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-020-00174-y>.

Ioannidou:2021:BHT

- [1772] Olga Ioannidou and Sibel Erduran. Beyond hypothesis testing. *Science & Education (Springer)*, 30(2):345–364, April 2021. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-020-00185-9>.

Wei:2021:PSP

- [1773] Bing Wei and Yaqing Wang. The presentation of science practice in twenty historical cases. *Science & Education (Springer)*, 30(2):365–380, April 2021. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-020-00172-0>.

Yacoubian:2021:SVN

- [1774] Hagop A. Yacoubian. Students' views of nature of science. *Science & Education (Springer)*, 30(2):381–408, April 2021. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-020-00179-7>.

Shi:2021:UET

- [1775] Xiaoming Shi. Using explicit teaching of philosophy to promote understanding of the nature of science. *Science & Education (Springer)*, 30(2):409–440, April 2021. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-020-00173-z>.

Erduran:2021:REC

- [1776] Sibel Erduran. Respect for evidence: Can science education deliver it? *Science & Education (Springer)*, 30(3):441–444, June 2021. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00245-8>.

Fackler:2021:WSD

- [1777] Ayça Fackler. When science denial meets epistemic understanding. *Science & Education (Springer)*, 30(3):445–461, June 2021. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00198-y>.

Hopkins:2021:NCS

- [1778] Kristina Hopkins. Neuroscience as a contemporary science domain to contextualize nature of science instruction. *Science & Education (Springer)*, 30(3):463–500, June 2021. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-020-00187-7>.

Moura:2021:EPC

- [1779] Cristiano B. Moura, Matheus Monteiro Nascimento, and Nathan Willig Lima. Epistemic and political confrontations around the public policies to fight COVID-19 pandemic. *Science & Education (Springer)*, 30(3):501–525, June 2021. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00193-3>. See correction [1850].

Mulvey:2021:MC

- [1780] Bridget K. Mulvey, Jennifer C. Parrish, and Erin E. Peters-Burton. Making connections. *Science & Education (Springer)*, 30(3):527–555, June 2021. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-020-00189-5>.

Valladares:2021:SLS

- [1781] Liliana Valladares. Scientific literacy and social transformation. *Science & Education (Springer)*, 30(3):557–587, June 2021. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00205-2>.

Ke:2021:DUM

- [1782] Li Ke, Troy D. Sadler, and Patricia J. Friedrichsen. Developing and using multiple models to promote scientific literacy in the context of socio-scientific issues. *Science & Education (Springer)*, 30(3):589–607, June 2021. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00206-1>.

Jardim:2021:HSP

- [1783] Wagner Tadeu Jardim, Andreia Guerra, and Hermann Schiffer. History of science in physics teaching. *Science & Education (Springer)*, 30(3):609–638, June 2021. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-020-00191-x>.

Wei:2021:ETE

- [1784] Bing Wei and Xiaomin Chen. Examining teaching emphases of history of science in award-winning science lesson plans in Macao. *Science & Education (Springer)*, 30(3):639–657, June 2021. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00208-z>.

Dai:2021:RFD

- [1785] Peng Dai, Cody Tyler Williams, and David Wÿss Rudge. Rosalind Franklin and the discovery of the structure of DNA. *Science & Education (Springer)*, 30(3):659–692, June 2021. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-020-00188-6>.

Dutta:2021:MLP

- [1786] Kishore Dutta. The Mona Lisa — a prototype for multidisciplinary science education. *Science & Education (Springer)*, 30(3):693–716, June 2021. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-020-00192-w>.

Samon:2021:RPC

- [1787] Sigal Samon and Sharona T. Levy. The role of physical and computer-based experiences in learning science using a complex systems approach. *Science & Education (Springer)*, 30(3):717–753, June 2021. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-020-00184-w>.

Bernarduzzi:2021:ARA

- [1788] Lidia Falomo Bernarduzzi, Ester Maria Bernardi, and Andrea Vai. Augmented reality application for handheld devices. *Science & Education (Springer)*, 30(3):755–773, June 2021. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00197-z>.

Kostyuchenko:2021:RTF

- [1789] Yuriy Kostyuchenko, Victor Pushkar, and Mohamed Abioui. Review of “*Theorizing the Future of Science Education Research*” Edited by Vaughan Prain and Brian Hand. *Science & Education (Springer)*, 30(3):775–778, June 2021. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00196-0>.

Yu:2021:ECM

- [1790] Shiyang Yu and Frank Zenker. An eco-cognitive model of abductive reasoning. *Science & Education (Springer)*, 30(3):779–782, June 2021. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-020-00190-y>.

Erduran:2021:MDH

- [1791] Sibel Erduran. Methodological diversity in HPS-informed science education research. *Science & Education (Springer)*, 30(4):783–784, August 2021. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00260-9>.

Archila:2021:TCL

- [1792] Pablo Antonio Archila, Giovanna Danies, and Silvia Restrepo. Towards Covid-19 literacy. *Science & Education (Springer)*, 30(4):785–808, August 2021. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00222-1>.

Basnakova:2021:DCC

- [1793] Jana Bašnáková, Vladimíra Čavojová, and Jakub Šrol. Does concrete content help people to reason scientifically? *Science & Education (Springer)*, 30(4):809–826, August 2021. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00207-0>.

Gomez:2021:EVS

- [1794] Pedro J. Sánchez Gómez. On the epistemic value of students' conceptions in science education. *Science & Education (Springer)*, 30(4):827–847, August 2021. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00211-4>.

Ekiz-Kiran:2021:AEF

- [1795] Betül Ekiz-Kiran and Sevgi Aydın-Gunbatar. Analysis of engineering elements of K–12 science standards in seven countries engaged in STEM education reform. *Science & Education (Springer)*, 30(4):849–882, August 2021. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00227-w>.

Lodi:2021:CTB

- [1796] Michael Lodi and Simone Martini. Computational thinking, between Papert and Wing. *Science & Education (Springer)*, 30(4):883–908, August 2021. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00202-5>. See correction [1851].

Noguera-Solano:2021:ETJ

- [1797] Ricardo Noguera-Solano, Juan Manuel Rodríguez-Caso, and Rosaura Ruiz-Gutiérrez. The evolutionary thought of Jean-Baptiste Lamarck. *Science & Education (Springer)*, 30(4):909–929, August 2021. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00215-0>.

Penaloza:2021:BSI

- [1798] Gonzalo Peñaloza, Charbel N. El-Hani, and Carlos Javier Mosquera-Suárez. Between scientific ideas and Christian religious beliefs. *Science & Education (Springer)*, 30(4):931–965, August 2021. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00218-x>.

Billingsley:2021:SSS

- [1799] Berry Billingsley and Mehdi Nassaji. Secondary school students' reasoning about science and personhood. *Science & Education (Springer)*, 30(4):967–991, August 2021. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00199-x>.

Hanisch:2021:CMT

- [1800] Susan Hanisch and Dustin Eirdosh. Causal mapping as a teaching tool for reflecting on causation in human evolution. *Science & Education (Springer)*, 30(4):993–1022, August 2021. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-020-00157-z>.

McEwen:2021:CCB

- [1801] Birgitta Mc Ewen. Correction to: The Connection Between the Body and the Environment: a Changing View. *Science & Education (Springer)*, 30(4):1023–1024, August 2021. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00195-1>. See [1731].

Zwart:2021:USB

- [1802] Hub Zwart. Using science biographies to understand science: Why and how? *Science & Education (Springer)*, 30(4):1025–1028, August 2021. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00221-2>.

Gontier:2021:AWF

- [1803] Nathalie Gontier. Astrobiology, the way forward. *Science & Education (Springer)*, 30(4):1029–1035, August 2021. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00223-0>.

Emden:2021:RSM

- [1804] Markus Emden. Reintroducing “the” scientific method to introduce *Scientific Inquiry* in schools? *Science & Education (Springer)*, 30(5):1037–1073, October 2021. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00235-w>.

Maia:2021:AAS

- [1805] Poliana Maia, Rosária Justi, and Monique Santos. Aspects about science in the context of production and communication of knowledge of COVID-19. *Science & Education (Springer)*, 30(5):1075–1098, October 2021. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00229-8>.

Winrich:2021:IHS

- [1806] Charles Winrich and Peter Garik. Integrating history of science in In2011service physics teacher education: Impact on teachers' practice. *Science & Education (Springer)*, 30(5):1099–1130, October 2021. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00219-w>.

Eren:2021:ESI

- [1807] Ebru Eren. Exploring science identity development of women in physics and physical sciences in higher education. *Science & Education (Springer)*, 30(5):1131–1158, October 2021. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00220-3>.

Duschl:2021:DTS

- [1808] Richard Duschl, Lucy Avraamidou, and Nathália Helena Azevedo. Data-texts in the sciences. *Science & Education (Springer)*, 30(5):1159–1181, October 2021. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00225-y>.

Kersting:2021:GBK

- [1809] Magdalena Kersting, Jesper Haglund, and Rolf Steier. A growing body of knowledge. *Science & Education (Springer)*, 30(5):1183–1210, October 2021. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00232-z>.

Kruse:2021:ISN

- [1810] Jerrid Kruse, Isaiah Kent-Schneider, and Molly Rockefeller. Investigating student nature of science views as reflections of authentic science. *Science & Education (Springer)*, 30(5):1211–1231, October 2021. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00231-0>.

Ozbay:2021:MSS

- [1811] Hatice Esma Özbay and Mustafa Serdar Köksal. Middle school students' scientific epistemological beliefs, achievements in science and intellectual risk-taking. *Science & Education (Springer)*, 30(5):1233–1252, October 2021. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00217-y>.

Quilez:2021:CPL

- [1812] Juan Quílez. Le Châtelier's principle a language, methodological and ontological obstacle: an analysis of general chemistry textbooks. *Science & Education (Springer)*, 30(5):1253–1288, October 2021. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00214-1>.

Saritas:2021:OIC

- [1813] Davut Sarıtaş, Hasan Özcan, and Agustín Adúriz-Bravo. Observation and inference in chemistry teaching: a model-based approach to the integration of the macro and submicro levels. *Science & Education (Springer)*, 30(5):1289–1314, October 2021. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00216-z>.

Neff:2021:TTE

- [1814] Mark Neff. A toolkit for (technocratic) environmental sustainability. *Science & Education (Springer)*, 30(5):1315–1318, October 2021. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00224-z>.

Matthews:2021:FSS

- [1815] Michael R. Matthews. Feng shui in science programmes. *Science & Education (Springer)*, 30(6):1319–1332, December 2021. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00281-4>.

Fernandez-Beanato:2021:FSD

- [1816] Damian Fernandez-Beanato. Feng shui and the demarcation project. *Science & Education (Springer)*, 30(6):1333–1351, December 2021. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00240-z>.

deFelipe:2021:UST

- [1817] Íñigo Ongay de Felipe. The universality of science and traditional Chinese medicine. *Science & Education (Springer)*, 30(6):1353–1370, December 2021. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00249-4>.

Paton:2021:SEF

- [1818] Michael John Paton. Science and *Fengshui*. *Science & Education (Springer)*, 30(6):1371–1386, December 2021. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00255-6>.

Song:2021:WPT

- [1819] Jinwoong Song, Jieun Chun, and Jiyeon Na. Why people trust something other than science. *Science & Education (Springer)*, 30(6):1387–1419, December 2021. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00243-w>.

Bhakthavatsalam:2021:VEA

- [1820] Sindhuja Bhakthavatsalam and Weimin Sun. A virtue epistemological approach to the demarcation problem. *Science & Education (Springer)*, 30(6):1421–1452, December 2021. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00256-5>.

Kiang:2021:TTC

- [1821] Kai Ming Kiang and Wai Man Szeto. Teaching traditional Chinese science as a part of a NOS curriculum in Hong Kong. *Science & Education (Springer)*, 30(6):1453–1472, December 2021. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00248-5>.

Zhang:2021:TFF

- [1822] Meifang Zhang and Bing Liu. The theoretical foundations of feng shui and science education in China. *Science & Education (Springer)*, 30(6):1473–1490, December 2021. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00241-y>.

Pereira:2022:EEC

- [1823] Brenda Braga Pereira, Luciano Fernandes Silva, and Janaina Roberta dos Santos. Environmental education and complexity. *Science & Education (Springer)*, 31(1):1–20, February 2022. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00228-9>.

Kuhn:2022:CYE

- [1824] Deanna Kuhn and Anahid S. Modrek. Choose your evidence. *Science & Education (Springer)*, 31(1):21–31, February 2022. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00209-y>. See correction [1825].

Kuhn:2022:CCY

- [1825] Deanna Kuhn and Anahid S. Modrek. Correction to: Choose Your Evidence. *Science & Education (Springer)*, 31(1):33, February 2022. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00269-0>. See [1824].

Gallegos-Cazares:2022:ESC

- [1826] Leticia Gallegos-Cázares, Fernando Flores-Camacho, and Elena Calderón-Canales. Elementary school children’s explanations of day and night. *Science & Education (Springer)*, 31(1):35–54, February 2022. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00230-1>.

Upahi:2022:EFK

- [1827] Johnson Enero Upahi and Umesh Ramnarain. Evidence of foundational knowledge and conjectural pathways in science learning progressions. *Science & Education (Springer)*, 31(1):55–92, February 2022. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00226-x>.

Salta:2022:STD

- [1828] Katerina Salta, Katerina Paschalidou, and Dionysios Koulougliotis. Shift from a traditional to a distance learning environment during the COVID-19 pandemic. *Science & Education (Springer)*, 31(1):93–122, February 2022. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00234-x>.

Eryasar:2022:CBE

- [1829] Arzu Sonmez Eryasar and Ahmet Kilinc. The coherence between epistemologies and SSI teaching. *Science & Education (Springer)*, 31(1):123–147, February 2022. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00200-7>.

Portugal:2022:SST

- [1830] Khalil Oliveira Portugal, Sergio de Mello Arruda, and Marinez Meneghelli Passos. Strands of science teaching. *Science & Education (Springer)*, 31(1):149–171, February 2022. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00213-2>.

Park:2022:EPS

- [1831] Chulkyu Park and Hun-Gi Hong. Educational practices in Sommerfeld School. *Science & Education (Springer)*, 31(1):173–191, February 2022. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00212-3>.

Chacon-Diaz:2022:TAU

- [1832] Lucía B. Chacón-Díaz. A textbook analysis to uncover the hidden contributors of science and mathematics. *Science & Education (Springer)*, 31(1):193–211, February 2022. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00246-7>.

Larison:2022:BC

- [1833] Karen D. Larison. On beyond constructivism. *Science & Education (Springer)*, 31(1):213–239, February 2022. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00237-8>.

Philip:2022:INS

- [1834] Rachel Philip. India’s National Science Talent Search Examination (1963–1976). *Science & Education (Springer)*, 31(1):241–263, February 2022. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00210-5>.

Zidny:2022:CMP

- [1835] Robby Zidny, Jesper Sjöström, and Ingo Eilks. Correction to: A Multi-Perspective Reflection on How Indigenous Knowledge and Related Ideas Can Improve Science Education for Sustainability. *Science & Education (Springer)*, 31(1):265–266, February 2022. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00194-2>. See [1685].

Erduran:2022:CSE

- [1836] Sibel Erduran. Correction to: Science education and the pandemic, 1 year on. *Science & Education (Springer)*, 31(1):267, February 2022. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00247-6>. See [1765].

Chion:2022:SH

- [1837] Andrea Revel Chion and Agustín Adúriz-Bravo. In sickness and in health. *Science & Education (Springer)*, 31(2):269–291, April 2022. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00258-3>.

Bichara:2022:WDC

- [1838] David B. Bichara, Zoubeida R. Dagher, and Hui Fang. What do COVID-19 tweets reveal about public engagement with nature of science? *Science & Education (Springer)*, 31(2):293–323, April 2022. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00233-y>.

Han-Tosunoglu:2022:EPS

- [1839] Cigdem Han-Tosunoglu and Ferah Ozer. Exploring pre-service biology teachers' informal reasoning and decision-making about COVID-19. *Science & Education (Springer)*, 31(2):325–355, April 2022. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00272-5>.

Antink-Meyer:2022:TIE

- [1840] Allison Antink-Meyer and Anna Maria Arias. Teachers' incorporation of epistemic practices in K–8 engineering and their views about the nature of engineering knowledge. *Science & Education (Springer)*, 31(2):357–382, April 2022. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00265-4>.

Ortiz-Revilla:2022:TFI

- [1841] Jairo Ortiz-Revilla, Ileana M. Greca, and Irene Arriasecq. A theoretical framework for integrated STEM education. *Science & Education (Springer)*, 31(2):383–404, April 2022. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00242-x>.

Lopez:2022:MKA

- [1842] Ana Isabel Morales López and Paula Tuzón Marco. Misconceptions, knowledge, and attitudes towards the phenomenon of radioactivity. *Science & Education (Springer)*, 31(2):405–426, April 2022. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00251-w>.

Pereira:2022:DPQ

- [1843] Aleksandro Pereira and Jordi Solbes. The dynamics of perspective in quantum physics. *Science & Education (Springer)*, 31(2):427–450, April 2022. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00252-9>.

Meli:2022:MBC

- [1844] Kalliopi Meli, Dimitrios Koliopoulos, and Konstantinos Lavidas. A model-based constructivist approach for bridging qualitative and quantitative aspects in teaching and learning the First Law of Thermodynamics. *Science & Education (Springer)*, 31(2):451–485, April 2022. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00262-7>.

Chowdhury:2022:BST

- [1845] TBM Chowdhury, Jack Holbrook, and Miia Rannikmäe. Bangladeshi science teachers' perceived importance and perceived current practices in promoting science education through a context-based, socio-scientific framework. *Science & Education (Springer)*, 31(2):487–523, April 2022. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00236-9>.

Alghamdi:2022:BSF

- [1846] Amani Khalaf H. Alghamdi and Wadha Habbab Alotaibi. Bringing science fiction story writing to Saudi science education. *Science & Education*

(*Springer*), 31(2):525–541, April 2022. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00254-7>.

Chen:2022:UBR

- [1847] Ying-Chih Chen. Is uncertainty a barrier or resource to advance science? The role of uncertainty in science and its implications for science teaching and learning. *Science & Education (Springer)*, 31(2):543–549, April 2022. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00244-9>.

Desmond:2022:PDL

- [1848] Hugh Desmond. Purpose is dead, long live purpose! *Science & Education (Springer)*, 31(2):551–554, April 2022. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00271-6>.

Chen:2022:PCP

- [1849] Zhihui Chen and Ruixing Ye. Principles of creative problem solving in AI systems. *Science & Education (Springer)*, 31(2):555–557, April 2022. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00270-7>.

Moura:2022:CEP

- [1850] Cristiano B. Moura, Matheus Monteiro Nascimento, and Nathan Willig Lima. Correction to: Epistemic and political confrontations around the public policies to fight COVID-19 pandemic. *Science & Education (Springer)*, 31(2):559, April 2022. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00275-2>. See [1779].

Lodi:2022:CCT

- [1851] Michael Lodi and Simone Martini. Correction to: Computational thinking, between Papert and Wing. *Science & Education (Springer)*, 31(2):561–562, April 2022. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00268-1>. See [1796].

Erduran:2022:TPT

- [1852] Sibel Erduran. Too philosophical, therefore useless for science education? *Science & Education (Springer)*, 31(3):563–567, June 2022. CODEN

SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00340-4>.

Erduran:2022:LRC

- [1853] Sibel Erduran. List of reviewers contributing to volume 30, 2021. *Science & Education (Springer)*, 31(3):569–573, June 2022. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00347-x>.

Brohinsky:2022:DA

- [1854] Jais Brohinsky, Gerhard Sonnert, and Philip Sadler. The Devil’s advocate. *Science & Education (Springer)*, 31(3):575–596, June 2022. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00264-5>.

Ginnobili:2022:DWD

- [1855] Santiago Ginnobili, Leonardo González Galli, and Yefrin Ariza. Do what Darwin did. *Science & Education (Springer)*, 31(3):597–617, June 2022. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-020-00186-8>.

Gu:2022:IPE

- [1856] Chao Gu and Yi Feng. Influence of public engagement with science on scientific information literacy during the COVID-19 pandemic. *Science & Education (Springer)*, 31(3):619–633, June 2022. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00261-8>.

Penn:2022:SAG

- [1857] Mafor Penn and Umesh Ramnarain. South African grade 12 science students’ understandings of scientific inquiry. *Science & Education (Springer)*, 31(3):635–656, June 2022. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00259-2>.

Davidson:2022:CST

- [1858] Shannon G. Davidson, Lama Z. Jaber, and Sherry A. Southerland. Cultivating science teachers’ understandings of science as a discipline. *Science & Education (Springer)*, 31(3):657–683, June 2022. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00276-1>.

Garcia-Carmona:2022:SST

- [1859] Antonio García-Carmona. Spanish science teacher educators' preparation, experiences, and views about nature of science in science education. *Science & Education (Springer)*, 31(3):685–711, June 2022. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00263-6>.

Erumit:2022:UCL

- [1860] Banu Avsar Erumit and Valarie L. Akerson. Using children's literature in the middle school science class to teach nature of science. *Science & Education (Springer)*, 31(3):713–737, June 2022. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00274-3>.

Soysal:2022:MSS

- [1861] Yilmaz Soysal. Middle school science teachers' discursive purposes and talk moves in supporting students' experiments. *Science & Education (Springer)*, 31(3):739–785, June 2022. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00266-3>.

Oberg:2022:TSP

- [1862] Gunilla Öberg, Alice Campbell, and Ashley Welsh. Teaching science as a process, not a set of facts. *Science & Education (Springer)*, 31(3):787–817, June 2022. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00253-8>.

Salimpour:2022:CI

- [1863] Saeed Salimpour and Michael T. Fitzgerald. The cosmic interaction. *Science & Education (Springer)*, 31(3):819–849, June 2022. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00250-x>.

Reis:2022:ESE

- [1864] Giuliano Reis. Education for sustainability and environment: Searching for the *Perfect Plate*. *Science & Education (Springer)*, 31(3):851–854, June 2022. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00273-4>.

Kolovou:2022:LPR

- [1865] Maria Kolovou. Lessons from the past: Reviewing *How We Teach Science, What's Changed, and Why It Matters*. *Science & Education (Springer)*, 31(3):855–859, June 2022. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00267-2>.

Archila:2022:UCH

- [1866] Pablo Antonio Archila, Jorge Molina, Giovanna Danies, Anne-Marie Truscott de Mejía, and Silvia Restrepo. Using the controversy over human race to introduce students to the identification and the evaluation of arguments. *Science & Education (Springer)*, 31(4):861–892, August 2022. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00299-8>.

Stroupe:2022:LLU

- [1867] David Stroupe and Heidi B. Carlone. Leaving the laboratory: Using field science to disrupt and expand historically enduring narratives of science teaching and learning. *Science & Education (Springer)*, 31(4):893–921, August 2022. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00296-x>.

Upegui:2022:ITS

- [1868] David Upegui, Julie Coiro, Stefan Battle, Rudolf Kraus, and David Fastovsky. Integration of the topic of social justice into high school biology curricula. *Science & Education (Springer)*, 31(4):923–941, August 2022. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00287-y>.

Wei:2022:ENP

- [1869] Bing Wei, Zhimeng Jiang, and Lichun Gai. Examining the nature of practical work in school science textbooks: Coverage of the diversity of scientific methods. *Science & Education (Springer)*, 31(4):943–960, August 2022. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00294-z>.

Pronskikh:2022:ETA

- [1870] Vitaly Pronskikh and Galina V. Sorina. Expert text analysis in the inclusion of history and philosophy of science in higher education. *Science*

Science & Education (Springer), 31(4):961–975, August 2022. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00280-5>.

Gerrits:2022:ERR

- [1871] Elianne M. Gerrits, Annelien L. Bredenoord, and Marc H. W. van Mil. Educating for responsible research practice in biomedical sciences. *Science & Education (Springer)*, 31(4):977–996, August 2022. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00295-y>.

Ewen:2022:CRA

- [1872] Birgitta Mc Ewen. Construction of a review about epigenetics for biology teachers and other non-experts. *Science & Education (Springer)*, 31(4):997–1026, August 2022. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00278-z>.

Ferreira:2022:MLP

- [1873] Eric Batista Ferreira and Frederico Augusto Toti. Multivariate and longitudinal profile of Brazilian journals on science education from 2013 to 2019. *Science & Education (Springer)*, 31(4):1027–1046, August 2022. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00279-y>.

Daneshpour:2022:ATE

- [1874] Hosein Daneshpour and Ebo Kwegyir-Afful. Analysing transdisciplinary education: a scoping review. *Science & Education (Springer)*, 31(4):1047–1074, August 2022. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00277-0>.

dosSantos:2022:OFA

- [1875] Giovana Blitzkow Scucato dos Santos, Débora Amaral Taveira Mello, and Marcos Cesar Danhoni Neves. Our friend the atom. *Science & Education (Springer)*, 31(4):1075–1099, August 2022. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00284-1>.

Erduran:2022:TSSa

- [1876] Sibel Erduran. Trust in science and science education — part 1. *Science & Education (Springer)*, 31(5):1101–1104, October 2022. CODEN

SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00386-4>.

Herman:2022:SIT

- [1877] Benjamin C. Herman, Michael P. Clough, and Asha Rao. Socioscientific issues thinking and action in the midst of science-in-the-making. *Science & Education (Springer)*, 31(5):1105–1139, October 2022. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00306-y>.

Blancke:2022:TMI

- [1878] Stefaan Blancke and Maarten Boudry. “Trust me, I’m a scientist”. *Science & Education (Springer)*, 31(5):1141–1154, October 2022. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00373-9>.

Covitt:2022:UTU

- [1879] Beth A. Covitt and Charles W. Anderson. Untangling trustworthiness and uncertainty in science. *Science & Education (Springer)*, 31(5):1155–1180, October 2022. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00322-6>.

Develaki:2022:TSD

- [1880] Maria Develaki. Trustworthiness of science in debate: Challenges, responses, and implications. *Science & Education (Springer)*, 31(5):1181–1208, October 2022. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00300-4>.

Cobern:2022:DWE

- [1881] William W. Cobern, Betty AJ Adams, Brandy A-S. Pleasants, Andrew Bentley, and Robert Kagumba. Do we have a *Trust* problem? Exploring undergraduate student views on the tentativeness and trustworthiness of science. *Science & Education (Springer)*, 31(5):1209–1238, October 2022. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00292-1>.

Rosenberg:2022:MSU

- [1882] Joshua M. Rosenberg, Marcus Kubsch, Eric-Jan Wagenmakers, and Mine Dogucu. Making sense of uncertainty in the science classroom. *Science & Education (Springer)*, 31(5):1239–1262, October 2022. CODEN

SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00341-3>.

Reiss:2022:TSE

- [1883] Michael J. Reiss. Trust, science education and vaccines. *Science & Education (Springer)*, 31(5):1263–1280, October 2022. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00339-x>.

Mugaloglu:2022:ERT

- [1884] Ebru Zeynep Muğaloğlu, Zeynep Kaymaz, Muhammet Emin Mısır, and Canan Laçın-Şimşek. Exploring the role of trust in scientists to explain health-related behaviors in response to the COVID-19 pandemic. *Science & Education (Springer)*, 31(5):1281–1309, October 2022. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00323-5>.

Valladares:2022:PTE

- [1885] Liliana Valladares. Post-truth and education. *Science & Education (Springer)*, 31(5):1311–1337, October 2022. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00293-0>.

Mattos:2022:PDF

- [1886] Cristiano Mattos, Felipe Sanches Lopez, José Luis Ortega, and André Rodrigues. The public discussion on Flat Earth Movement. *Science & Education (Springer)*, 31(5):1339–1361, October 2022. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00321-7>.

Lima:2022:OEW

- [1887] Nathan Willig Lima and Matheus Monteiro Nascimento. Not only *Why* but also *How* to trust science: Reshaping science education based on science studies for a better post-pandemic world. *Science & Education (Springer)*, 31(5):1363–1382, October 2022. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00303-1>.

Platts:2022:FFB

- [1888] Ellen J. Platts, Bridget Kerner, Nick Adams, and Jan-Michael Archer. FEW and far between. *Science & Education (Springer)*, 31(5):1383–1397, October 2022. CODEN SCEDE9. ISSN 0926-7220 (print),

1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00344-0>.

Rowland:2022:TMS

- [1889] Jussara Rowland, João Estevens, Aneta Krzewińska, Izabela Warwas, and Ana Delicado. Trust and mistrust in sources of scientific information on climate change and vaccines. *Science & Education (Springer)*, 31(5):1399–1424, October 2022. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00304-0>.

Erduran:2022:TSSb

- [1890] Sibel Erduran. Trust in science and science education — part 2. *Science & Education (Springer)*, 31(6):1425–1427, December 2022. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00407-2>.

Fernandez:2022:SCS

- [1891] Natalia Fernández, Federico Benitez, and Diego Romero-Maltrana. Social character of science and its connection to epistemic reliability. *Science & Education (Springer)*, 31(6):1429–1448, December 2022. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00290-3>.

Smith:2022:PTI

- [1892] Dorothy V. Smith. The problem of trust without intimacy: Education for handling expert knowledge in a neoliberal marketplace. *Science & Education (Springer)*, 31(6):1449–1474, December 2022. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00329-z>.

Allchin:2022:WSS

- [1893] Douglas Allchin. Who speaks for science? *Science & Education (Springer)*, 31(6):1475–1492, December 2022. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00257-4>.

Waight:2022:TES

- [1894] Noemi Waight, Shakhnoza Kayumova, Jennifer Tripp, and Feyza Achilova. Towards equitable, social justice criticality: Re-constructing the “Black” Box and making it transparent for the future of science and technology in science education. *Science & Education (Springer)*, 31(6):1493–1515, December 2022. CODEN SCEDE9. ISSN 0926-7220 (print),

1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00328-0>.

Piqueras:2022:EGM

- [1895] Jesús Piqueras, Marianne Achiam, Susanna Edvall, and Charlotte Ek. Ethnicity and gender in museum representations of human evolution. *Science & Education (Springer)*, 31(6):1517–1540, December 2022. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00314-y>.

Bateman:2022:EIS

- [1896] Kathryn M. Bateman, Cristina G. Wilson, Randolph T. Williams, Basil Tikoff, and Thomas F. Shipley. Explicit instruction of scientific uncertainty in an undergraduate geoscience field-based course. *Science & Education (Springer)*, 31(6):1541–1566, December 2022. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00345-z>.

Nation:2022:CCP

- [1897] Molly Trendell Nation and Allan Feldman. Climate change and political controversy in the science classroom. *Science & Education (Springer)*, 31(6):1567–1583, December 2022. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00330-6>.

Estigarribia:2022:CDT

- [1898] Lucrecia Estigarribia, Julieta Karina Torrico Chalabe, Karen Cisnero, Matías Wajner, and Leticia García-Romano. Co-design of a teaching-learning sequence to address COVID-19 as a socio-scientific issue in an infodemic context. *Science & Education (Springer)*, 31(6):1585–1627, December 2022. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00362-y>.

Duarte:2022:COS

- [1899] Newton Duarte, Luciana Massi, and Lucas André Teixeira. The committed objectivity of science and the importance of scientific knowledge in ethical and political education. *Science & Education (Springer)*, 31(6):1629–1649, December 2022. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00302-2>.

Ferguson:2022:TWR

- [1900] Sarah L. Ferguson. Teaching what is “Real” about science. *Science & Education (Springer)*, 31(6):1651–1669, December 2022. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00308-w>.

Chmielewski:2022:CRT

- [1901] Adam Chmielewski. Critical rationalism and trust in science. *Science & Education (Springer)*, 31(6):1671–1690, December 2022. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00317-9>.

Toscano:2022:TTS

- [1902] Maurizio Toscano and Victoria Millar. Trust in the third space of science education. *Science & Education (Springer)*, 31(6):1691–1708, December 2022. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00356-w>.

Sun:2023:MCA

- [1903] Fuhai Sun and Ruixing Ye. Moral considerations of artificial intelligence. *Science & Education (Springer)*, 32(1):1–17, February 2023. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00282-3>.

Demetrio:2023:ILP

- [1904] Guilherme Ramos Demetrio, Uedson Pereira Jacobina, and Kim Ribeiro Barão. The impact of life philosophy and major field of study on Brazilian students’ knowledge of biological evolution. *Science & Education (Springer)*, 32(1):19–36, February 2023. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00286-z>.

Ampatzidis:2023:HDD

- [1905] Georgios Ampatzidis and Marida Ergazaki. How did Darwin prefer his tea? *Science & Education (Springer)*, 32(1):37–56, February 2023. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00305-z>.

Kamphorst:2023:ERS

- [1906] Floor Kamphorst, M. J. Vollebregt, E. R. Savelsbergh, and W. R. van Joolingen. An educational reconstruction of special relativity the-

ory for secondary education. *Science & Education (Springer)*, 32(1): 57–100, February 2023. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00283-2>.

Lin:2023:HST

- [1907] Lin Lin, Qianru Song, Jingying Wang, Tao Hu, Xiaomei Ping, and Yizhou Ling. History of science in two recent versions of high school physics textbooks in China. *Science & Education (Springer)*, 32(1): 101–121, February 2023. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00307-x>.

Li:2023:LLC

- [1908] Xiaoshan Li, Yanyan Li, and Wenjing Wang. Long-lasting conceptual change in science education. *Science & Education (Springer)*, 32(1): 123–168, February 2023. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00288-x>.

Bloor:2023:MEV

- [1909] Tracy Bloor and Jérôme Santini. Modeling the epistemic value of classroom practice in the investigation of effective learning. *Science & Education (Springer)*, 32(1):169–197, February 2023. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00298-9>.

Vazquez-Bernal:2023:MTC

- [1910] Bartolomé Vázquez-Bernal and Roque Jiménez-Pérez. Modeling a theoretical construct on pupils' difficulties in problem solving. *Science & Education (Springer)*, 32(1):199–229, February 2023. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00289-w>.

Inez:2023:MTA

- [1911] Tiago Guimarães Inêz, Breno Pascal de Lacerda Brito, and Charbel N. El-Hani. A model for teaching about the nature of science in the context of biological education. *Science & Education (Springer)*, 32(1): 231–276, February 2023. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00285-0>.

Winkelmann:2023:IMS

- [1912] Jan Winkelmann. On idealizations and models in science education. *Science & Education (Springer)*, 32(1):277–295, February 2023. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00291-2>.

Boe:2023:SUS

- [1913] Maria Vetleseter Bøe and Susanne Viefers. Secondary and university students’ descriptions of quantum uncertainty and the wave nature of quantum particles. *Science & Education (Springer)*, 32(2):297–326, April 2023. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00297-w>.

Cardinot:2023:CSN

- [1914] Douglas Cardinot, Cristiano Moura, and Andreia Guerra. Challenging the “Science from nowhere” perspective in the classroom. *Science & Education (Springer)*, 32(2):327–359, April 2023. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00311-1>.

Cetinkaya:2023:FMS

- [1915] Ertan Cetinkaya and Deniz Saribas. Facilitating middle school students’ reasoning about vaccines. *Science & Education (Springer)*, 32(2):361–380, April 2023. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00318-8>.

Tan:2023:SPS

- [1916] Aik-Ling Tan, Yann Shiou Ong, Yong Sim Ng, and Jared Hong Jie Tan. STEM problem solving: Inquiry, concepts, and reasoning. *Science & Education (Springer)*, 32(2):381–397, April 2023. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00310-2>.

Ferrasa:2023:MSF

- [1917] Ingrid Aline de Carvalho Ferrasa, Elaine Ferreira Machado, Awdry Feisser Miquelin, Ronei Clécio Mocellin, Bruna Elise Sauer Leal, Micheli Kuchla, Luciane Kawa Reis Oliveira, and Adriane Marie Salm Coelho. Mary Shelley’s *Frankenstein*. *Science & Education (Springer)*, 32(2):399–420, April 2023. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00309-9>.

Seker:2023:TPS

- [1918] Fatih Şeker and Bahattin Aydinli. A trial patch to sustainable development. *Science & Education (Springer)*, 32(2):421–446, April 2023. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00315-x>.

Manz:2023:QEA

- [1919] Eve Manz and Betsy Beckert. Quantification in empirical activity. *Science & Education (Springer)*, 32(2):447–480, April 2023. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00301-3>.

Dudas:2023:ECC

- [1920] Cecilia Dudas, Carl-Johan Rundgren, and Iann Lundegård. Exploratory considerations in chemistry education — didactic modelling for complexity in students' discussions. *Science & Education (Springer)*, 32(2):481–498, April 2023. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00316-w>.

Karaman:2023:TCA

- [1921] Ayhan Karaman. Teachers' conceptions about science and pseudoscience. *Science & Education (Springer)*, 32(2):499–528, April 2023. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00312-0>.

Adal:2023:IPS

- [1922] Elif Ece Adal and Jale Cakiroglu. Investigation of preservice science teachers' nature of science understanding and decision making on socioscientific issue through the fractal model. *Science & Education (Springer)*, 32(2):529–565, April 2023. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00319-1>.

Almeida:2023:AAS

- [1923] Beatriz Almeida, Monique Santos, and Rosária Justi. Aspects and abilities of science literacy in the context of nature of science teaching. *Science & Education (Springer)*, 32(3):567–587, June 2023. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00324-4>.

Wang:2023:IPS

- [1924] Manman Wang, Shoubao Gao, Weiling Gui, Jianqiang Ye, and Shuaishuai Mi. Investigation of pre-service teachers' conceptions of the nature of science based on the LDA model. *Science & Education (Springer)*, 32(3):589–615, June 2023. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00332-4>.

Keren:2023:SAS

- [1925] Lior Keren and Shulamit Kapon. Stereotypical attributes of scientists and engineers in jokes. *Science & Education (Springer)*, 32(3):617–634, June 2023. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00364-w>.

Archila:2023:UDE

- [1926] Pablo Antonio Archila, Anne-Marie Truscott de Mejía, and Silvia Restrepo. Using drama to enrich students' argumentation about genetically modified foods. *Science & Education (Springer)*, 32(3):635–668, June 2023. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00346-y>.

Anisa:2023:SAS

- [1927] Anisa, Ari Widodo, Riandi, and Muslim. Students' argumentation in science lessons. *Science & Education (Springer)*, 32(3):669–687, June 2023. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00320-8>.

Soysal:2023:QIE

- [1928] Yilmaz Soysal. Quality indicators of an experienced middle school science teacher's argument-based inquiry teaching. *Science & Education (Springer)*, 32(3):689–736, June 2023. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00327-1>.

Galili:2023:SLD

- [1929] Igal Galili and Ehud Goren. Summary lecture as a delay organizer of cultural content knowledge. *Science & Education (Springer)*, 32(3):737–786, June 2023. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00348-w>.

Ozer:2023:EPS

- [1930] Ferah Özer and Deniz Saribaş. Exploring pre-service science teachers' understanding of scientific inquiry and scientific practices through a laboratory course. *Science & Education (Springer)*, 32(3):787–820, June 2023. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00325-3>.

Lockard:2023:TML

- [1931] Joe Lockard and Peter Goggin. Teaching Mars literature. *Science & Education (Springer)*, 32(3):821–844, June 2023. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00333-3>.

Wang:2023:HTF

- [1932] Shutao Wang, Yaoyao Chen, Xinlei Lv, and Jianmei Xu. Hot topics and frontier evolution of science education research: a bibliometric mapping from 2001 to 2020. *Science & Education (Springer)*, 32(3):845–869, June 2023. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00337-z>.

Klymkowsky:2023:GC

- [1933] Michael Klymkowsky. Genetics in context. *Science & Education (Springer)*, 32(3):871–876, June 2023. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00326-2>.

Erduran:2023:CES

- [1934] Sibel Erduran. Cobra effect in science education? *Science & Education (Springer)*, 32(4):877–878, August 2023. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-023-00453-4>.

Li:2023:ESM

- [1935] Baoyu Li, Jesper Sjöström, Bangping Ding, and Ingo Eilks. Education for sustainability meets Confucianism in science education. *Science & Education (Springer)*, 32(4):879–908, August 2023. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00349-9>.

Fernandez-Carro:2023:MAB

- [1936] Remo Fernández-Carro, José Eduardo Vílchez, José Miguel Vílchez-González, and Ángel Ezquerro. Multivariate analysis of beliefs in pseudoscience and superstitions among pre-service teachers in Spain. *Science & Education (Springer)*, 32(4):909–925, August 2023. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00354-y>.

Brock:2023:JLT

- [1937] Richard Brock and Kostas Kampourakis. A justification of legitimate teleological explanations in physics education. *Science & Education (Springer)*, 32(4):927–945, August 2023. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00358-8>.

Herman:2023:PYL

- [1938] Benjamin C. Herman, Sarah V. Poor, Robert T. Oertli, and Kristen Schulte. Promoting young learners' NOS views through place-based SSI instruction. *Science & Education (Springer)*, 32(4):947–992, August 2023. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00353-z>.

Aduriz-Bravo:2023:AMI

- [1939] Agustín Adúriz-Bravo and Alger Sans Pinillos. Abduction as a mode of inference in science education. *Science & Education (Springer)*, 32(4):993–1020, August 2023. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00366-8>.

Schriebl:2023:MAS

- [1940] Daniela Schriebl, Andreas Müller, and Nicolas Robin. Modelling authenticity in science education. *Science & Education (Springer)*, 32(4):1021–1048, August 2023. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00355-x>.

Edgerly:2023:IET

- [1941] Hallie Edgerly, Jerrid Kruse, and Jesse Wilcox. Investigating elementary teachers' views, implementation, and longitudinal enactment of nature of science instruction. *Science & Education (Springer)*, 32(4):1049–1073, August 2023. CODEN SCEDE9. ISSN 0926-7220 (print),

1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00343-1>.

Buber:2023:DNS

- [1942] Ayse Buber and Gul Unal Coban. The development of nature of science understandings questionnaire within associated approaches. *Science & Education (Springer)*, 32(4):1075–1137, August 2023. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00357-9>.

Skoumios:2023:DPS

- [1943] Michael Skoumios. Developing primary school students' abilities to evaluate the evidence of written scientific arguments. *Science & Education (Springer)*, 32(4):1139–1164, August 2023. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00352-0>.

Demircioglu:2023:DSC

- [1944] Tuba Demircioglu, Memet Karakus, and Sedat Ucar. Developing students' critical thinking skills and argumentation abilities through augmented reality-based argumentation activities in science classes. *Science & Education (Springer)*, 32(4):1165–1195, August 2023. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00369-5>.

Mello:2023:MBA

- [1945] Débora Amaral Taveira Mello, Marcos Cesar Danhoni Neves, Alexandre José Tuoto Silveira Mello, and Giovana Blitzkow Scucato dos Santos. A model-based analysis of the Museo Galileo Interactive Area. *Science & Education (Springer)*, 32(4):1197–1219, August 2023. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00360-0>.

Barak:2023:FRA

- [1946] Miri Barak. Family resemblance approach in science education. *Science & Education (Springer)*, 32(5):1221–1225, October 2023. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-023-00456-1>.

Irzik:2023:RFF

- [1947] Gürol Irzik and Robert Nola. Revisiting the foundations of the family resemblance approach to nature of science: Some new ideas. *Science & Education (Springer)*, 32(5):1227–1245, October 2023. CODEN

SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00375-7>.

Dagher:2023:FFW

- [1948] Zoubeida R. Dagher and Sibel Erduran. To FRA or not to FRA: What is the question for science education? *Science & Education (Springer)*, 32(5):1247–1264, October 2023. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-023-00425-8>.

Park:2023:TLR

- [1949] Wonyong Park and Richard Brock. Is there a limit to resemblances? *Science & Education (Springer)*, 32(5):1265–1286, October 2023. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00394-4>.

Satanassi:2023:EBI

- [1950] Sara Satanassi, Laura Branchetti, Paola Fantini, Rachele Casarotto, Martina Caramaschi, Eleonora Barelli, and Olivia Levrini. Exploring the boundaries in an interdisciplinary context through the family resemblance approach: The dialogue between physics and mathematics. *Science & Education (Springer)*, 32(5):1287–1320, October 2023. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-023-00439-2>.

Takriti:2023:TUS

- [1951] Rachel Takriti, Hassan Tairab, Najwa Alhosani, Hala Elhoweris, Lindsay Schofield, Lutfieh Rabbani, and Iman AlAmirah. Toward understanding science as a whole. *Science & Education (Springer)*, 32(5):1321–1361, October 2023. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00404-5>.

Voss:2023:IDP

- [1952] Sarah Voss, Isaiah Kent-Schneider, Jerrid Kruse, and Ren Daemicke. Investigating the development of preservice science teachers' nature of science instructional views across rings of the family resemblance approach wheel. *Science & Education (Springer)*, 32(5):1363–1399, October 2023. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-023-00418-7>.

Demirel:2023:STV

- [1953] Zeynep Merve Demirel, Semra Sungur, and Jale Çakıroğlu. Science teachers' views on the nature of science and its integration into instruction. *Science & Education (Springer)*, 32(5):1401–1433, October 2023. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00409-0>.

Cilekrenkli:2023:LSC

- [1954] Ayşegül Çilekrenkli and Ebru Kaya. Learning science in context: Integrating a holistic approach to nature of science in the lower secondary classroom. *Science & Education (Springer)*, 32(5):1435–1469, October 2023. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00336-0>.

Goren:2023:HSU

- [1955] Dilara Goren and Ebru Kaya. How is students' understanding of nature of science related with their metacognitive awareness? *Science & Education (Springer)*, 32(5):1471–1496, October 2023. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00381-9>.

Berntsen:2023:LTE

- [1956] Madelene Losvik Berntsen, Camilla Berge Vik, and Annette Lykkesnes. Let them research with. *Science & Education (Springer)*, 32(5):1497–1513, October 2023. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-023-00426-7>.

Okan:2023:EIN

- [1957] Beyza Okan and Ebru Kaya. Exploring the inclusion of nature of science in Turkish middle school science textbooks. *Science & Education (Springer)*, 32(5):1515–1535, October 2023. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00371-x>.

Yeh:2023:RNS

- [1958] Yi-Fen Yeh, Thasmai Dhurumraj, and Umesh Ramnarain. Representations of the nature of science in South African physical sciences textbooks on electricity and magnetism. *Science & Education (Springer)*, 32(5):1537–1559, October 2023. CODEN SCEDE9. ISSN 0926-7220 (print),

1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00370-y>.

Kostol:2023:NSN

- [1959] Kristine Bakkemo Kostøl, Maria Vetleseter Bøe, and Aud Ragnhild Skår. Nature of science in Norway's recent curricula reform. *Science & Education (Springer)*, 32(5):1561–1581, October 2023. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00399-z>.

Fricke:2023:ENS

- [1960] Kristina Fricke and Bianca Reinisch. Evaluation of nature of science representations in biology school textbooks based on a differentiated family resemblance approach. *Science & Education (Springer)*, 32(5):1583–1611, October 2023. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-023-00444-5>.

Shi:2023:VPS

- [1961] Xiaoming Shi. The value of the philosophy of science in senior high school science education from the perspective of the nature of science. *Science & Education (Springer)*, 32(5):1613–1636, October 2023. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-023-00451-6>.

Cheung:2023:SRR

- [1962] Kason Ka Ching Cheung and Sibel Erduran. A systematic review of research on family resemblance approach to nature of science in science education. *Science & Education (Springer)*, 32(5):1637–1673, October 2023. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00379-3>.

Erduran:2023:NTW

- [1963] Sibel Erduran. No time to waste: Revisiting *Time* for science education. *Science & Education (Springer)*, 32(6):1675–1676, December 2023. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-023-00480-1>.

Bapty:2023:MIG

- [1964] Hannah Bapty. Must introductory genetics start with Mendel? *Science & Education (Springer)*, 32(6):1677–1708, December 2023. CODEN

SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00361-z>.

Pieterman-Bos:2023:IPS

- [1965] Annelies Pieterman-Bos and Marc H. W. van Mil. Integration of philosophy of science in biomedical data science education to foster better scientific practice. *Science & Education (Springer)*, 32(6):1709–1738, December 2023. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00363-x>.

Entress:2023:DNH

- [1966] Cole Entress. The disappearance of natural history, fieldwork, and live organism study from American biology teacher education. *Science & Education (Springer)*, 32(6):1739–1759, December 2023. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00351-1>.

Garrecht:2023:LSW

- [1967] Carola Garrecht, Berrit Czinczel, Marek Kretschmann, and Michael J. Reiss. ‘Should we be doing it, should we not be doing it, who could be harmed?’. *Science & Education (Springer)*, 32(6):1761–1793, December 2023. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00342-2>.

Chakravartty:2023:SKV

- [1968] Anjan Chakravartty. Scientific knowledge vs. knowledge of science. *Science & Education (Springer)*, 32(6):1795–1812, December 2023. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00376-6>.

Mueller:2023:PSC

- [1969] Stefan Mueller and Christiane S. Reiners. Pre-service chemistry teachers’ views about the tentative and durable nature of scientific knowledge. *Science & Education (Springer)*, 32(6):1813–1845, December 2023. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00374-8>.

García-Carmona:2023:IPP

- [1970] Antonio García-Carmona. Improving preservice primary teachers’ understanding of the nature of methods of science through reflective reading of news articles. *Science & Education (Springer)*, 32(6):1847–1867, December 2023. CODEN SCEDE9. ISSN 0926-7220 (print),

1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00338-y>.

Ha:2023:PET

- [1971] Heesoo Ha, Wonyong Park, and Jinwoong Song. Preservice elementary teachers' socioscientific reasoning during a decision-making activity in the context of COVID-19. *Science & Education (Springer)*, 32(6):1869–1886, December 2023. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00359-7>.

Khishfe:2023:ISC

- [1972] Rola Khishfe. Improving students' conceptions of nature of science: a review of the literature. *Science & Education (Springer)*, 32(6):1887–1931, December 2023. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00390-8>.

Erduran:2024:EHA

- [1973] Sibel Erduran. *HPS* for All in Journal's metrics. *Science & Education (Springer)*, 33(1):1–4, February 2024. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-023-00491-y>.

Valente:2024:IRC

- [1974] Bianor Valente, Paulo Maurício, and Cláudia Faria. The influence of real-context scientific activities on preservice elementary teachers' thinking and practice of nature of science and scientific inquiry. *Science & Education (Springer)*, 33(1):5–27, February 2024. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00377-5>.

Bugingo:2024:ITS

- [1975] Jean Bosco Bugingo, Lakhan Lal Yadav, Innocent Sebasaza Mugisha, and K. K. Mashood. Improving teachers' and students' views on nature of science through active instructional approaches: a review of the literature. *Science & Education (Springer)*, 33(1):29–71, February 2024. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00382-8>.

Wu:2024:ISV

- [1976] Jen-Yi Wu and Sibel Erduran. Investigating scientists' views of the family resemblance approach to nature of science in science education. *Science &*

Education (Springer), 33(1):73–102, February 2024. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-021-00313-z>.

Bickford:2024:EBC

- [1977] John H. Bickford III. Examining biology curricular resources' scientific depictions of evolution, race, sexuality, and identity. *Science & Education (Springer)*, 33(1):103–133, February 2024. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00384-6>.

Jiang:2024:EFH

- [1978] Zhimeng Jiang, Bing Wei, Sitong Chen, and Lihua Tan. Examining the formation of high school students' science identity. *Science & Education (Springer)*, 33(1):135–157, February 2024. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00388-2>.

Synak:2024:CAH

- [1979] Nikola Synak, Nikola Šabíková, and Radomír Masaryk. Correlations among high school students' beliefs about conspiracy, authoritarianism, and scientific literacy. *Science & Education (Springer)*, 33(1):159–174, February 2024. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00380-w>.

Martins:2024:AHS

- [1980] Marina Martins. Analysis of high school students' argumentative dialogues in different modelling situations. *Science & Education (Springer)*, 33(1):175–212, February 2024. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00372-w>.

Oh:2024:HSU

- [1981] Phil Seok Oh. How a student uses knowledge as a resource to solve scientific problems: a case study on science learning as rediscovery. *Science & Education (Springer)*, 33(1):213–247, February 2024. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00350-2>.

Wang:2024:CCS

- [1982] Lingfei Wang, Yueqi Yuan, and Guoyan Wang. The construction of civil scientific literacy in China from the perspective of science education.

Science & Education (Springer), 33(1):249–269, February 2024. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00367-7>.

Whitaker:2024:HH

- [1983] Elizabeth D. Whitaker and Raffaella Baccolini. Heroes and helpmeets. *Science & Education (Springer)*, 33(1):271–296, February 2024. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00378-4>.

Erduran:2024:LRC

- [1984] Sibel Erduran. List of reviewers contributing to volume 32, 2023. *Science & Education (Springer)*, 33(2):297–299, April 2024. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-024-00503-5>.

Parrish:2024:UCS

- [1985] Jennifer C. Parrish, Jacob Pleasants, Joshua W. Reid, Bridget K. Mulvey, Erin E. Peters-Burton, and Abigail Recker. Using card sort epistemic network analysis to explore preservice teachers' ideas about the nature of engineering. *Science & Education (Springer)*, 33(2):301–326, April 2024. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00395-3>.

Chen:2024:ECR

- [1986] Bo Chen, Shaoli Chen, Huinan Liu, and Xianhua Meng. Examining the changes in representations of nature of science in Chinese senior high school chemistry textbooks. *Science & Education (Springer)*, 33(2):327–346, April 2024. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00383-7>.

Wu:2024:IIT

- [1987] Wen-Hsiung Wu, Hao-Yun Kao, Wen-Cheng Yan, Yenchun Jim Wu, and Chun-Wang Wei. The impact of integrating tribal culture and science education through information and communication technology. *Science & Education (Springer)*, 33(2):347–364, April 2024. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00391-7>.

Palmgren:2024:MRM

- [1988] Elina Palmgren and Tapio Rasa. Modelling roles of mathematics in physics. *Science & Education (Springer)*, 33(2):365–382, April 2024. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00393-5>.

Huang:2024:ECT

- [1989] Xiaodong Huang and Chengche Qiao. Enhancing computational thinking skills through artificial intelligence education at a STEAM high school. *Science & Education (Springer)*, 33(2):383–403, April 2024. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00392-6>.

Salimpour:2024:AC

- [1990] Saeed Salimpour and Michael T. Fitzgerald. Astronomy and culture. *Science & Education (Springer)*, 33(2):405–426, April 2024. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00389-1>.

Anantanukulwong:2024:ESL

- [1991] Roseleena Anantanukulwong, Surasak Chiangga, Pongprapan Pongsophon, and Aik-Ling Tan. Enhancing students' learning of the concept of equilibrium through a culturally responsive inquiry of the Bulan kite. *Science & Education (Springer)*, 33(2):427–450, April 2024. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00398-0>.

Tosun:2024:ALY

- [1992] Cemal Tosun. Analysis of the last 40 years of science education research via bibliometric methods. *Science & Education (Springer)*, 33(2):451–480, April 2024. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00400-9>.

Castillo:2024:ENC

- [1993] J. William Cruz Castillo. Evolution: from nature to classroom. *Science & Education (Springer)*, 33(2):481–482, April 2024. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00387-3>.

Branch:2024:MNV

- [1994] Glenn Branch. Making a necessity of virtue in science education. *Science & Education (Springer)*, 33(2):483–487, April 2024. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00335-1>.

Levrini:2024:BFL

- [1995] Olivia Levrini, Mauricio Pietrocola, and Sibel Erduran. Breaking free from Laplace’s chains. *Science & Education (Springer)*, 33(3):489–494, June 2024. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-024-00528-w>.

Brock:2024:DNS

- [1996] Richard Brock and Wonyong Park. Distinguishing nature of science beliefs, knowledge and understandings. *Science & Education (Springer)*, 33(3):495–516, June 2024. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00368-6>.

Koumara:2024:HPI

- [1997] Anna Koumara. History of pressure implemented in a nature of science professional development program for science teachers. *Science & Education (Springer)*, 33(3):517–550, June 2024. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00401-8>.

Atakan:2024:RCA

- [1998] Mümin Atakan and Behiye Akçay. Representation of changes about nature of science in Turkish middle school science textbooks. *Science & Education (Springer)*, 33(3):551–580, June 2024. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00403-6>.

Halawa:2024:IAD

- [1999] Suarman Halawa, Ying-Shao Hsu, and Wen-Xin Zhang. Inquiry activity design from Singaporean and Indonesian physics textbooks. *Science & Education (Springer)*, 33(3):581–607, June 2024. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00396-2>.

Matthews:2024:TKS

- [2000] Michael R. Matthews. Thomas Kuhn and science education. *Science & Education (Springer)*, 33(3):609–678, June 2024. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00408-1>.

Barak:2024:NE

- [2001] Miri Barak, Tamar Ginzburg, and Sibel Erduran. Nature of engineering. *Science & Education (Springer)*, 33(3):679–697, June 2024. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00402-7>.

Wu:2024:ERA

- [2002] Haina Wu, Weijiang Gong, and Guangyu Yi. Exploration of the relationships among epistemic views of physics, conceptions of learning physics, and approaches to learning physics for college engineering students. *Science & Education (Springer)*, 33(3):699–715, June 2024. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00385-5>.

Zuccarini:2024:MRC

- [2003] Giacomo Zuccarini and Massimiliano Malgieri. Modeling and representing conceptual change in the learning of successive theories. *Science & Education (Springer)*, 33(3):717–761, June 2024. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00397-1>.

Binali:2024:HSC

- [2004] Theerapong Binali, Ching-Hwa Chang, Yen-Jung Chang, and Hsin-Yi Chang. High school and college students' graph-interpretation competence in scientific and daily contexts of data visualization. *Science & Education (Springer)*, 33(3):763–785, June 2024. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00406-3>.

Rosalino:2024:DVE

- [2005] Israel Rosalino and Ana Cláudia Kasseboehmer. Development and validation of an epistemological profile questionnaire in a museum environment. *Science & Education (Springer)*, 33(3):787–809, June 2024. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00405-4>.

Zummo:2024:CCS

- [2006] Lynne Zummo. Climate change and the social world: Discourse analysis of students' intuitive understandings. *Science & Education (Springer)*, 33(4):811–830, August 2024. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00416-1>.

Jack:2024:ESP

- [2007] Brady Michael Jack, Zuway-R. Hong, Huann shyang Lin, and Thomas J. Smith. Ecological stimuli predicting high school students' genuine interest in socio-scientific issues. *Science & Education (Springer)*, 33(4):831–851, August 2024. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00413-4>.

Izquierdo-Acebes:2024:SST

- [2008] Elisa Izquierdo-Acebes and Keith S. Taber. Secondary science teachers' instructional strategies for promoting the construction of scientific explanations. *Science & Education (Springer)*, 33(4):853–899, August 2024. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00412-5>.

Yalcin:2024:DOT

- [2009] Vakkas Yalçın. Design-oriented thinking in STEM education. *Science & Education (Springer)*, 33(4):901–922, August 2024. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00410-7>.

Raza:2024:CFI

- [2010] Kashif Raza, Simon Li, and Catherine Chua. A conceptual framework on imaginative education-based engineering curriculum. *Science & Education (Springer)*, 33(4):923–936, August 2024. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00415-2>.

Chi:2024:ST

- [2011] Shaohui Chi, Zuhao Wang, and Li Qian. Scientists in the textbook. *Science & Education (Springer)*, 33(4):937–962, August 2024. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00414-3>.

Soysal:2024:STC

- [2012] Yilmaz Soysal. Science teachers' challenging questions for encouraging students to think and speak in novel ways. *Science & Education (Springer)*, 33(4):963–1003, August 2024. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-022-00411-6>.

Kim:2024:CMO

- [2013] Minchul Kim and Sangwoo Ha. Challenging modeling for Ohm's law through open-ended in-depth inquiry. *Science & Education (Springer)*, 33(4):1005–1032, August 2024. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-023-00417-8>.

Kraus:2024:MOS

- [2014] Simon F. Kraus. The method of observation in science education: Characteristic dimensions from an educational perspective. *Science & Education (Springer)*, 33(4):1033–1068, August 2024. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-023-00422-x>.

Hsu:2024:THT

- [2015] Ying-Shao Hsu, Kai-Yu Tang, and Tzu-Chiang Lin. Trends and hot topics of STEM and STEM education: a co-word analysis of literature published in 2011–2020. *Science & Education (Springer)*, 33(4):1069–1092, August 2024. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-023-00419-6>.

Levrini:2024:SLA

- [2016] Olivia Levrini, Sibel Erduran, and Mauricio Pietrocola. Sustainability as living architecture. *Science & Education (Springer)*, 33(5):1093–1095, October 2024. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-024-00557-5>.

Ampatzidis:2024:UHS

- [2017] Georgios Ampatzidis and Marida Ergazaki. Using the history of the super-organismic-plant-community concept to help students understand the nature of science. *Science & Education (Springer)*, 33(5):1097–1116, October 2024. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-023-00433-8>.

Moura:2024:PBF

- [2018] Breno Arsioli Moura. Picturing Benjamin Franklin's kite experiment in the Nineteenth Century. *Science & Education (Springer)*, 33(5): 1117–1143, October 2024. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-023-00421-y>.

Rasa:2024:ATP

- [2019] Tapio Rasa, Jari Lavonen, and Antti Laherto. Agency and transformative potential of technology in students' images of the future. *Science & Education (Springer)*, 33(5):1145–1169, October 2024. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-023-00432-9>.

Kersting:2024:WRB

- [2020] Magdalena Kersting, Tamer G. Amin, Elias Euler, Bor Gregorcic, Jesper Haglund, Liv Kondrup Hardahl, and Rolf Steier. What is the role of the body in science education? A conversation between traditions. *Science & Education (Springer)*, 33(5):1171–1210, October 2024. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-023-00434-7>.

Archila:2024:SNS

- [2021] Pablo Antonio Archila, Silvia Restrepo, Anne-Marie Truscott de Mejía, and Jorge Molina. STEM and non-STEM misconceptions about evolution: Findings from 5 years of data. *Science & Education (Springer)*, 33(5):1211–1229, October 2024. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-023-00428-5>.

Dat:2024:ICP

- [2022] Nguyen Duc Dat, Nguyen Van Bien, and Simon Kraus. The impact of the curriculum on pre-service physics teachers' nature of science conceptions. *Science & Education (Springer)*, 33(5):1231–1256, October 2024. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-023-00430-x>.

Wiyarsi:2024:IPT

- [2023] Antuni Wiyarsi, Muammer Çalik, Erfan Priyambodo, and Dina Dina. Indonesian prospective teachers' scientific habits of mind: A cross-grade study in the context of local and global socio-scientific issues. *Science & Education (Springer)*, 33(5):1257–1283, October 2024. CODEN

SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-023-00429-4>.

Soudani:2024:EDR

- [2024] Mohamed Soudani. Epistemological and didactic reflections on teacher training in France. *Science & Education (Springer)*, 33(5):1285–1308, October 2024. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-023-00420-z>.

Fan:2024:EIB

- [2025] Ya-Ching Fan. Effectiveness of inquiry-based instructional design for developing the scientific competency and interdisciplinary knowledge of preservice elementary teachers. *Science & Education (Springer)*, 33(5):1309–1335, October 2024. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-023-00424-9>.

Kampourakis:2024:HBW

- [2026] Kostas Kampourakis. The historiography of biology and why it matters. *Science & Education (Springer)*, 33(5):1337–1339, October 2024. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-023-00423-w>.

Muchlis:2024:CEM

- [2027] Effie Efrida Muchlis and Syafdi Maizora. Curiosity empowerment for mathematics learning. *Science & Education (Springer)*, 33(5):1341–1345, October 2024. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-023-00427-6>.

Erduran:2024:CQE

- [2028] Sibel Erduran. From COVID-19 to quartile 1: Editor's reflections and farewell. *Science & Education (Springer)*, 33(6):1347–1351, December 2024. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-024-00591-3>.

Pleasants:2024:RNE

- [2029] Jacob Pleasants. Rethinking the nature of engineering: Attending to the social context of engineering. *Science & Education (Springer)*, 33(6):1353–1370, December 2024. CODEN SCEDE9. ISSN 0926-7220 (print),

1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-023-00445-4>.

Witucki:2024:ERA

- [2030] Allison Witucki, Wendy Beane, Brandy Pleasants, Peng Dai, and David Wjss Rudge. An explicit and reflective approach to teaching nature of science in a course-based undergraduate research experience. *Science & Education (Springer)*, 33(6):1371–1399, December 2024. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-023-00441-8>.

Serrano:2024:ERM

- [2031] Danya Marie Serrano, Travis Crone, and Patrick S. Williams. Exploring the role of multiplist epistemic beliefs on COVID-19 conspiracies and prevention among undergraduates. *Science & Education (Springer)*, 33(6):1401–1417, December 2024. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-023-00447-2>.

Chen:2024:CPI

- [2032] Bo Chen, Yufeng Xu, Huinan Liu, and Sihui Huang. Comparing practical items in high-stake exams in different science subjects: in view of the diversity of scientific methods. *Science & Education (Springer)*, 33(6):1419–1434, December 2024. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-023-00437-4>.

Liu:2024:FER

- [2033] Shiyao Liu, Chaonan Liu, Ala Samarapungavan, Stephanie M. Gardner, Kari L. Clase, and Nancy J. Pelaez. A framework for evidentiary reasoning in biology: Insights from laboratory courses focused on evolutionary tree-thinking. *Science & Education (Springer)*, 33(6):1435–1466, December 2024. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-023-00435-6>.

Wei:2024:RNS

- [2034] Lijun Wei, Bilin Gao, Jingying Wang, Chunming Jiang, Xufan Zhang, and Xiaomei Ping. Research on the nature of science in China’s current high school physics textbooks. *Science & Education (Springer)*, 33(6):1467–1483, December 2024. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-023-00443-6>.

Kizkapan:2024:PSS

- [2035] Oktay Kizkapan, Oğuzhan Nacaroglu, and Aslı Saylan Kırmızıgül. Pre-service science teachers' epistemic beliefs, nature of science views, and beliefs in pseudoscience. *Science & Education (Springer)*, 33(6):1485–1502, December 2024. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-023-00450-7>.

Chi:2024:RCT

- [2036] Ming Chi, Changlong Zheng, and Peng He. Reframing chemical thinking through the lens of disciplinary essential questions and perspectives for teaching and learning chemistry. *Science & Education (Springer)*, 33(6):1503–1528, December 2024. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-023-00438-3>.

Huh:2024:PLL

- [2037] Duim Huh. Politicizing 'learning by doing': Shiono Naomichi and the cultivation of the 'Japanese spirit' in primary and secondary science education in Japan from 1931–1958. *Science & Education (Springer)*, 33(6):1529–1552, December 2024. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-023-00472-1>.

Soysal:2024:EMS

- [2038] Yilmaz Soysal. Exploring middle school science teachers' error-reaction patterns by classroom discourse analysis. *Science & Education (Springer)*, 33(6):1553–1593, December 2024. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-023-00431-w>.

Nordqvist:2024:USS

- [2039] Ola Nordqvist and Anders Jidesjö. Upper secondary school science teachers' values in Sweden. *Science & Education (Springer)*, 33(6):1595–1613, December 2024. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-023-00446-3>.

Ampatzidis:2024:MEE

- [2040] Georgios Ampatzidis. A mythical exploration of evolutions and existence. *Science & Education (Springer)*, 33(6):1615–1621, December 2024. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).

(electronic). URL <https://link.springer.com/article/10.1007/s11191-023-00436-5>.

Reis:2024:LCM

- [2041] Giuliano Reis. “L’Avenir” and the courage to make the future what we need. *Science & Education (Springer)*, 33(6):1623–1625, December 2024. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-023-00448-1>.

Moura:2025:LBM

- [2042] Cristiano B. Moura. Looking back, moving forward, and strengthening HPSS scholarship in science education. *Science & Education (Springer)*, 34(1):1–9, February 2025. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-025-00617-4>.

Moura:2025:LR

- [2043] Cristiano B. Moura. List of reviewers — 2024. *Science & Education (Springer)*, 34(1):11–15, February 2025. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-025-00629-0>.

Cappelle:2025:UDC

- [2044] Vanessa Cappelle, Luiz Gustavo Franco, and Danusa Munford. Use of drawings and connections between epistemic practices in grade 1 science lessons. *Science & Education (Springer)*, 34(1):17–44, February 2025. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-023-00458-z>.

Soysal:2025:DPA

- [2045] Yilmaz Soysal. Developing a phenomenographic argument for science teacher educators’ conceptions regarding question-asking. *Science & Education (Springer)*, 34(1):45–72, February 2025. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-023-00440-9>.

Chanetsa:2025:ETA

- [2046] Tarisai Chanetsa and Umesh Ramnarain. The effect of textbook analysis as a teacher professional development tool on teacher understanding of nature of science. *Science & Education (Springer)*, 34(1):73–93, February 2025. CODEN SCEDE9. ISSN 0926-7220 (print),

1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-023-00442-7>.

Aydin-Gunbatar:2025:ENE

- [2047] Sevgi Aydın-Günbatar and Gillian H. Roehrig. Elaborating nature of engineering through family resemblance approach. *Science & Education (Springer)*, 34(1):95–127, February 2025. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-023-00452-5>.

Fingalsson:2025:LHS

- [2048] Rebecka Fingalsson and Hannele Junkala. ‘Happy stories’ of Swedish exceptionalism. *Science & Education (Springer)*, 34(1):129–151, February 2025. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-023-00454-3>.

Ha:2025:LAD

- [2049] Sangwoo Ha. Learning about different models of theory change using an adapted mystery tube activity in science teacher education. *Science & Education (Springer)*, 34(1):153–174, February 2025. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-023-00455-2>.

Saribas:2025:PTA

- [2050] Deniz Saribas. Preschool teachers’ argumentation on socioscientific issues scenarios. *Science & Education (Springer)*, 34(1):175–197, February 2025. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-023-00459-y>.

Wan:2025:EGS

- [2051] Dongsheng Wan and Yew-Jin Lee. Engineering in grades 1–9 science education standards from China. *Science & Education (Springer)*, 34(1):199–226, February 2025. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-023-00457-0>.

Garcia-Carmona:2025:STC

- [2052] Antonio García-Carmona. Scientific thinking and critical thinking in science education . *Science & Education (Springer)*, 34(1):227–245, February 2025. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-023-00460-5>.

Aksoz:2025:STA

- [2053] Busra Aksöz, Ebru Kaya, and Aysegül Çilekrenkli. A science teacher's autoethnographic reflections on teaching nature of science. *Science & Education (Springer)*, 34(1):247–280, February 2025. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-023-00462-3>.

Li:2025:RCM

- [2054] Xiaoshan Li and Chong Peng. The role of communication media in argumentative discourse. *Science & Education (Springer)*, 34(1):281–313, February 2025. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-023-00464-1>.

Gao:2025:INS

- [2055] Qianqian Gao, Yi Cao, Hongni Xie, and Xuefeng Li. Investigating the nature of science in reformed Chinese biology curriculum standards. *Science & Education (Springer)*, 34(1):315–343, February 2025. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-023-00466-z>.

Edelsztein:2025:WSS

- [2056] Valeria Edelsztein and Claudio Cormick. Who says scientific laws are not explanatory? *Science & Education (Springer)*, 34(1):345–376, February 2025. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-023-00465-0>.

Nagy:2025:CRA

- [2057] Peter Nagy, Areej Mawasi, Ed Finn, and Ruth Wylie. The chimera, the robot artist, and the cardboard hand. *Science & Education (Springer)*, 34(1):377–395, February 2025. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-023-00463-2>.

Irmak:2025:REC

- [2058] Meltem Irmak, Nilay Ozturk, Büşra Tuncay Yüksel, Birgül Çakır Yıldırım, and Güliz Karaarslan Semiz. Reasoning in the era of COVID-19 pandemic. *Science & Education (Springer)*, 34(1):397–421, February 2025. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-023-00467-y>.

Palma-Jimenez:2025:IIB

- [2059] Miriam Palma-Jiménez, Daniel Cebrián-Robles, and Ángel Blanco-López. Impact of instruction based on a validated learning progression on the argumentation competence of preservice elementary science teachers. *Science & Education (Springer)*, 34(1):423–455, February 2025. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-023-00468-x>.

Subramaniam:2025:MPS

- [2060] Karthigeyan Subramaniam. Minoritized pre-service teachers' negotiated border crossings. *Science & Education (Springer)*, 34(1):457–483, February 2025. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-023-00470-3>.

Agustian:2025:CRU

- [2061] Hendra Y. Agustian. The critical role of understanding epistemic practices in science teaching using wicked problems. *Science & Education (Springer)*, 34(1):485–510, February 2025. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-023-00471-2>.

Pshenichny-Mamo:2025:NHM

- [2062] Anna Pshenichny-Mamo and Dina Tsybulsky. Natural history museum guides' conceptions on the integration of the nature of science. *Science & Education (Springer)*, 34(1):511–529, February 2025. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-023-00469-w>.

Arao:2025:MPC

- [2063] José Araújo, Laurinda Leite, and Emília Nhalevilo. Mozambican preservice chemistry teachers' performance when analysing textbook analogies about the atom. *Science & Education (Springer)*, 34(1):531–556, February 2025. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-023-00473-0>.

Kalyon:2025:DPS

- [2064] Demet Şahin Kalyon and Yasemin Özdem Yılmaz. The development of pre-service primary teachers' understanding and skills of argumentation through argument driven inquiry. *Science & Education (Springer)*, 34(1):557–584, February 2025. CODEN SCEDE9. ISSN 0926-7220 (print),

1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-023-00474-z>.

Su:2025:RNS

- [2065] Riping Su, Zhimeng Jiang, and Bing Wei. Representations of nature of science in science textbooks. *Science & Education (Springer)*, 34(1):585–607, February 2025. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-023-00475-y>.

Fontes:2025:SEC

- [2066] Daniel Trugillo Martins Fontes and André Machado Rodrigues. Science education collaboration network: the case of the cultural–historical activity theory. *Science & Education (Springer)*, 34(1):609–629, February 2025. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-023-00479-8>.

Reis:2025:CMM

- [2067] Giuliano Reis. A conversation with Michael Matthews. *Science & Education (Springer)*, 34(1):631–634, February 2025. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-023-00449-0>.

Panayotova:2025:SVV

- [2068] Plamena Panayotova. Scientific values and the value of science. *Science & Education (Springer)*, 34(1):635–643, February 2025. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic). URL <https://link.springer.com/article/10.1007/s11191-023-00461-4>.

Anonymous:2025:JNa

- [2069] Anonymous. Journal navigation. *Science & Education (Springer)*, 34(1):??, February 2025. CODEN SCEDE9. ISSN 0926-7220 (print), 1573-1901 (electronic).