Sibel Erduran

List of Publications by Year
in descending order

144 papers	5,856 citations	193469 27 h-index	89383 70 g-index
156 all docs	156 docs citations	156 times ranked	2645 citing authors

#	Article	IF	Citations
1	Enhancing the quality of argumentation in school science. Journal of Research in Science Teaching, 2004, 41, 994-1020.	3.4	1,020
2	TAPping into argumentation: Developments in the application of Toulmin's Argument Pattern for studying science discourse. Science Education, 2004, 88, 915-933.	3.0	882
3	Learning to Teach Argumentation: Research and development in the science classroom. International Journal of Science Education, 2006, 28, 235-260.	2.0	481
4	Arguing to learn and learning to argue: Case studies of how students' argumentation relates to their scientific knowledge. Journal of Research in Science Teaching, 2008, 45, 101-131.	3.4	346
5	Argumentation in Science Education: An Overview. Science & Technology Education Library, 2007, , 3-27.	0.0	232
6	Reconceptualizing the Nature of Science for Science Education. Science and Education, 2016, 25, 147-164.	2.9	125
7	Research trends on argumentation in science education: a journal content analysis from 1998â€“2014. International Journal of STEM Education, 2015, 2, .	5.4	108
8	From FRA to RFN, or How the Family Resemblance Approach Can Be Transformed for Science Curriculum Analysis on Nature of Science. Science and Education, 2016, 25, 1115-1133.	2.9	100
9	The role of visual representations in scientific practices: from conceptual understanding and knowledge generation to â€˜seeingâ€™ how science works. International Journal of STEM Education, 2015, 2, .	5.4	92
10	The Effect of Argumentative Task Goal on the Quality of Argumentative Discourse. Science Education, 2013, 97, 497-523.	3.0	78
11	Reconceptualised family resemblance approach to nature of science in pre-service science teacher education. International Journal of Science Education, 2019, 41, 21-47.	2.0	75
12	Learning to Teach Argumentation: Case Studies of Pre-service Secondary Science Teachers. Eurasia Journal of Mathematics, Science and Technology Education, 2006, 2, 1.	1.3	74
13	Contributions of the Family Resemblance Approach to Nature of Science in Science Education. Science and Education, 2019, 28, 311-328.	2.9	65
14	Science Education in the Era of a Pandemic. Science and Education, 2020, 29, 233-235.	2.9	65
15	The Nature of Pre-service Science Teachersâ€™ Argumentation in Inquiry-oriented Laboratory Context. International Journal of Science Education, 2013, 35, 2559-2586.	2.0	61
16	The Nature of STEM Disciplines in the Science Education Standards Documents from the USA, Korea and Taiwan. Science and Education, 2020, 29, 899-927.	2.9	61
17	Interdisciplinary Characterizations of Models and the Nature of Chemical Knowledge in the Classroom. Studies in Science Education, 2004, 40, 105-138.	5.5	58
18	Methodological Foundations in the Study of Argumentation in Science Classrooms. Science & Technology Education Library, 2007, , 47-69.	0.0	57

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19	Philosophy of Chemistry: An Emerging Field with Implications for Chemistry Education. Science and Education, 2001, 10, 581-593.	2.9	56
20	Regaining focus in Irish Junior Cycle Science: potential new directions for curriculum and assessment on Nature of Science. Irish Educational Studies, 2014, 33, 335-350.	2.5	53
21	Breaking the law: promoting domain-specificity in chemical education in the context of arguing about the periodic law. Foundations of Chemistry, 2007, 9, 247-263.	1.0	48
22	Drawing Nature of Science in Pre-service Science Teacher Education: Epistemic Insight Through Visual Representations. Research in Science Education, 2018, 48, 1133-1149.	2.4	48
23	Investigating Coherence About Nature of Science in Science Curriculum Documents. Science and Education, 2019, 28, 291-310.	2.9	43
24	Developing epistemologically empowered teachers: examining the role of philosophy of chemistry in teacher education. Science and Education, 2007, 16, 975-989.	2.9	38
25	Argumentation in Science Education Research. , 2012, , 253-289.		36
26	The pedagogy of argumentation in science education: science teachersâ€™ instructional practices. International Journal of Science Education, 2017, 39, 1443-1464.	2.0	36
27	Learning Science through a Historical Approach: Does It Affect the Attitudes of Non-Science-Oriented Students towards Science?. International Journal of Science and Mathematics Education, 2005, 3, 485-507.	2.6	33
28	Reconceptualizing Nature of Science for Science Education. Contemporary Trends and Issues in Science Education, 2014, , 1-18.	0.0	30
29	Argumentation in science education as a systemic activity: An activity-theoretical perspective. International Journal of Educational Research, 2016, 79, 150-166.	2.2	30
30	Perceptions of Nature of Science Emerging in Group Discussions: a Comparative Account of Pre-service Teachers from Turkey and England. International Journal of Science and Mathematics Education, 2021, 19, 1375-1396.	2.6	30
31	Measuring informal STEM learning supports across contexts and time. International Journal of STEM Education, 2019, 6, .	5.4	29
32	Science curriculum reform in South Africa: Lessons for professional development from research on argumentation in science education. Education As Change, 2014, 18, S33-S46.	0.6	28
33	Beyond rote learning in organic chemistry: the infusion and impact of argumentation in tertiary education. International Journal of Science Education, 2017, 39, 1154-1172.	2.0	28
34	Abandoning Patchwork Approaches to Nature of Science in Science Education. Canadian Journal of Science, Mathematics and Technology Education, 2017, 17, 46-52.	1.3	28
35	Mapping the nature of science in the Italian physics curriculum: from missing links to opportunities for reform. International Journal of Science Education, 2022, 44, 115-135.	2.0	28
36	Interactions of Economics of Science and Science Education: Investigating the Implications for Science Teaching and Learning. Science and Education, 2013, 22, 2405-2425.	2.9	26

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37	Understanding aims and values of science: developments in the junior cycle specifications on nature of science and pre-service science teachersâ€™ views in Ireland. Irish Educational Studies, 2019, 38, 43-70.	2.5	24
38	Argumentation in science education as an evolving concept: Following the object of activity. Learning, Culture and Social Interaction, 2017, 14, 51-66.	1.9	23
39	Science and Religious Education Teachersâ€™ Views of Argumentation and Its Teaching. Research in Science Education, 2022, 52, 655-673.	2.4	23
40	The "tipping point" for educational research: The role of pre-service science teachersâ€™ epistemic beliefs in evaluating the professional utility of educational research. Teaching and Teacher Education, 2020, 90, 103033.	3.4	23
41	Toulminâ€™s argument pattern as a â€œhorizon of possibilitiesâ€•in the study of argumentation in science education. Cultural Studies of Science Education, 2018, 13, 1091-1099.	1.4	22
42	Looking at the Social Aspects of Nature of Science in Science Education Through a New Lens. Science and Education, 2018, 27, 457-478.	2.9	22
43	Interdisciplinarity and Science Education. , 2017, , 81-90.		21
44	Beyond Hypothesis Testing. Science and Education, 2021, 30, 345-364.	2.9	21
45	Investigating the diversity of scientific methods in high-stakes chemistry examinations in England. International Journal of Science Education, 2019, 41, 2201-2217.	2.0	20
46	Nature of â€œSTEMâ€?. Science and Education, 2020, 29, 781-784.	2.9	20
47	Applying the Philosophical Concept of Reduction to the Chemistry of Water: Implications for Chemical Education. Science and Education, 2005, 14, 161-171.	2.9	19
48	An investigation into secondary teachersâ€™ views of argumentation in science and religious education. Journal of Beliefs and Values, 2021, 42, 190-204.	0.7	19
49	Argumentation and interdisciplinarity: reflections from the Oxford Argumentation in Religion and Science Project. Disciplinary and Interdisciplinary Science Education Research, 2019, 1, .	2.9	19
50	The Role of Argumentation in Developing Scientific Literacy. , 2005, , 381-394.		17
51	Humanising the nature of science: an analysis of the science curriculum in Norway. International Journal of Science Education, 2022, 44, 1601-1618.	2.0	17
52	Cool Argument: Engineering Studentsâ€™ Written Arguments about Thermodynamics in the Context of the Peltier Effect in Refrigeration. Educacion Quimica, 2009, 20, 119-125.	0.1	16
53	Integrating Epistemological Perspectives on Chemistry in Chemical Education: The Cases of Concept Duality, Chemical Language, and Structural Explanations. Science and Education, 2013, 22, 1741-1755.	2.9	16
54	Investigating students' engagement in epistemic and narrative practices of chemistry in the context of a story on gas behavior. Chemistry Education Research and Practice, 2016, 17, 523-531.	2.7	16

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55	Understanding argumentation about socio-scientific issues on energy: a quantitative study with primary pre-service teachers in Spain. Research in Science and Technological Education, 0, , 1-21.	2.3	16
56	Guest editorial: Science studies and science education call for papers deadline: March 31, 2007. Science Education, 2006, 90, 961-964.	3.0	15
57	â€œEvaluate What I Was Taught, Not What You Expected Me to Knowâ€: Evaluating Studentsâ€™ Arguments Based on Science Teachersâ€™ Adaptations to Toulminâ€™s Argument Pattern. Journal of Science Teacher Education, 2021, 32, 306-324.	2.7	15
58	Scientific Argumentation and Deliberative Democracy: An Incompatible Mix in School Science?. Theory Into Practice, 2016, 55, 302-310.	1.8	14
59	Assessment of practical science in high stakes examinations: a qualitative analysis of high performing English-speaking countries. International Journal of Science Education, 2020, 42, 1544-1567.	2.0	14
60	From Lists in Pieces to Coherent Wholes: Nature of Science, Scientific Practices, and Science Teacher Education. , 2018, , 3-24.		14
61	Student, Teacher, and Scientist Views of the Scientific Enterprise: An Epistemic Network Re-analysis. International Journal of Science and Mathematics Education, 2023, 21, 347-375.	2.6	14
62	Nature of Science in Preservice Science Teacher Educationâ€“Case Studies of Irish Pre-service Science Teachers. Journal of Science Teacher Education, 2023, 34, 201-223.	2.7	14
63	Argumentation in science and religion: match and/or mismatch when applied in teaching and learning?. Journal of Education for Teaching, 2020, 46, 129-131.	2.1	13
64	The Impact of Collaboration Between Science and Religious Education Teachers on Their Understanding and Views of Argumentation. Research in Science Education, 2023, 53, 121-137.	2.4	13
65	A Systematic Review of Research on Family Resemblance Approach to Nature of Science in Science Education. Science and Education, 2023, 32, 1637-1673.	2.9	13
66	Laws and Explanations in Biology and Chemistry: Philosophical Perspectives and Educational Implications. , 2014, , 1203-1233.		12
67	Investigating Scientistsâ€™ Views of the Family Resemblance Approach to Nature of Science in Science Education. Science and Education, 2024, 33, 73-102.	2.9	12
68	High school studentsâ€™ perceptions of argumentation. Procedia, Social and Behavioral Sciences, 2010, 2, 3971-3975.	0.5	11
69	Ã–ÄŸretmen EÄŸitiminde Bilimin DoÄŸasÄ±: BÃ¼tÃ¼nsel Bir YaklaÅŸÄ±m. Necatibey EÄŸitim FakÃ¼ltesi Elektronik Fen Ve Matematik EÄŸitimi Dergisi, 0, , 464-501.	0.1	11
70	Practical Learning Resources and Teacher Education Strategies for understanding Nature of Science. Science: Philosophy, History and Education, 2020, , 377-397.	0.0	11
71	Nature of Engineering. Science and Education, 2024, 33, 679-697.	2.9	11
72	Philosophy, Chemistry and Education: An Introduction. Science and Education, 2013, 22, 1559-1562.	2.9	10

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73	Introduction to the Focus on â€¦ Scientific Practices. Science Education, 2015, 99, 1023-1025.	3.0	10
74	Designing practical science assessments in England: studentsâ€™ engagement and perceptions. Research in Science and Technological Education, 2023, 41, 190-210.	2.3	10
75	Recalibrating the evolution versus creationism debate for student learning: towards studentsâ€™ evaluation of evidence in an argumentation task. International Journal of Science Education, 2021, 43, 2974-2995.	2.0	10
76	Nitrite Effects on Formation of Volatile Oxidation Products from Triolein. Journal of Food Science, 1995, 60, 946-948.	3.2	9
77	Argumentation and the Learning of Science. , 2007, , 377-388.		9
78	Visualizing the Nature of Science: Beyond Textual Pieces to Holistic Images in Science Education. Contributions From Science Education Research, 2017, , 15-30.	0.0	9
79	STEM and gender at university: focusing on Irish undergraduate female studentsâ€™ perceptions. Journal of Applied Research in Higher Education, 2019, 11, 770-787.	2.0	9
80	Science communication in the media and human mobility during the COVID-19 pandemic: a time series and content analysis. Public Health, 2023, 218, 106-113.	3.0	9
81	Bringing Nuance to â€œthe Scienceâ€•in Public Policy and Science Understanding. Science and Education, 2020, 29, 487-489.	2.9	8
82	Technology-Enhanced Learning in Science. , 2009, , 121-134.		8
83	The impact of epistemic framing of teaching videos and summative assessments on studentsâ€™ learning of scientific methods. International Journal of Science Education, 2021, 43, 2885-2910.	2.0	8
84	Teachers' perceptions of Brandon's Matrix as a framework for the teaching and assessment of scientific methods in school science. Research in Science Education, 2023, 53, 193-212.	2.4	8
85	Science Education and the Pandemic, 1 Year On. Science and Education, 2021, 30, 201-204.	2.9	7
86	Secondary teachersâ€™ views about teaching and assessing the diversity of scientific methods in practical science. Journal of Education for Teaching, 2022, 48, 592-608.	2.1	7
87	Introduction to special issue: Science Studies and Science Education. Science Education, 2008, 92, 385-388.	3.0	6
88	Philosophy of Chemistry in Chemical Education: Recent Trends and Future Directions. , 2014, , 287-315.		6
89	Scientific Practices. Contemporary Trends and Issues in Science Education, 2014, , 67-89.	0.0	6
90	Enhancing teachersâ€™ STEM understanding through observation, discussion and reflection. Journal of Education for Teaching, 2022, 48, 576-591.	2.1	6

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91	Too Philosophical, Therefore Useless for Science Education?. Science and Education, 2022, 31, 563-567.	2.9	6
92	Tracing Preservice Teachersâ€™ Understanding of Nature of Science Through Their Drawings and Writing. Research in Science Education, 2023, 53, 507-523.	2.4	6
93	Communicating science in the COVID-19 news in the UK during Omicron waves: exploring representations of nature of science with epistemic network analysis. Humanities and Social Sciences Communications, 2023, 10, .	3.1	6
94	AI is transforming how science is done. Science education must reflect this change.. Science, 2023, 382, .	20.9	6
95	Exemplary Teaching of Argumentation: A Case Study of Two Science Teachers. , 2007, , 403-415.		5
96	Investigating the Epistemic Nature of STEM: Analysis of Science Curriculum Documents from the USA Using the Family Resemblance Approach. Advances in STEM Education, 2020, , 137-155.	0.0	5
97	Secondary teachersâ€™ instructional practices on argumentation in the context of science and religious education. International Journal of Science Education, 2022, 44, 1251-1276.	2.0	5
98	Nature of science in science textbooks for vocational training in Norway. Research in Science and Technological Education, 0, , 1-16.	2.3	5
99	Promoting argumentation in the context of chemistry stories. , 2015, , 143-161.		4
100	Assessment of Practical Chemistry in England: An Analysis of Scientific Methods Assessed in High-Stakes Examinations. , 2019, , 135-147.		4
101	Does Research on Nature of Science and Social Justice Intersect? Exploring Theoretical and Practical Convergence for Science Education. Science: Philosophy, History and Education, 2020, , 97-113.	0.0	4
102	Editorial Vision for Science & Education. Science and Education, 2020, 29, 1-5.	2.9	4
103	Revisiting the Nature of Science in science education: Towards a holistic account of science in science teaching and learning. European Journal of Science and Mathematics Education, 2014, 2, 14-25.	1.1	4
104	Respect for Evidence: Can Science Education Deliver It?. Science and Education, 2021, 30, 441-444.	2.9	3
105	Family Resemblance Approach to Characterizing Science. Contemporary Trends and Issues in Science Education, 2014, , 19-40.	0.0	3
106	Argumentation and intellectual humility: a theoretical synthesis and an empirical study about studentsâ€™ warrants. Research in Science and Technological Education, 2023, 41, 1350-1371.	2.3	3
107	Investigating in-service teachersâ€™ STEM literacy: the role of subject background and gender. Research in Science and Technological Education, 0, , 1-21.	2.3	3
108	Early years education teachersâ€™ perceptions of nature of science. International Journal of Science Education, 2023, 45, 613-635.	2.0	3

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109	Science Curriculum Reform on â€˜Scientific Literacy for Allâ€™ Across National Contexts: Case Studies of Curricula from England & Wales and Hong Kong. Cultural Studies of Science Education, 2013, , 179-201.	0.0	2
110	Epistemic Beliefs and Teacher Education. Science: Philosophy, History and Education, 2019, , 51-80.	0.0	2
111	Science as a Social-Institutional System. Contemporary Trends and Issues in Science Education, 2014, , 137-162.	0.0	2
112	Consolidation of conceptual change, argumentation, models and explanations. , 2017, , 151-162.		2
113	â€œItâ€™s a lesson with no correct answerâ€: design issues in preservice teachersâ€™ use of history of science for lesson planning. International Journal of Science Education, 2023, 45, 181-203.	2.0	2
114	Magnifying the Scope of Nature of Science (NOS) Toward the Whole: An Investigation of NOS Representation in Early Childhood Science Education Standards. Canadian Journal of Science, Mathematics and Technology Education, 2023, 23, 210-227.	1.3	2
115	The impact of artificial intelligence on scientific practices: an emergent area of research for science education. International Journal of Science Education, 0, , 1-8.	2.0	2
116	Emotional Modulation of Perspective Taking. , 2016, , 3-20.		1
117	Philosophy of Chemistry and Chemistry Education. Science: Philosophy, History and Education, 2019, , 1-24.	0.0	1
118	Language, Literacy and Science Learning for English Language Learners: Teacher Meta Talk Vignettes from a South African Science Classroom. , 2018, , 97-111.		1
119	Methods and Methodological Rules. Contemporary Trends and Issues in Science Education, 2014, , 91-112.	0.0	1
120	Aims and Values of Science. Contemporary Trends and Issues in Science Education, 2014, , 41-65.	0.0	1
121	Trends in Science Education Research in Turkey: A Content Analysis of Key International Journals from 1998â€“2012. , 2016, , 275-288.		1
122	Exploring the impact of positing entrepreneurship in nature of science: initial science teachers' perspectives. Education and Training, 2022, 64, 996-1017.	3.3	1
123	Investigating Pre-Service Teachersâ€™ Understanding of Nature of Science: Contributions of An Assessment Tool Based on the Reconceptualized Family Resemblance Approach. Interdisciplinary Journal of Environmental and Science Education, 2022, 18, e2290.	0.7	1
124	Policymakersâ€™ Views of Future-Oriented Skills in Science Education. Frontiers in Education, 0, 7, .	2.2	1
125	Translation and validation of a questionnaire for measuring teachersâ€™ views on nature of science. Research in Science and Technological Education, 0, , 1-16.	2.3	1
126	INTERDISCIPLINARITY FOR FUTURE-ORIENTED EDUCATION: INSIGHT FROM EDUCATIONAL RESEARCH IN ENGLAND. ICERI2019 Proceedings, 2022, , .	0.0	1

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127	Argumentation in Physics Education Research: Recent Trends and Key Themes. , 2023, , 16-1-16-32.		1
128	Defining the Epistemic Core of Chemistry. Science: Philosophy, History and Education, 2019, , 25-49.	0.0	0
129	Pre-service Chemistry Teachersâ€™ Representations and Perceptions of the Epistemic Core: A Thematic Analysis. Science: Philosophy, History and Education, 2019, , 105-128.	0.0	0
130	Learning and Teaching About Philosophy of Chemistry: Teacher Educatorsâ€™ Reflections. Science: Philosophy, History and Education, 2019, , 149-168.	0.0	0
131	Towards Development of Epistemic Identity in Chemistry Teacher Education. Science: Philosophy, History and Education, 2019, , 169-189.	0.0	0
132	List of Reviewers Contributing to Volume 29, 2020. Science and Education, 2021, 30, 205-208.	2.9	0
133	Methodological Diversity in HPS-Informed Science Education Research. Science and Education, 2021, 30, 783-784.	2.9	0
134	Funding Patterns and Priorities: An International Perspective. , 2009, , 467-509.		0
135	Towards Generative Images of Science in Science Education. Contemporary Trends and Issues in Science Education, 2014, , 163-188.	0.0	0
136	Incorporating the Epistemic Core in Teacher Education Practice. Science: Philosophy, History and Education, 2019, , 81-104.	0.0	0
137	The Impact of Teacher Education on Understanding the Epistemic Core: Focusing on One Pre-service Chemistry Teacher. Science: Philosophy, History and Education, 2019, , 129-147.	0.0	0
138	Epilogueâ€”Understanding STEM for STEM Education: Toward a Systems Approach. , 2019, , 205-213.		0
139	The Importance of Research in Science Teacher Education. , 2022, , 5-15.		0
140	List of Reviewers Contributing to Volume 30, 2021. Science and Education, 0, , 1.	2.9	0
141	Infusing epistemic perspectives on scientific practices in science teacher education. Education Et Didactique, 2023, 17, 75-92.	0.3	0
142	Using the family resemblance approach to inform STEAM education. London Review of Education, 2024, 22, .	1.8	0
143	The role of research experiences in developing pre-service teachersâ€™ epistemic beliefs. Teaching and Teacher Education, 2024, 144, 104599.	3.4	0
144	Nature of science and domain-specificity: investigating the coverage of nature of science in physics, chemistry and biology curricula across grade levels. International Journal of Science Education, 0, , 1-31.	2.0	0