Wolff-Michael Roth

List of Publications by Year
in descending order

181	9,755	31902 53	48187 88
papers	citations	h-index	g-index

198	198	198	3606
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Reflections During the COVID-19 Pandemic: Science, Education, and Everyday Life. Canadian Journal of Science, Mathematics and Technology Education, 2022, 22, 250-258.	0.6	5
2	A cultural-historical perspective on the multimodal development of concepts in science lectures. Cultural Studies of Science Education, 2020, 15, 31-70.	0.9	3
3	Zone of Proximal Development in Mathematics Education. , 2020, , 913-916.		1
4	Interdisciplinary Approaches in Mathematics Education. , 2020, , 415-419.		2
5	Activity Theory in Mathematics Education. , 2020, , 20-23.		1
6	Activity Theory in Mathematics Education. , 2019, , 1-5.		0
7	More than the code. Communications of the ACM, 2018, 61, 66-71.	3.3	37
8	STEM and Affect in Adolescence: A Cultural-Historical Approach. , 2018, , 15-36.		2
9	Interdisciplinary Approaches in Mathematics Education. , 2018, , 1-5.		0
10	Understanding Educational Psychology. Cultural Psychology of Education, 2017, , .	0.1	34
11	â€œThe Way to Freedomâ€•in/for Education. Cultural Psychology of Education, 2017, , 297-319.	0.1	0
12	On the Irreducibility of Acting, Emoting, and Thinking. , 2017, , 409-431.		0
13	STEPWISE: A Societal-Historical Activity (Activism) Theoretical Perspective. Cultural Studies of Science Education, 2017, , 639-656.	0.2	0
14	Quasi-communities: rethinking learning in formal adult and vocational education. Instructional Science, 2016, 44, 583-600.	1.1	10
15	On the societal nature of praxis and organic research. Cultural Studies of Science Education, 2016, 11, 105-125.	0.9	2
16	Seeing design stances. CoDesign, 2016, 12, 6-25.	1.4	3
17	Cogenerative Dialogue for Collective Curriculum Leadership. , 2016, , 311-329.		2
18	Becoming and Belonging. , 2016, , 295-320.		0

#	Article	IF	Citations
19	Becoming and Belonging. , 2016, , 295-320.		0
20	The stakes of movement: A dynamic approach to mathematical thinking. Curriculum Inquiry, 2015, 45, 266-284.	0.8	5
21	Schooling Is the Problem: A Plaidoyer forÂItsÂDeinstitutionalization. Canadian Journal of Science, Mathematics and Technology Education, 2015, 15, 315-331.	0.6	12
22	Rethinking Affect in Education From a Societal-Historical Perspective: The Case of Mathematics Anxiety. Mind, Culture, and Activity, 2015, 22, 217-232.	1.1	10
23	Optimizing a workplace learning pattern: a case study from aviation. Journal of Workplace Learning, 2015, 27, 112-127.	0.9	6
24	Rigorous Data Analysis. , 2015, , .		5
25	Meaning and the real life of languageâ€"Learning from â€œpathologicalâ€•cases in science classrooms. Linguistics and Education, 2015, 30, 42-55.	0.5	9
26	Ecological mindfulness, spirituality, and life-long (hybrid, dialogical) learning: a tribute to Michiel van Eijck. Cultural Studies of Science Education, 2015, 10, 21-40.	0.9	0
27	Enracinement or the earth, the originary ark, does not move: on the phenomenological (historical) Tj ETQq1 1 0.784314 rgBT /Overlock understanding. Cultural Studies of Science Education, 2015, 10, 469-494.	0.9	11
28	Socio-Cultural Perspectives on Learning Science. , 2015, , 985-996.		2
29	Cautions about Inferences from International Assessments: The Case of PISA 2009. Teachers College Record, 2015, 117, 1-28.	0.4	1
30	Cautions about Inferences from International Assessments: The Case of PISA 2009. Teachers College Record, 2015, 117, 1-28.	0.4	40
31	The Social Nature of Representational Engineering Knowledge. , 2014, , 67-82.		5
32	ReadingActivity, Consciousness, PersonalityDialectically: Cultural-Historical Activity Theory and the Centrality of Society. Mind, Culture, and Activity, 2014, 21, 4-20.	1.1	32
33	Activity Theory. , 2014, , 25-31.		2
34	The theory-practice gap: epistemology, identity, and education. Education and Training, 2014, 56, 521-536.	1.7	20
35	On understanding variability in data: a study of graph interpretation in an advanced experimental biology laboratory. Educational Studies in Mathematics, 2014, 86, 359-376.	1.8	3
36	Personal Healthâ€"Personalized Science: A new driver for science education?. International Journal of Science Education, 2014, 36, 1434-1456.	1.0	13

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37	History and the relationship between scientific and pedagogical knowledge: anatomy lectures then and now. Journal of Curriculum Studies, 2014, 46, 180-200.	1.2	4
38	Rules of bending, bending the rules: the geometry of electrical conduit bending in college and workplace. Educational Studies in Mathematics, 2014, 86, 177-192.	1.8	32
39	From-Within-the-Event: A Post-constructivist Perspective on Activism, Ethics, and Science Education. Cultural Studies of Science Education, 2014, , 237-254.	0.2	2
40	Zone of Proximal Development in Mathematics Education. , 2014, , 647-650.		2
41	Socio-Cultural Perspectives on Learning Science. , 2014, , 1-12.		1
42	Interdisciplinary Approaches in Mathematics Education. , 2014, , 317-320.		3
43	Toward a Dynamic Theory of Graphing. , 2014, , 3-29.		0
44	Uncertainty, Inquiry, Bricolage. , 2014, , 365-395.		0
45	Activity Theory in Mathematics Education. , 2014, , 11-15.		1
46	On Contradictions in Data Interpretation. , 2014, , 179-211.		0
47	What More in/for Science Education. , 2013, , .		45
48	Creating Learning Opportunities for Teachers and Students: A Culturalâ€Historical Understanding of Classroom Research. Curriculum Inquiry, 2013, 43, 233-260.	0.8	5
49	Investigating Linguistic Sources of Differential Item Functioning Using Expert Think-Aloud Protocols in Science Achievement Tests. International Journal of Science Education, 2013, 35, 546-576.	1.0	16
50	The Role of Representations in Engineering Practices: Taking a Turn towards Inscriptions. Journal of Engineering Education, 2013, 102, 2-19.	1.9	37
51	Pictures in Biology Education. Models and Modeling in Science Education, 2013, , 39-53.	0.6	18
52	The Heroes of Science. Cultural Studies of Science Education, 2013, , 3-25.	0.2	1
53	Activity, Subjectification, and Personality: Science Education from a Diversity-of-Life Perspective. Cultural Studies of Science Education, 2013, , 41-64.	0.2	5
54	Fostering Pre-service Teachersâ€™ Self-Determined Environmental Motivation Through Green Chemistry Experiments. Journal of Science Teacher Education, 2012, 23, 673-696.	1.4	10

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55	On the hunt for elusive â€œmeaningsâ€: Cultural Studies of Science Education, 2012, 7, 607-626.	0.9	1
56	Cultural-historical activity theory: Vygotskyâ€™s forgotten and suppressed legacy and its implication for mathematics education. Mathematics Education Research Journal, 2012, 24, 87-104.	0.9	31
57	Science of learning is learning of science: why we need a dialectical approach to science education research. Cultural Studies of Science Education, 2012, 7, 255-277.	0.9	8
58	Intercorporeality and ethical commitment: an activity perspective on classroom interaction. Educational Studies in Mathematics, 2011, 77, 227-245.	1.8	68
59	Radical embodiment and semiotics: toward a theory of mathematics in the flesh. Educational Studies in Mathematics, 2011, 77, 267-284.	1.8	17
60	CHILDRENâ€™S GESTURES AND THE EMBODIED KNOWLEDGE OF GEOMETRY. International Journal of Science and Mathematics Education, 2011, 9, 207-238.	1.5	49
61	Cultural diversity in science education through Novelization: Against the Epicization of science and cultural centralization. Journal of Research in Science Teaching, 2011, 48, 824-847.	2.0	33
62	From a Sense of Stereotypically Foreign to Belonging in a Science Community: Ways of Experiential Descriptions About High School Studentsâ€™ Science Internship. Research in Science Education, 2010, 40, 291-311.	1.4	31
63	An anthropology of reading science texts in online media. Semiotica, 2010, 2010, .	0.2	1
64	Reading Online News Media for Science Content: A Social Psychological Approach. Reading Psychology, 2010, 31, 254-281.	0.7	6
65	Theorizing scientific literacy in the wild. Educational Research Review, 2010, 5, 184-194.	4.1	22
66	Teaching as mediation: The cogenerative dialogue and ethical understandings. Teaching and Teacher Education, 2010, 26, 363-370.	1.6	20
67	Toward a Social Practice Perspective on the Work of Reading Inscriptions in Science Texts. Reading Psychology, 2010, 31, 228-253.	0.7	17
68	Sociology | Psychology |â€¦ Toward a Science of Phenomena. Cultural Studies of Science Education, 2010, , 355-375.	0.2	0
69	ReUniting Sociological and Psychological Perspectives in/for Science Education An Introduction. Cultural Studies of Science Education, 2010, , 1-12.	0.2	4
70	The Emergence of 3D Geometry From Children's (Teacher-Guided) Classification Tasks. Journal of the Learning Sciences, 2009, 18, 45-99.	2.0	23
71	Culturalâ€“historical activity theory and pedagogy: an introduction. Pedagogies, 2009, 5, 1-5.	0.4	3
72	An Analysis of Teacher Discourse that Introduces Real Science Activities to High School Students. Research in Science Education, 2009, 39, 553-574.	1.4	14

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73	Authentic science experiences as a vehicle to change studentsâ€™ orientations toward science and scientific career choices: Learning from the path followed by Brad. Cultural Studies of Science Education, 2009, 4, 611-638.	0.9	40
74	Natural pedagogical conversations in high school students' internship. Journal of Research in Science Teaching, 2009, 46, 481-505.	2.0	20
75	Translations of scientific practice to â€œstudents' images of scienceâ€• Science Education, 2009, 93, 611-634.	1.8	21
76	Rethinking the ethics of scientific knowledge: A case study of teaching the environment in science classrooms. Asia Pacific Education Review, 2008, 9, 516-528.	1.4	13
77	Representations of scientists in Canadian high school and college textbooks. Journal of Research in Science Teaching, 2008, 45, 1059-1082.	2.0	25
78	The nature of scientific conceptions: A discursive psychological perspective. Educational Research Review, 2008, 3, 30-50.	4.1	74
79	â€œVygotskyâ€™s Neglected Legacyâ€• Cultural-Historical Activity Theory. Review of Educational Research, 2007, 77, 186-232.	4.3	716
80	On the Subject, Self, and Individual or Monolingualism of the Other and the Possible Impossibility ofBabel Fish. Mind, Culture, and Activity, 2007, 14, 227-234.	1.1	12
81	Proliferation of inscriptions and transformations among preservice science teachers engaged in authentic science. Journal of Research in Science Teaching, 2007, 44, 538-564.	2.0	32
82	On performing concepts during science lectures. Science Education, 2007, 91, 96-114.	1.8	44
83	Keeping the local local: Recalibrating the status of science and traditional ecological knowledge (TEK) in education. Science Education, 2007, 91, 926-947.	1.8	103
84	The Practice of Field Ecology: Insights for Science Education. Research in Science Education, 2007, 37, 171-187.	1.4	39
85	Forum: Toward a non-reductionist perspective of thinking in science. Cultural Studies of Science Education, 2007, 1, 451-465.	0.9	0
86	Improving Science Education for Sustainable Development. PLoS Biology, 2007, 5, e306.	2.6	28
87	Contradictions in theorizing and implementing communities in education. Educational Research Review, 2006, 1, 27-40.	4.1	105
88	Chemical inscriptions in Korean textbooks: Semiotics of macro- and microworld. Science Education, 2006, 90, 173-201.	1.8	57
89	Learning and teaching as emergent features of informal settings: An ethnographic study in an environmental action group. Science Education, 2006, 90, 1028-1049.	1.8	40
90	Toward a new conception of conceptions: Interplay of talk, gestures, and structures in the setting. Journal of Research in Science Teaching, 2006, 43, 1086-1109.	2.0	59

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91	What Good Is Polarizing Research Into Qualitative and Quantitative?. Educational Researcher, 2006, 35, 14-23.	3.3	146
92	A dialectical materialist reading of the sign. Semiotica, 2006, 2006, .	0.2	5
93	Data and graph interpretation practices among preservice science teachers. Journal of Research in Science Teaching, 2005, 42, 1063-1088.	2.0	72
94	Making sense of photographs. Science Education, 2005, 89, 219-241.	1.8	86
95	Coordination in coteaching: Producing alignment in real time. Science Education, 2005, 89, 675-702.	1.8	39
96	Mathematical Inscriptions and the Reflexive Elaboration of Understanding: An Ethnography of Graphing and Numeracy in a Fish Hatchery. Mathematical Thinking and Learning, 2005, 7, 75-110.	0.7	38
97	Re/Making Identities in the Praxis of Urban Schooling: A Cultural Historical Perspective. Mind, Culture, and Activity, 2004, 11, 48-69.	1.1	109
98	Emergence of Graphing Practices in Scientific Research. Journal of Cognition and Culture, 2004, 4, 595-627.	0.1	16
99	Interpreting unfamiliar graphs: A generative, activity theoretic model. Educational Studies in Mathematics, 2004, 57, 265-290.	1.8	31
100	Science education as/for participation in the community. Science Education, 2004, 88, 263-291.	1.8	324
101	Coteaching: Creating resources for learning and learning to teach chemistry in urban high schools. Journal of Research in Science Teaching, 2004, 41, 882-904.	2.0	101
102	Photographs in lectures: Gestures as meaning-making resources. Linguistics and Education, 2004, 15, 275-293.	0.5	38
103	INTRODUCTION: "Activity Theory and Education: An Introduction". Mind, Culture, and Activity, 2004, 11, 1-8.	1.1	73
104	Competent Workplace Mathematics: How Signs Become Transparent in Use. International Journal of Computers for Mathematical Learning, 2003, 8, 161-189.	0.6	26
105	Prevalence, function, and structure of photographs in high school biology textbooks. Journal of Research in Science Teaching, 2003, 40, 1089-1114.	2.0	170
106	Of Traversals and Hybrid Spaces: Science in the Community. Mind, Culture, and Activity, 2003, 10, 120-142.	1.1	8
107	Gesture-Speech Phenomena, Learning, and Development. Educational Psychologist, 2003, 38, 249-263.	4.7	10
108	When Are Graphs Worth Ten Thousand Words? An Expert-Expert Study. Cognition and Instruction, 2003, 21, 429-473.	1.9	103

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109	From epistemic (ergotic) actions to scientific discourse. Pragmatics and Cognition, 2003, 11, 141-170.	0.2	28
110	Toward an Anthropology of Graphing. , 2003, , .		66
111	Scientific literacy as collective praxis. Public Understanding of Science, 2002, 11, 33-56.	1.6	124
112	Reading graphs: Contributions to an integrative concept of literacy. Journal of Curriculum Studies, 2002, 34, 1-24.	1.2	35
113	Lessons on and from the dihybrid cross: An activity-theoretical study of learning in coteaching. Journal of Research in Science Teaching, 2002, 39, 253-282.	2.0	68
114	Why Students May not Learn to Interpret Scientific Inscriptions. Research in Science Education, 2002, 32, 303-327.	1.4	64
115	Evaluation of Science Teaching Performance through Coteaching and Cogenerative Dialoguing. , 2002, , 187-217.		1
116	â€˜Enculturationâ€™: Acquisition of conceptual blind spots and epistemological prejudices. British Educational Research Journal, 2001, 27, 5-27.	1.4	27
117	Situating Cognition. Journal of the Learning Sciences, 2001, 10, 27-61.	2.0	80
118	Modeling design as situated and distributed process. Learning and Instruction, 2001, 11, 211-239.	1.9	20
119	Fostering conceptual change by analogiesâ€”between Scylla and Charybdis. Learning and Instruction, 2001, 11, 283-303.	1.9	101
120	Gestures: Their Role in Teaching and Learning. Review of Educational Research, 2001, 71, 365-392.	4.3	331
121	From activity to gestures and scientific language. Journal of Research in Science Teaching, 2001, 38, 103-136.	2.0	89
122	Professionals Read Graphs: A Semiotic Analysis. Journal for Research in Mathematics Education, 2001, 32, 159.	1.0	105
123	Title is missing!. Educational Assessment, Evaluation and Accountability, 2001, 15, 7-29.	0.2	78
124	Spielraumand Teaching. Curriculum Inquiry, 2001, 31, 183-207.	0.8	38
125	How Ditch and Drain Become a Healthy Creek. Social Studies of Science, 2001, 31, 315-356.	1.5	34
126	Learning difficulties related to graphing: A hermeneutic phenomenological perspective. Research in Science Education, 2000, 30, 123-139.	1.4	7

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127	From gesture to scientific language. Journal of Pragmatics, 2000, 32, 1683-1714.	0.8	87
128	Of Cannibals, Missionaries, and Converts: Graphing Competencies from Grade 8 to Professional Science Inside (Classrooms) and Outside (Field/Laboratory). Science Technology and Human Values, 1999, 24, 179-212.	1.7	26
129	Digitizing Lizards. Social Studies of Science, 1999, 29, 719-764.	1.5	63
130	Interpretations of graphs by university biology students and practicing scientists: Toward a social practice view of scientific representation practices. Journal of Research in Science Teaching, 1999, 36, 1020-1043.	2.0	92
131	Differences in graph-related practices between high school biology textbooks and scientific ecology journals. Journal of Research in Science Teaching, 1999, 36, 977-1019.	2.0	168
132	Differential Participation During Science Conversations: The Interaction of Focal Artifacts, Social Configurations, and Physical Arrangements. Journal of the Learning Sciences, 1999, 8, 293-347.	2.0	85
133	Complexities of graphical representations during ecology lectures: an analysis rooted in semiotics and hermeneutic phenomenology. Learning and Instruction, 1999, 9, 235-255.	1.9	59
134	Becoming-in-the-classroom: a case study of teacher development through coteaching. Teaching and Teacher Education, 1999, 15, 771-784.	1.6	77
135	Preparing Students for Competent Scientific Practice: Implications of Recent Research in Science and Technology Studies. Educational Researcher, 1999, 28, 14-24.	3.3	193
136	Differential Participation During Science Conversations: The Interaction of Focal Artifacts, Social Configurations, and Physical Arrangements. Journal of the Learning Sciences, 1999, 8, 293-347.	2.0	35
137	How Prepared Are Preservice Teachers to Teach Scientific Inquiry? Levels of Performance in Scientific Representation Practices. Journal of Science Teacher Education, 1998, 9, 25-48.	1.4	96
138	Teacher-as-Researcher Reform: Student Achievement and Perceptions of Learning Environment. Learning Environments Research, 1998, 1, 75-93.	1.8	13
139	Decalages in Talk and Gesture: Visual and Verbal Semiotics of Ecology Lectures. Linguistics and Education, 1998, 10, 335-358.	0.5	24
140	Knowing, researching, and reporting science education: Lessons from science and technology studies. Journal of Research in Science Teaching, 1998, 35, 213-235.	2.0	30
141	>unDELETE science education:/lives/work/voices. Journal of Research in Science Teaching, 1998, 35, 399-421.	2.0	80
142	Lecturing graphing: What features of lectures contribute to student difficulties in learning to interpret graph?. Research in Science Education, 1998, 28, 77-90.	1.4	30
143	Inscriptions: Toward a Theory of Representing as Social Practice. Review of Educational Research, 1998, 68, 35-59.	4.3	276
144	Teaching and Learning as Everyday Activity. , 1998, , 169-181.		24

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145	Science in Schools and Everywhere Else: What Science Educators Should Know about Science and Technology Studies. Studies in Science Education, 1997, 29, 1-43.	3.4	26
146	Toward a New Perspective on Problem Solving. Canadian Journal of Education, 1997, 22, 18.	0.3	14
147	The local production of order in traditional science laboratories: A phenomenological analysis. Learning and Instruction, 1997, 7, 107-136.	1.9	68
148	The interaction of learning environments and student discourse about knowing, learning, and the nature of science: Two longitudinal case studies. International Journal of Educational Research, 1997, 27, 311-320.	1.2	4
149	Graphing: Cognitive ability or practice?. Science Education, 1997, 81, 91-106.	1.8	94
150	From ?truth? to ?invented reality?: A discourse analysis of high school physics students' talk about scientific knowledge. Journal of Research in Science Teaching, 1997, 34, 145-179.	2.0	123
151	Interactional structures during a grade 4-5 open-design engineering unit. Journal of Research in Science Teaching, 1997, 34, 273-302.	2.0	24
152	Why may students fail to learn from demonstrations? A social practice perspective on learning in physics. Journal of Research in Science Teaching, 1997, 34, 509-533.	2.0	102
153	The nature of scientific knowledge and student learning: Two longitudinal case studies. Research in Science Education, 1996, 26, 103-127.	1.4	37
154	The co-evolution of situated language and physics knowing. Journal of Science Education and Technology, 1996, 5, 171-191.	2.4	40
155	Staging Aristotle and natural observation against Galileo and (stacked) scientific experiment or physics lectures as rhetorical events. Journal of Research in Science Teaching, 1996, 33, 135-157.	2.0	28
156	Teacher questioning in an open-inquiry learning environment: Interactions of context, content, and student responses. Journal of Research in Science Teaching, 1996, 33, 709-736.	2.0	130
157	Affordances and constraints of computers in science education. Journal of Research in Science Teaching, 1996, 33, 995-1017.	2.0	54
158	Learning to talk engineering design: Results from an interpretive study in a Grade 4/5 classroom. International Journal of Technology and Design Education, 1996, 6, 107-135.	1.7	20
159	Applications of Science and Technology Studies: Effecting Change in Science Education. Science Technology and Human Values, 1996, 21, 454-484.	1.7	34
160	Art and Artifact of Children's Designing: A Situated Cognition Perspective. Journal of the Learning Sciences, 1996, 5, 129-166.	2.0	135
161	Where IS the Context in Contextual Word Problem?: Mathematical Practices and Products in Grade 8 Students' Answers to Story Problems. Cognition and Instruction, 1996, 14, 487-527.	1.9	121
162	Affordances of computers in teacher-student interactions: The case of interactive physicsâ„¢. Journal of Research in Science Teaching, 1995, 32, 329-347.	2.0	100

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163	The transformation of individual and collective knowledge in elementary science classrooms that are organised as knowledge-building communities. Research in Science Education, 1995, 25, 163-189.	1.4	36
164	From â€œwiggly structuresâ€• to â€œunshaky towersâ€: problem framing, solution finding, and negotiation of courses of actions during a civil engineering unit for elementary students. Research in Science Education, 1995, 25, 365-381.	1.4	29
165	Inventors, copycats, and everyone else: The emergence of shared resources and practices as defining aspects of classroom communities. Science Education, 1995, 79, 475-502.	1.8	62
166	Knowing and Interacting: A Study of Culture, Practices, and Resources in a Grade 8 Open-Inquiry Science Classroom Guided by a Cognitive Apprenticeship Metaphor. Cognition and Instruction, 1995, 13, 73-128.	1.9	154
167	Authentic School Science. , 1995, , .		280
168	An Investigation of Problem Framing and Solving in a Grade 8 Open-Inquiry Science Program. Journal of the Learning Sciences, 1994, 3, 165-204.	2.0	43
169	Physics students' epistemologies and views about knowing and learning. Journal of Research in Science Teaching, 1994, 31, 5-30.	2.0	188
170	Experimenting in a constructivist high school physics laboratory. Journal of Research in Science Teaching, 1994, 31, 197-223.	2.0	159
171	Mathematization of experience in a grade 8 open-inquiry environment: An introduction to the representational practices of science. Journal of Research in Science Teaching, 1994, 31, 293-318.	2.0	72
172	Student views of collaborative concept mapping: An emancipatory research project. Science Education, 1994, 78, 1-34.	1.8	60
173	The development of science process skills in authentic contexts. Journal of Research in Science Teaching, 1993, 30, 127-152.	2.0	223
174	The concept map as a tool for the collaborative construction of knowledge: A microanalysis of high school physics students. Journal of Research in Science Teaching, 1993, 30, 503-534.	2.0	162
175	Metaphors and conversational analysis as tools in reflection on teaching practice: Two perspectives on teacher-student interactions in open-inquiry science. Science Education, 1993, 77, 351-373.	1.8	23
176	Comments to the â€œmethodological limitations for the use of expert systems techniques in science education researchâ€: Journal of Research in Science Teaching, 1992, 29, 629-632.	2.0	13
177	The Social Construction of Scientific Concepts or the Concept Map as Device and Tool Thinking in High Conscription for Social School Science. Science Education, 1992, 76, 531-557.	1.8	162
178	Bridging the Gap Between School and Real Life: Toward an Integration of Science, Mathematics, and Technology in the Context of Authentic Practice. School Science and Mathematics, 1992, 92, 307-317.	0.5	21
179	Confirmatory factor analysis for validity consideration: A critique. Science Education, 1989, 73, 649-655.	1.8	2
180	Concrete Human Psychology. , 0, , .		4

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181	Rethinking Scientific Literacy. , 0, , .		285