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Annotated Bibliography

1. This annotated Bibliography is organized by the following Categories.
   1. Publications by Current Members (and this category is divided into the categories below).
   2. Brain-Based Learning
   3. Constructivist Foundations/Philosophy
   4. Constructivist Teaching
   5. Democratic Classrooms
   6. Early Childhood
   7. Mathematics Teaching
   8. Piaget
   9. Teacher Education
   10. Thematic Journal Issues on Constructivism
2. Each Category is organized into
3. Books and Book Chapters
4. Journal Articles

**Publications by Current Members**

**Constructivist Foundations/ Philosophy**

BOOKS AND CHAPTERS

**Muller, M. (2013). Constructivism in Jewish Early Childhood Education. *Journal of Jewish Education****, 79 (3), 315-334.* ***MEMBER ACT***

Having an educational theory and pedagogy as a school’s foundation is recognized as a key component in successful educational endeavors. However, many Jewish early childhood programs do not commonly use educational theory to support their methods of instruction. In this study fourteen children from a constructivist-based kindergarten class are interviewed to determine how they construct an understanding of historical time. The analysis of these interviews shows young children using higher order thinking in eleven different ways. This study supports that constructivist theory and pedagogy are well suited to serve as a foundation for Jewish early childhood programs.

**Muller, M., Buchheister, K., & Boutte, G. (2017). Multiple Perspectives on Cognitive Development: Radical Constructivism, Cognitive Constructivism, Sociocultural Theory, and Critical Theory.** *The Constructivist. 26(1), 2-34.* ***MEMBER ACT***

Because no theory can be all things to all people (von Glasersfeld, 1996), researchers and educators can benefit by reading beyond a single theoretical stance. Through this conceptual piece we will discuss the key premises, elements, and/or assumptions of three different theories (Cognitive Constructivism; Sociocultural; and Critical), as well as the relationships among these and Radical Constructivism.

**Muller, M., Gorsetman, C. & Alexander, S. (2018). Struggles and Successes in Constructivist Jewish Early Childhood Classrooms**. *Journal of Jewish Education*, 84(3), 284-311 ***MEMBER ACT***

This study examines the experiences of teachers in a Jewish early childhood center implementing constructivist theory and pedagogy. Constructivist practices are described through interviews, surveys, classroom documentation and observations. The data indicates that areas which were initially deemed as successes were hard to maintain and seemingly overshadowed by challenges. These include understanding constructivist theory, using open-ended materials, and relying on open-ended questions to facilitate knowledge. Furthermore, teachers struggled when comparing information gained by children from classes using a more traditional educational approach. Insights in each area are provided to support Jewish and general studies constructivist teachers.

**CONSTRUCTIVIST TEACHING**

BOOKS AND CHAPTERS

**Pelech, J. (2013)** ***Guide to Transforming Teaching Through Self-Inquiry*. Charlotte, *N.C: Information Age Publishing.***

All effective educators must continually reflect and inquire about their teaching. This books blends the Constructivist philosophy with transformative learning and other philosophies to present a comprehensive system of reflective tools for the teacher. The system is structured by the application of four Constructivist metaphors to the platforms of teacher journals, interactive journals action research, conference proceedings, and professional portfolios. The book is not about theory; rather, it presents a system and presents examples of the system. In all of the examples presented, the role of the Constructivist philosophy is evident throughout the book and in all examples.

**Pelech, J. (2021). *Student-centered Research: Blending Constructivism with Action Research*. IAP.**

This book examines the blending of two important educational frameworks-Constructivism and action research. It takes the reader through the process of using Constructivist principles to create research focusing on student learning.

**Pelech, J. and Pieper, G. (2010). *The Comprehensive Handbook of Constructivist Teaching: From Theory to Practice.* Charlotte, NC: Information Age Publishing.**

The book presents a step by step approach for translating the philosophy of Constructivism into classroom practice. It is more than a list of recipes; rather, it looks at the history of Constructivist thought, presents some learning principles, and transforms these learning principles into four concrete teaching principles. There are chapters on different learning modes and Constructivism, and how to connect questioning techniques to the Constructivist philosophy. Topics such as metacognition, note-taking, problem-based learning, manipulatives, are also examined and connected to Constructivism. This book will provide a concrete roadmap for the practitioner wishing to use constructivist philosophy

**BRAIN-BASED LEARNING**

BOOKS AND CHAPTERS

**Jensen, E. *Teaching with the Brain in Mind*. ASCD.**

 While not directly focusing on Constructivism, this book can certainly be a nice addition to the library of any Constructivist educator. The book examines such topics on basics of understanding the brain, how the environment influences the brain’s development, how stressors and emotions affect the brain, and motivation. The chapter on movement and learning is an important one for any Constructivist wishing to integrate content areas with movement and physical education. The final chapter, examining the concepts of memory and recall, has many implications for the Constructivist.

**Sousa, D. A. (Ed.). (2010). *Mind, brain, & education: Neuroscience implications for the classroom*. Solution Tree Press.**

While the majority of the book does not directly discuss Constructivism as a theme (though Chapter 9 does discuss some questions about Piaget’s views on children’s initial understanding of number) this book has many constructs which connect with Constructivism. Sousa, as editor, has brought together experts who present an in-depth discussion of brain-based learning.

**Willis, J. (2006). Research-based strategies to ignite student learning: Insights from a neurologist and classroom teacher.**

Not only is this book written by a former neurologist-turned-teacher, it contains many concepts which align with the Constructivist philosophy. A close read of this book will enable the educator to find many brain-based constructs which connect with Constructivist teaching.

**Zadina, J. (2014). *Multiple pathways to the student brain: Energizing and enhancing instruction*. John Wiley & Sons.**

Written by a former teacher who now is a Professor in a School of Medicine, this book presents many ideas and strategies for the Constructivist educator. These strategies are clearly explained and will be appreciated by the Constructivist teacher.

JOURNAL AND JOURNAL ARTICLES

**Gülpinar, M. A. (2005). The Principles of Brain-Based Learning and Constructivist Models in Education. *Educational Sciences: Theory & Practice*, *5*(2).**

This article connects the constructivist philosophy with the brain imaging techniques. The discusses that the constructivist approach has produced the concepts of individual differences, contextuality, and complexity. Using these constructs, the article examines their connection to brain-based learning.

**CONSTRUCTIVIST FOUNDATIONS/PHILOSOPHY**

BOOKS AND CHAPTERS

**Brooks, J. G. & Brooks, M. G. (1999). *In search of understanding: The case for***

***Constructivist classrooms* (Rev. ed.). Alexandria, VA: Association for Supervision and Curriculum Development.**

This book, a classic, presents the foundations for creating a Constructivist environment. It discusses the process of constructing knowledge, presents primary concepts, and examines how to seek and clarify students’ points of views. The chapter on how to become a Constructivist Teacher is a MUST for every practitioner, administrator, and researcher wishing to “Jump start” their Constructivist practice. This chapter examines and discusses twelve descriptors of classroom practices which empower students to create their own learning and understanding. These descriptors include such behaviors as accepting and encouraging student autonomy, using raw data and primary sources, allowing student responses to drive lessons, encouraging dialogue, and driving activities which may contradict initial student hypotheses. The final chapter presents and discusses six suggestions for educational institutions which are in the process of changing to or creating a Constructivist environment.

**Fosnot, C. T. (Ed.) (1996). *Constructivism: Theory, perspectives, and practice.* New York: Teachers College Press.**

This text examines different theories of constructivism and strives to close the gap between theory and practice. The book is divided into three sections. Part one includes literature regarding the theoretical aspects of constructivism. Part two discusses perspectives from the field and part three concludes with information regarding practices in the classroom.

**Gergen, K. J. (1999). *An invitation to social construction.* London: SAGE Publications.**

This book provides an introductory overview of social constructionist by outlining major debates, topics, and issues of the philosophy.

**Oldfather, P., West, J., White, J. & Wilmarth, J. (1999*). Learning through children’s eyes: Social constructivism and the desire to learn*. Washington, DC: American Psychological Association.**

The authors of this book show how teachers who take a social constructivist stance may enhance motivation and meaningful learning. They suggest experiences that deepen understanding of social constructivism and its relevance for multicultural, democratic classrooms. The authors analyze transcripts of in-depth conversations with children in order to better understand children’s individual thought patterns, and they describe strategies for discussing carefully selected children’s and young adult books to help both teachers and children understand learning through a social constructivist lens. An extensive annotated bibliography is provided.

**Lambert, L., Walker, D., Zimmerman, D. P., Cooper, J. E., Lambert, M. D., Gardner, M. E., & Ford Slack, P. J. (1995). *The constructivist leader.* New York: Teacher’s College Press.**

This text utilizes a wide range of literature in order to demonstrate the conceptual basis for constructivist theory. The authors also analyze literature on educational leadership, and provide case studies for review and application of knowledge. Chapters focus on issues such as constructing school change, the role of narrative and dialogue in constructivist leadership, and the school district as interdependent learning community. The goal of the text is to redefine leadership and describe strategies that will enable educators to make fundamental changes in schools. The book concludes with a discussion on the preparation of constructivist leaders and insights into the future of schooling.

**Larochelle, M., Bednarz, N., & Garrison, J. (Eds.) (1998). *Constructivism and education.* New York: Cambridge University Press.**

This international and interdisciplinary collection of chapters discusses the many issues and educational practices that are touched on by constructivism. Drawing on perspectives from a range of different fields (ethics, mathematics education, philosophy, social psychology, science education, social studies), this book invites us to reposition ourselves in relation to the major currents that have influenced education in this century, namely pragmatism, genetic epistemology, and social interactionism.

**Phillips, D.C. (Ed.) (2000). *Constructivism in education: Opinions and second opinions on controversial issues.* Chicago, Ill.: The University of Chicago Press.**

This is Part 1 of the 99th Yearbook of the National Society for the Study of Education (NSSE). The NSSE recruited scholars from around the world to contribute their opinions on social and radical constructivism and the relevance of these philosophies to teachers and administrators. The yearbook is divided into five topics with two varying opinions presented about each. The topics covered are as follows: Constructivism as an epistemology and philosophy of education, Social Constructivism, Constructivism in science and mathematics education, the impact of Constructivism on researchers, and some final opinions on Constructivism.

**Steffe, L. P. & Gale, J. (1995). *Constructivism in education.* Hillsdale, NJ.: Lawrence Erlbaum Associates.**

This text serves to express the ideas presented at the Alternative Epistemologies in Education Conference, February 1992. This book contains manuscripts from leading constructivist thinkers about how epistemological theory impacts educational theory and practice. Major sections discuss 1) Radical constructivism and social constructivism, 2) Information-processing constructivism and cybernetic systems, 3) Social Constructivism and sociocultural approaches, 4) Analysis and synthesis of alternative epistemologies in language, math, and science.

**Vadeboncour, J. A. (1997). Child development and the purpose of education: a**

**historical context for constructivism in teacher education. In V. Richardson**

**(Ed.), *Constructivist Teacher Education: building toward a world of new***

***understandings* (pp. 15-37). Washington, D.C.: Falmer Press.**

This article builds an argument for an emancipatory approach to knowledge construction in teaching and teacher education programs. Emancipatory and socialcultural constructivist believe that knowledge is first created on the social plane through interactions with others and then is moved by individuals to the psychological plane. Students are encouraged to explore and act on their discoveries. Emancipatory knowledge construction is a commitment to social change, justice, and responsibility.

JOURNAL AND JOURNAL ARTICLES

**DeVries, R. (1997). Piaget’s social theory. *Educational Researcher 26*(2), 4-17.**

This article counters inaccurate assumptions about the role of individual and social factors in development.

**Phillips, D. C. (1995). The good, the bad, and the ugly: The many faces of constructivism. *Educational Researcher, 24*(7), 5-12.**

This article argues that the main constructivist writers can be located along each of three different dimensions, which also serve to highlight the relationships and differences among them. The author calls the first two dimensions “individual psychology versus public discipline” (whether the theorist is more concerned with how knowledge originates within the individual or built up within society as a whole) and “humans the creators versus nature the instructor” (whether knowledge is created within the learner or if it comes from somewhere external to the learner). The third dimension is not named, but is described as whether or not the constructive activity is discussed in terms of individual cognition alone or in terms of social and political processes.

**Posner, G. J., Strike, K.A., Hewson, P.W., & Gertzog, W. A. (1982). Accommodation of a scientific conception: toward a theory of conceptual change. *Science Education, 66*, 211-227.**

This is an original study that established the role of students’ prior ideas on learning and postulated a theory of conceptual change instruction. A general model of conceptual change which is largely derived from current philosophy of science. Pedagogical implications are presented.

**Prawat, R. & floden, R. Philosophical perspective es on constructivist views of learning*, Educational Psychology, 29*(1), 37-48.**

**Rob, M., & Rob, F. (2018). Dilemma between constructivism and constructionism: Leading to the development of a teaching-learning framework for student engagement and learning. *Journal of International Education in Business*, *11*(2), 273-290.**

The authors of this research reviewed existing literature in order to more fully understand the difference between constructivism and constructionism and to develop a list of learning dimensions which can be applied to the classroom. Practical and social implications of the differences are discussed.

**Von Glaserfeld, E. (1989). Cognition, construction of knowledge, and teaching. *Synthese, 80*, 121-140.**

Von Glaserfeld’s seminal article defining the radical constructivist theory of knowledge with applications to education. A concise and influential analysis of our understandings of knowing, learning, and teaching, appropriate for college faculty and advanced graduate students.

**Wang, Y. (2022, June). Research on the Implications of Constructivism to Education. In *2022 8th International Conference on Humanities and Social Science Research (ICHSSR 2022)* (pp. 2793-2797). Atlantis Press.**

The author discusses the importance and nature of the constructivist approach. More importantly, it also examines possible shortcomings of the constructivist approach— by looking “at both sides of the story”, this article presents a multi-dimensional framework.

**CONSTRUCTIVIST TEACHING**

BOOKS AND CHAPTERS

**Brooks, J. G., & Brooks, M. G. (2021). *Schools reimagined: unifying the science of learning with the art of teaching*. Teachers College Press.**

**Henderson, J. G. (1996). *Reflective teaching: The study of your constructivist practices* (2nd ed.). Columbus, OH: Prentice Hall.**

This book reflects two emerging, interrelated educational reform trends: 1) the constructivist approach, stressing teaching for meaning making rather than for rote memorization and 2) schools as centers of inquiry, where teachers function as students of their professional work. Responding to these trends, the text is designed to help readers become career-long students of constructivist educational practices.

**Jonassen, D. H., Peck, K. L. & Wilson, B. G. (1999). *Learning with technology: A constructivist perspective*. Columbus, OH: Prentice Hall.**

Approaching learning from a constructivist viewpoint, this book addresses how to use very specific types of technology and focuses on how technology can be used as a thinking tool to foster meaningful learning. Each chapter provides various activities and implementation strategies with follow-up questions. Current uses of technology such as video theater, cybermentoring, creating homepages, and hypermedia are discussed throughout the book.

**Lambert, L., Collay, M., Dietz, M.E., Kent, K. & Richert, A. E. (1996). *Who will save our schools? Teachers as constructivist leaders.* Thousand Oaks, Ca.: Corwin Press.**

This text provides a look at the future of schooling and the role that teachers as leaders must assume by answering the following questions: Why must teachers take primary responsibility for creating a new context for teaching and learning? How do constructivist leaders create meaning out of learning? How do the roles of leadership with adults and leadership with children merge in the role of teacher leader? and What commitments, knowledge, and skills are essential for teachers as leader? The authors answer these questions by combining the ideas of teaching as leading, constructivist leadership, an ecological perspective of systematic change, learning communities, and the professional development of teachers.

**Littledyke, M. & Huxford, L. (Eds.). (1998). *Teaching the primary curriculum for constructive learning*. London: David Fulton.**

Providing guidance in teaching across all subjects of the primary curriculum, this text draws on extensive research in constructivist ideas in children’s learning which shows that effective learning occurs when teachers understand and build on children’s previous views and experience in their teaching programs. The authors provide both specialist subject knowledge and coherent cross-curriculum perspectives.

**Marlowe, B. A. & Page, M. L. (1998). *Creating and sustaining the constructivist classroom*. Thousand Oaks, CA: Corwin Press.**

This book consolidates the theoretical foundations of constructivist education with their practical implications in the classroom. Key issues regarding the shift from a traditional to a constructivist approach are discussed; and guidelines, practical tips, and model checklists are presented to help teachers make the change an enduring one. Firsthand reports of successes and problems in classroom teachers’ attempts to change paradigms are included.

**Osborne, R. & Freyburg, P. (1985). *Learning in science: The implications of children’s science.* Portsmouth, NH: Heinemann Publishers.**

This is a classic book using findings on student conceptions and use of language to explore issues in learning and teaching. Many examples of classroom teaching are used to develop understanding of the challenges to bringing about deep understanding. It develops a teaching sequence based on a constructivist learning model. Implication for working with teachers are included.

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**Scott, P. (1987). *Children’s learning in science project: a constructivist view of learning and teaching in science.* Leeds, England: University of Leeds, Centre for Studies in Science and Mathematics Education.**

This booklet written for teachers provides an insightful look at the justification for a constructivist view of learning. It then outlines the key parts of this view and gives general implications and examples, including a generalized model for a constructivist teaching sequence.

**Shifter, 0. & Fosnot, C. (1993). Reconstsructing mathematics education. NY: Teachers College Press.**

**Selley, N. (1999). *The art of constructivist teaching in the primary school: A guide for students and teachers.* London: David Fulton Publishers Ltd.**

This book serves as a guide for new and student teachers attempting a constructivist approach in teaching. The author outlines the general principles of constructivist learning and teaching and includes chapters discussing examples for how the methods can be applied to individual subjects: science, history, language, and mathematics. Additional chapters discuss issues such as motivation and working within a national curriculum. The author gives tips on dealing with system-wide curriculum expectations and common objections to constructivist teaching.

**Tobin, K. (Ed.) (1993). *The practice of constructivism in science education*. Hillside,**

**NJ: Lawrence Earlbaum Associates.**

A thorough review of issues in constructivism, focusing on the nature of constructivism, its relationship to teaching and learning of science and mathematics, and constructivist perspectives on teacher education. Very in depth and complex in its coverage, it is recommended for graduate students and college faculty.

**Spivey, N. N. (1996). *The constructivist metaphor: Reading, writing, and the making of meaning*. San Diego, CA: Academic Press.**

This book presents a major reconsideration of constructivist theory through an applied examination of the ways in which people create meaning for texts. The author describes major historical constructivist positions throughout the twentieth century and uses them as an essential starting point for her presentation of current approaches to the generative, organizational, and selective nature of human communication. The work illustrates an integrative conception of discourse, placing cognitive activity in relation to the text while assuming a social orientation encompassing both composition and comprehension.

JOURNAL AND JOURNAL ARTICLES

**Condon, M. W. F., Clyde, J. A., Kyle, D. W. & Hovda, R. A. (1993). A constructivist basis for teaching and teacher education: A framework for program development and research on graduates. *Journal of Teacher Education, 44*, 273-278.**

This article describes the Committee for Alternative Programs in Teaching and Learning (CAPITAL) Program, formed in 1988 at the Center for the Collaborative Advancement of the Teaching Profession at the University of Louisville for non-traditional students earning a K-4 Master of Arts in Teaching. This program is a joint effort by the university’s Early and Middle Childhood Education Department and the Jefferson County (Kentucky) Public Schools. In addition to discussing the CAPITAL Program’s features and goals, the article presents a 15-question Developing Teacher Interview the authors used in their research of preservice teachers’ changes in attitudes about teaching and learning.

**DeVries**, **R. (2002, June). What does research on constructivist education tell us about effective schooling. Iowa Academy of Education Occasional Research Paper #5.**

In a review of the literature, DeVries concludes that there are better child outcomes in constructivist classrooms as compared to non-constructivist classrooms. She also discusses implications for schools.

**Ellsworth, E. (1989). Why doesn’t this feel empowering? Working through the repressive myths of critical pedagogy. *Harvard Educational Review, 59*, 297-324.**

Reference in M. O’Loughlin in engaging teachers in emancipatory knowledge construction,” to the idea that all students possess multiple frames of reference with which to construct knowledge by virtue of their ethnic background, etc.

**Ismajli, H., & Krasniqi, B. (2022). Constructivist instruction practices in Kosovo primary education: The field of languages and communication curriculum. *Journal of Social Studies Education Research*, *13*(1), 259-281.**

The research discussed in this article focused on two important overarching themes: 1) the effectiveness of constructivist teaching; 2) constructivist teaching from an international perspective The research examined how primary school teachers and teachers at the third, fourth, and fifth grade levels implemented constructivism. Results indicated that the implementation of the constructivist philosophy brought on numerous challenges; additionally, recommendations were discussed.

**John, P. (2018). Constructivism: Its Implications for Language Teaching and Second-Language Acquisition. *Papers in Education and Development*, (33-34).**

The author presents the concept of constructivism from a dualistic perspective—as a theory of learning and as a philosophical concept. The constructivist theory’s principles and assumptions are presented through the ideas of Kant, Piaget, and Vygotsky. The implication of constructivism is discussed in terms of language teaching and second language acquisition.

**Kayii, N. E., & Akpomi, M. E. (2022). Constructivist Approaches: A Budding Paradigm for Teaching and Learning Entrepreneurship Education. *International Journal of Education, Teaching, and Social Sciences*, *2*(1), 31-44.**

Working on the premise that the constructivist philosophy is “state-of-the art” teaching in mathematics and science, but this is not the case for Entrepreneurship Education, the article examines the constructivist philosophy and its potential for implementation in this content area. The article concludes that constructivism aligns effectively with entrepreneurship Education, and also presents a recommendations.

**Maisa Seh, A. (2022). The Effectiveness of the Constructivist Learning Model in Enhancing the Motivation of Fourth Grade Students towards Reading among Arab Students in Israel. *Journal of Positive School Psychology*, 384-400.**

The goal of this research was to examine the effectiveness of the constructivist approach in enhancing the motivation of students. The participants in this study were fourth grade Arab students in Israel. Using a quasi-experimental approach, the study indicated that the constructivist approach was effective in creating motivation for reading. The study makes recommendations such as providing the necessary training and materials for teachers, and for continued research in this area.

**Meli, K., Koliopoulos, D., & Lavidas, K. (2022). A Model-Based Constructivist Approach for Bridging Qualitative and Quantitative Aspects in Teaching and Learning the First Law of Thermodynamics. *Science & Education*, *31*(2), 451-485.**

The teaching and learning of introductory thermodynamics has been the subject of numerous studies over several decades. Particularly, the First Law of Thermodynamics (FLT). This article examined how a constructivist model can be effectively implemented to increase the understanding of the FLT. The results indicated the constructivist model enabled a gradual improvement in student representations of the FLT.

**O’Connor, K. (2022). Constructivism, curriculum and the knowledge question: tensions and challenges for higher education. *Studies in Higher Education*, *47*(2), 412-422.**

The author focuses on the trend in university teaching to move from “instructivist”[author’s own term] teaching to a student-centered approach. The article examines the resulting tensions. Included in these tensions is the construct of not fully understanding what constructivist teaching entails.

**Starver, J. R. (1998). Constructivism: Sound theory for explicating the practice of science and science teaching. *Journal of research in science teaching, 35*(5), 501-520.**

Taking on the critics of constructivism as a theory of knowledge, Starver presents a detailed explanation of the epistemological grounds for constructivism, five long-standing epistemological issues that challenge constructivism, and responses to critics’ objections. A complex yet satisfying read for college faculty and graduate students.

**Watson, B. & Konicek, R. (1990). Teaching for conceptual change: confronting children’s experience. *Phi Delta Kappan, 71* (9), 680-685.**

A review of theories behind constructivist approaches to science, including micro-conceptions research, interspersed with the story of a third grade classroom. Explains the difference between children’s sensible reasoning and Piagetian conceptions of concrete reasoning. Suggestions are provided for teachers. Enjoyable read.

**DEMOCRATIC CLASSROOMS**

BOOKS AND CHAPTERS

**Goodman, J. (1992). *Elementary schooling for critical democracy*. Albany, New York: State University of New York Press.**

In this book Goodman argues for and illustrates the way in which elementary education can serve as a vehicle for critical democracy. The concept of critical democracy is drawn from Dewey’s political ideologies. However, Goodman’s primary source of inspiration emerged from his observations in an independent school that is actively searching for ways to create an elementary education for democracy.

**Lieber, C., Mikel, E., & Pervil, S. (1994). Radical change in assessment: A catalyst for democratic education. In J. M. Novak (Ed.), *Democratic teacher education: Programs, processes, problems, and prospects* (pp. 229-250). Albany, NY: State University of New York Press.**

This book chapter presents a rationale for the authors’ belief that “teachers can fundamentally reorganize the whole of their teaching by adopting a democratic paradigm of assessment” (p. 223). A four-page chart is included that contrasts democratic assessment practice with what the authors describe as traditional assessment methods. An overview of the goals, strategies, and assessment methods of a week-long graduate course in democratic education for experienced teachers is also presented.

JOURNAL AND JOURNAL ARTICLES

**Bature, I. J. (2020). The Mathematics Teachers Shift from the Traditional Teacher-Centred Classroom to a More Constructivist Student-Centred Epistemology. *Open Access Library Journal*, *7*(5), 1-26.**

This paper aimed to study mathematic teacher’s effort in Nigeria to shift from the traditional teacher-centered approach to a democratic, student-centered approach. The results indicated that teachers had initial challenges, and that teacher-centered approaches in the classroom were observed. It was recommend that the shift to a student-centered pedagogy is non-negotiable.

**Daher, W., & Saifi, A. G. (2018). Democratic practices in a constructivist science classroom. *International Journal of Science and Mathematics Education*, *16*(2), 221-236.**

There is a gap in the research examining the relationship between constructivist learning and the democratic environment of the science classroom. This article seeks to address the gap. The results indicated that democratic processes in the classroom were not influenced by the independent variables of science ability, general ability, and preferred subject. In the experimental group, only the correlation between involvement and freedom was significant.

**Stemhagen, K. Democracy and School Math,..*Democracy & Education,* (19)2**

Examining an empirical project which studies fourth-through-eighth grade math teachers, this article describes teacher beliefs about teaching, learning, and the role of teaching. It looked at the relationship between teacher beliefs and their implementation of the transmittal, constructivist, and democratic practices.

**EARLY CHILDHOOD**

BOOKS AND CHAPTERS

**DeVries, R. & Kohlberg, L. (1990). *Constructivist early education: Overview and comparison with other programs.* Washington, D.C.: National Association for the Education of Young Children.**

This book compares and contrasts major early childhood education philosophies while detailing a Piagetian approach to educating young children. The book is written in four sections. In the first, the authors begin with an overview of constructivist theory. They describe Piaget’s theory and how it can be translated into educational practice. The next section of the book outlines curriculum and activities derived from constructivist goals, such as physical-knowledge activities and group games. Next, the authors write about the traditional school objectives of arithmetic, reading, and writing from a constructivist perspective. In the final section of the book, the authors evaluate different early education programs, such as the Montessori and Bank Street theories from a constructivist perspective.

**DeVries, R. & Zan, B. (1994). *Moral classrooms, moral children: Creating a constructivist atmosphere in early education*. New York: Teachers College Press, Columbia University.**

This book provides a constructivist rationale for a sociomoral atmosphere in early childhood education that optimally promotes social, moral, and affective development in children. The teacher-child relationship is conceived as one of mutual respect in which the teacher minimizes the exercise of unnecessary authority, and which aims to replace external teacher control of children with moral behavior motivated by internalized principles. In addition to several chapters explaining this approach from a theoretical standpoint, there are a number of chapters discussing the theory’s practical implications in common early childhood classroom activities.

The authors include many realistic and useful examples for working in constructivist classrooms.

**DeVries, R., Zan, B., Hildebrandt, C., Edmiaston, R., & Sales, C. (2002). *Developing constructivist early childhood curriculum: Practical principles and activities.* New York: Teachers College Press.**

This text provides constructivist interpretation of developmentally appropriate curriculum. The authors investigate topics such as play-oriented curriculum, physical-knowledge activities (cooking in the classroom, playing with water, shadow activities), and the use of group games for teaching mathematics. The authors contrast constructivist teaching with different approaches throughout the book. They include many realistic and useful examples for working in constructivist classrooms.

**Duckworth, E. (2006). *The having of wonderful ideas and other essays on teaching and learning*. Teachers College Press.**

This book is a must for educators at all levels. The book contains many timeless essays on a wide range of subjects. The subjects range from science to math, from poetry to thinking, from evaluation to teacher education.

**Kamii, C. & DeVries, R. (1993). Physical knowledge in preschool education: Implications of Piaget’s theory. NY: Teachers College Press.**

**Money, C. G. (2013). An Introduction to Dewey, Montessori, Piaget, and Vygotsky (2nd ed).**

This book presents a clear introduction to the theories of Dewey, Montessori, Erikson, Piaget, and Vygotsky. Each theorist’s ideas are discussed, and connects theory to best practices.

**Waite-Stupiansky, S. (1997). *Building understanding together: A constructivist***

***approach to early childhood education*. Albany, NY: Delmar.**

This informative theory-to-practice textbook clearly demonstrates how Piaget’s constructivist theory translates into solid instructional principles to be used in preschools through primary classrooms today. Chapters are included about the following topics: understanding constructivism, children’s social understandings, and guiding children’s moral development. Additional chapters about constructivist implications for teaching the subject areas of reading and writing, mathematics, science, and art are also presented.

JOURNAL AND JOURNAL ARTICLES

**G'aniyeva, H. (2022). NEW CHALLENGES FOR TEACHERS WORKING IN EARLY CHILDHOOD EDUCATION. *Мактабгача таълим журнали*, *3*(3).**

There is an increasing focus on the quality of early childhood education in Uzbekistan, and the purpose of the study was to gather data on the perspectives of kindergarten teachers. The data indicated the presence of tension between teacher perceptions and constructivist practice. Several factors such as curriculum structure, time, staff/staff resources contribute to this.

**Havu-Nuutinen, S., Kewalramani, S., Veresov, N., Pöntinen, S., & Kontkanen, S. (2022). Understanding early childhood science education: comparative analysis of Australian and Finnish curricula. *Research in Science Education*, *52*(4), 1093-1108.**

This is a study comparing Finnish and Australian early childhood curriculum. The research aims to determine the constructivist components in the two countries. It also calls for an early childhood curriculum which contains specific science domains with define rationale, aims, content areas, and outcomes criteria.

**Plazar, J. The Significance of the Constructivist Approach in Preschool Science Education.**

Suggesting that science education should begin during the early childhood years, the article presents solutions. These solutions include increasing the science knowledge and the skills of preschool teachers.

**Schattgen, S. F. (1997). From Piagetian theory to educational practice: Developing and supporting constructivist early childhood teachers through Project Construct. *Journal of Early Childhood Teacher Education, 18*(2), 34-42.**

Project Construct, and early childhood reform initiative designed to translate Piagetian theory into educational practice, represents an expansive effort to develop and support constructivist early childhood teachers. This paper describes the Project Construct framework, its accomplishments and challenges, and continuing issues and questions.

**Yan, Z., & Zhao, S. (2022). The Relationship Between School-Based Research and Preschool Teachers’ Teaching Ability: The Mediating Role of Constructivist Beliefs in Teaching. *Frontiers in Psychology*, *13*.**

The authors sought to find the relationship between kindergarten school-based research (SBR) and the teaching ability of teaching ability. It also sought to determine the mechanics of SBR affecting teaching ability. Results showed that the level of SBR reached the upper level, and the level of SBR predicted the teaching beliefs and ability of preschool teachers. Amongst the other effects, constructivist teaching beliefs played a mediating role in the relationship between SBR and teaching ability through an indirect effect.

**MATHEMATICS TEACHING**

BOOKS AND CHAPTERS

**Cobb, P., Perlwitz, M. & Underwood-Gregg, D. (1998). Individual construction, mathematical acculturation, and the classroom community. In M. Larochelle, N. Bednarz & J. Garrison (Eds.), *Constructivism and education* (pp. 63-80). Cambridge, UK: University Press.**

This book chapter argues that every classroom is a unique mathematics microculture that significantly affects the mathematical activities and learning of the students. The authors also discuss the theoretical and pragmatic tensions arising from viewing mathematical learning as a process of individual cognitive construction and as a process of social acculturation into conventional mathematical practice. These issues form the background of the authors’ consideration of instructional activities appropriate for inquiry-based mathematics classrooms.

**Kamii, C. (1985). *Young children reinvent arithmetic: Implications of Piaget’s theory.* NY:Teachers College Press.**

**Kamii, C. & Joseph, L. (1994). Young *children continue to reinvent arithmetic, third grade: Implications of Piaget’s theory.* NY:Teachers College Press.**

**Kamii, C. & Housman, L. (1999). *Young children reinvent arithmetic, second grade: Implications of Piaget’s theory.* NY:Teachers College Press.**

**Kamii, C. & Joseph, L. (2003). Young *children continue to reinvent arithmetic,***

***second grade: Implications of Piaget’s theory.* NY:Teachers College Press.**

JOURNAL AND JOURNAL ARTICLES

**BalI, 0. L. (1996). Teacher learning and the mathematics reform. Phi Delta Kappan. 77(7), 500-508.**

**Schifter, D. (1996). A Constructivist perspective on teaching and learning**

**mathematics. *Phi Delta Kappan*. 77(7), 492-499. (Focus issusE on math reform)**

**Simon, M. (1995). Reconstructing mathematics pedagogy from a constructivist perspective. *Journal for Research in Mathematics Education,* 26(2), 114-145.**

Data from a whole class constructivist teaching experiment is presented. From this data, a model of teacher decision making for mathematical tasks is developed.

**PIAGET**

**Phillips, J. (1975).** *The Origins of Intellect: Piaget’s Theory.* W.H. Freeman

The book provides an overview of Piaget’s theory. The book starts with Piaget and his methods and flows into other theories and an overview of his theory. He then discusses Piaget’s different stages, and ends with teaching principles, teaching examples, testing, and limitations and residual questions.

**Piaget, J. (1950). *The Psychology of Intelligence. Routledge***

A classic book which any student of Piaget must read. The book is divided into three parts, with a total of six chapters. There is a conclusion, a bibliography, and indexes. The first part discusses the nature of intelligence, the second part examines intelligence and the sensorimotor functions, while the third part focuses on social factors.

**Piaget, J. (1952). *The Origins of Intelligence in Children.* Norton**

Another classic which is must reading for the scholar of Piagetian theory. It organizes intellectual development into six successive stages, starting with reflexives and continuing on to invention. language, and deduction.

**Renner, J. W., Stafford, D. G., Lawson, A. E., McKinnon, J. W., Friot, F. E., & Kellogg, D. H. (1976). *Research, teaching, and learning with the Piaget model* (p. 14). Norman, OK: University of Oklahoma Press.**

A practical book which answers questions such as “How do learners vary?”. “Is it true that girls do better than boys in school?”, and can intellectual development be measured?” The authors encourage educators to accept the responsibility for the intellectual development of students. A very strong point of the book is its analysis of the data of a study done examing the operational levels of secondary students. The data indicated that approximately 75% of students in secondary schools are at the concrete operational thought level. While the data is old, it does bring some questions to the forefront.

**TEACHER EDUCATION**

BOOKS AND CHAPTERS

**Aaronsohn, E. (1996). *Going against the grain: Supporting the student-centered teacher*. Thousand Oaks, CA: Corwin Press.**

This book provides helpful evidence and support for preservice teachers as they begin to develop a constructivist understanding of instruction. Aaronsohn presents a rich case study describing the challenges that face a first year student-centered teacher. This beginning teacher learns how to handle her own uncertainties about her non-traditional practice as she struggles to overcome resistance from other teachers in her new school. Chapters help the reader to see teaching as a process, not a product, and to learn how to deal with institutional realities that may conflict with more student-centered priorities. The book also includes suggestions for how teacher educators can develop an effective mentoring relationship with their preservice teacher-students.

**Dillon, D., Anderson, L., Angio, J., Kahan, N., Rumin, A., & Sherman, R. (1995). Teaching and learning together in teacher education: “Making Easter.” In C. Dudley-Marling and D. Searle (Eds.), *Who owns learning? Questions of autonomy, choice, and control* (pp. 190-212). Portsmouth, NH: Heinemann.**

This book chapter gives an overview of the primary author’s semester-long, graduate level course called “Language and Learning Across the Curriculum,” starting with a brief comparison of constructivist and behaviorist educational beliefs. Four key principles undergirding the course, an outline of course readings, and a brief description of assessment methods are included. Each of the five secondary authors’ viewpoints as former students in the course are given in their own words, with a summary reflection by the primary author. The unusual subtitle is explained at the end of the chapter.

**Duckworth, E. (1997). *Teacher to teacher: Learning from each other*. New York: Teachers College Press, Columbia University.**

This book describes the experiences of thirteen teachers in a one-year, graduate level Experienced Teachers Program (ETP) at the Harvard Graduate School of Education. The ETP is outlined in the introduction; and the remainder of the book is a collection of discussions, essays, and first-person descriptions of experiences of the teacher-students during their year in the program. The book relates the achievements and challenges of a democratic teacher education program from the insiders’ viewpoints.

**Flynn, P., Mesibov, D., Vermette, P. J., & Smith, R. M. (2013). Captivating classes with constructivism: Preparing educators for the Common Core Standards.**

This book provides many “concrete” strategies for applying the Constructivist philosophy. What makes these strategies so important is that they have already worked in the classroom.

**Guyton, E., Rainer, J., & Wright, T. (1997). Developing a constructivist teacher education program. In D. Byrd & D. J. McIntyre (Eds.) *Research on the education of our nations teachers*. (pp. 149-171). Thousand Oaks, CA: Corwin Press.**

This chapter focuses on three phases of curriculum decision making for an early childhood department at a large urban state university engaged in developing a new master’s degree program based on constructivist theories and principles. Authors identified a) tasks, issues, and decisions for each phase; b) foundations for change; and c) faculty struggles in making a paradigm shift in higher education.

**Harlen, W. (Ed.) (1985). *Primary science: Taking the plunge.* Portsmouth, NH: Heinemann.**

A collection of articles outlining issues in teaching elementary and middle school students, with detailed sections on dialogue, observation, questioning, communication, and misconceptions. Brought to life with examples from classrooms and children, this collection of articles is especially useful with undergraduates or beginning teachers.

**Hillkirk, K. (1994). Teaching for democracy: Preparing teachers to teach democracy. In J. M. Novak (Ed.), *Democratic teacher education: Programs, processes, problems, and prospects* (pp. 89-102). Albany, NY: State University.**

This book chapter describes the initial three years of the undergraduate Teacher Education for Civic Responsibility (TECR) Program at Ohio State University, which is “framed around the civic mission of teachers in educating their students about the rights and responsibilities of citizenship in a democracy” (p. 90). A table lists six contrasts between TECR and what the author describes as a more traditional teacher education program.

**Kroll, L. R., Cossey, R., Donahue, D. M., Galguera, T., LaBoskey, V. K., Richert, A. E., & Tucher, P. (2005). *Teaching as principled practice: Managing complexity for social justice.* Thousand Oaks, C.A.: SAGE Publications, Inc.**

This book discusses effective teacher development while emphasizing social justice. The text is organized around six principles that are intended to guide practice in the classroom and direct attention to students who have been underserved by educational institutions. The six principles are as follows: Teaching is inherently moral work; teaching is an act of inquiry and reflection; learning is a developmental, constructivist process; the content of what is taught must be well understood by those who teach and those who learn; teaching is a collegial act; and teaching is political.

**Rainer, J. (Ed.) (2002). *Reframing teacher education: Dimensions of a constructivist approach.* Dubuque, Iowa: Kendall/Hunt Publishing Company**

This text provides information gathered from the ATE Commission on Constructivist Teacher Education project in which constructivist theory was explored from teacher educators’ perspectives. The book defines constructivist teacher education as the interaction of seven dimensions and offers suggestions of principles and practices to guide teacher educators as they translate constructivist theory into practice. The seven dimensions used to define constructivist teacher education and to organize the text are learning and development, authority and facilitation, action and reflection, autonomy and community, process and content, power and empowerment, and critical thinking and multiple perspectives.

**Richardson, V. (1997). Constructivist teaching and teacher education: theory and practice. In V. Richardson (Ed.), *Constructivist teacher education: building a world o new understandings* (pp. 3-14). Washington, D.C.: The Falmer Press.**

In this chapter Richardson reviews different forms of constructivism with teacher educators in mind. She discusses issues of power, authority, and the role of formal knowledge. Richardson notes that some teacher educators are using a direct approach to teach about constructivism and others are modeling the constructivist approach to involve their students in examining of teaching and model alternatives.

**Westheimer, J. (1998). *Among school teachers: Community, autonomy and ideology in teachers’ work*. New York: Teachers College Press, Columbia University.**

This book discusses the author’s concept of teacher communities and what factors encourage or impede their growth in schools. Case studies of the efforts of faculty and staff at two diverse middle schools to create and sustain teacher communities are presented and compared. Lessons learned from these case studies are explored, along with their implications for administrators, researchers, and other stakeholders in education.

JOURNAL AND JOURNAL ARTICLES

**Affandi, L. H., & Tantra, D. K. (2022). Implication of Constructivism Philosophy on Teacher Professional Development: A Literature Review. *Jurnal Pendidikan Progresif*, *12*(2), 806-821.**

Using a literature review approach, the article studies the implications of the constructivist philosophy on teacher education. The nature of the constructivist approach is discussed as well as the implications for professional development

**Holbrook, J., Chowdhury, T. B. M., & Rannikmäe, M. (2022). A Future Trend for Science Education: A Constructivism-Humanism Approach to Trans-Contextualisation. *Education Sciences*, *12*(6), 413.**

Sustainability is a challenge for contemporary society and this increases the importance of science. This article examines the focus of science/STEM education in terms of increasing societal impacts of science; it does this by utilizing a constructivism-humanism approach, and this results in a 4-phase model which adds a trans-contextualization phase.

**Kroll, L. & Black, A. (1993). Development theory and teaching methods: A pilot study of a teacher education program. *Elementary School Journal, 93*(4), 417-431.**

An in-depth understanding of developmental theory and research, in the tradition of Piaget, is used as core knowledge for helping preservice and inservice elementary teachers restructure their conceptions of teaching and learning. The 2-year Developmental Teacher Education (DTE) program is summarized and linkages between developmental conceptions of learning and educational practices that Piagetian theory was not originally developed to encompass are proposed.

**Putnam, R. & Borko, H. (2000). What do new views of knowledge and thinking have to say about research on teacher learning? *Educational Researcher*, 29(1), 4-15.**

This article proposes that cognition is situated and social and follows with a discussion of where teachers’ learning experiences should take place.

**Rainer, J. (1999). Faculty living their beliefs. *Journal of Teacher Education, 50*(3), 192-200.**

In this article, the author describes a programmatic reform based on constructivist theories, identifies how the reform changed faculty practice, and articulates faculty members’ reflections on personal and professional change.

**Rainer, J. & Guyton, E. (2001). Structures of community and democratic practices in graduate teacher education, teacher change, and linkages facilitating change*. Action in Teacher Education, 23*(2), 18-29.**

In this research study, the authors describe practices in a constructivist graduate program in teacher education, document changes in teachers and their practice, and analyze connections between program practices and teacher change. The authors also develop a model for constructivist teacher education with linkages between community, democratic practices and teacher change.

**THEMATIC JOURNAL ISSUES ON CONSTRUCTIVISM**

JOURNAL AND JOURNAL ARTICLES

**Constructivism in teacher education [Thematic issue]. (1996, Summer). *Action in Teacher Education, 18*(2).**

This thematic journal issue includes the following nine articles on constructivism in teacher education: 1) Vygotsky and Schooling: Creating a Social Context for Learning [Hausfather, S. J., pp. 1-10]; 2) Learning about Learning: An Interactive Model [Burk, D. I. & Dunn, M., pp. 11-18]; 3) Implications of a Model for Conceptualizing Change in Mathematics Teachers’ Instructional Practices [Edwards, T. G., pp. 19-30]; 4) Foxfire: Constructivism for Teachers and Learners [Teets, S. T. & Starnes, B. A., pp. 31-39]; 5) Constructivist-based Experiential Learning in Teacher Education [Kaufman, D., pp. 40-50]; 6) Changing Beliefs: Teaching and Learning Mathematics in Constructivist Preservice Classrooms [Anderson, D. S. & Piazza, J. A., pp. 51-62]; 7) Practicing What We Preach: Constructivism in a Teacher Education Program [Kroll, L. R. & LaBoskey, V. K., pp. 63-72]; 8) Reflective Theory and Practice: A Constructivist Process for Curriculum and Instructional Decisions [Jadallah, E., pp. 73-85]; and 9) A Constructivist Teacher Education Program that Incorporates Community Service to Prepare Students to Work with Children Living in Poverty [DeJong, L. & Groomes, F. L., pp. 86-95].

**Constructivist approaches to teacher education [Thematic issue]. (1992, November-December). *Journal of Teacher Education, 43*(5).**

This thematic journal issue purposes to explore the implications of constructivism for teacher education. It includes the following three thematic articles: 1) A Developmental-Constructivist Approach to Teacher Education [Black, A. & Ammon, P., pp. 323-335]; 2) Engaging Teachers in Emancipatory Knowledge Construction [O’Loughlin, M., pp. 336-346]; and 3) Constructing New Forms of Teaching: Subject Matter Knowledge in Inservice Teacher Education [Mosenthal, J. H. & Ball, D. L., pp. 347-356].

**The constructivist classroom. [Thematic Issue]. (November, 1999). *Educational Leadership, 57*.**

The following articles are presented in this issue*: The Many Faces of Constructivism* by David Perkins;*The Understanding Pathway: A Conversation with Howard Gardner* by Marge Scherer; The Courage to Be Constructivist by Martin G. Brooks and Jacqueline Grennon Brooks; Getting the Discussion Started by Margaret G. McKeown and Isabel L. Beck; Problem Solved: How to Coach Cognition by Karoline Krynock and Louise Robb; Strategies for Mathematics: Teaching in Context by Michael Crawford and Mary Witte; What Is a Standards-Based Mathematics Curriculum? By Lynn T. Goldsmith and June Mark ; Art Lessons: Learning to Interpret by B. Stephen Carpenter II; When Students Create Curriculum by Marsha Grace; Does the Universe Have a Job? By Catherine Bennett, Jacqueline Grennon Brooks, and Nancy Morvillo; Helping Students Ask the Right Questions by Cynthia Richetti and James Sheerin; *In New Zealand* A City Site Classroom by Perry Rush; Constructing Knowledge, Reconstructing Schooling by John Abbott and Terence Ryan; To See the World in a Grain of Sand by Steven Levy; Architects of the Intellect by Robin Fogarty

**VYGOTSKY**

BOOKS AND CHAPTERS

**Bedrova, E. & Leong, D. J. (1995). *Tools of the mind: A Vygotskian approach to early childhood education*. Columbus, OH: Prentice Hall.**

The author’s objective is to enable future teachers to provide young children with the mental tools necessary for learning. They view mental tools as a cycle in which ideas are learned from others, modified and changed, and passed back to others. They offer practical applications and suggestions for applying elements of social constructivist theory in the classroom. The book includes examples and activities that profile the Vygotskian approach at work in various schools in the Denver metropolitan area.

**Dixon-Krauss, L. (1996). *Vygotsky in the classroom: Mediated literacy instruction and***

***assessment.* White Plains, N.Y.: Longman Publishers.**

This book outlines the Vygotskian approach in every aspect of classroom instruction and assessment, including reading, writing and scientific concepts. The author includes discussions about Activity Theory, the Zone of Proximal Development, the benefits of collaborative teaching, and the use of portfolios to mediate literacy instruction and assessment.

**Moll, L. C. (Ed.). (1992). *Vygotsky and education: Instructional implications and applications of sociohistorical psychology*. Cambridge University Press.**

This book presents a clear and comprehensive explanation of Vygotsky’s sociohistorical framework: Moll has carefully selected components of this theory, and the main theme includes Historical and theoretical issues, Educational implications, and Instructional applications. A very important publication which will provide value to all educators.

**Nardo, A. (2021). Exploring a Vygotskian theory of education and its evolutionary foundations. *Educational Theory*, *71*(3), 331-352.**

Nardo posits that while Vygotsky is usually viewed as an educational psychologist or learning theorist, his contribution to a theory of education has not been thoroughly discussed. The article focuses on this construct.

**Newman, S., & Latifi, A. (2021). Vygotsky, education, and teacher education. *Journal of Education for Teaching*, *47*(1), 4-17.**

While Vygotsky’s views are widely accepted as valid and unproblematic, this article provides another viewpoint. The authors dispute some of the theoretical accounts; possible implications are discussed.

**Vygotsky, L. (2012). Thought and language: Edited and with a new foreword by Alex Kozulin.**

**Wimk, J. & Putney, L. G. (2002). *A vision of Vygotsky.* Boston, MA: Allyn & Bacon.**

The intent of this text is to introduce students of education and psychology to Vygotskian theories of teaching, learning, and development by using his written documents. The book begins with an overview of Vygotsky’s background and moves on to outline the significance of studying Vygotsky and his theories. The authors then examine three concepts: thoughts and language by looking at the Vygotskian Venn Diagram, the concept of sociocultural teaching and learning, and the Zone of Proximal Development. The next section of the book evaluates theory through intersubjectivity, intertextuality, intercontextuality, and consequential progressions. The authors conclude by defining several of the terms used throughout the text and a discussion of mentoring - meaning experienced thinkers sharing knowledge with novice thinkers.