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Exploring Foundations in Educational Psychology: Influential Works in Adult Development and Learning

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Conceptual

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DOI: <https://doi.org/10.69670/mje.1.1.1><https://www.williamwoods.edu/academics/mje>**Diana Quito****Abstract**

This essay delves into the seminal authors in the fields of cognitive development and learning theory to explore how the field of Educational Psychology has contributed to adult learning. Each seminal theory is discussed in terms of its significance within the field of Educational Psychology, its alignment with current Educational Psychology research, and its potential impact on future Educational Psychology research. First it explores research on constructivist stage theories such as Piaget's (1947/2001) four stages of cognitive development and Perry's (1970) developmental scheme. Second, it examines the contributions of feminist scholars such as Gilligan's (1982/2003) ethic of care and Belenky et al.'s (1986/1997) epistemological categories. Third, it delves into Bronfenbrenner's (1976) multidimensional ecological system theory. Specifically, cognitive developmental theories can enrich research in higher education by identifying barriers to learning and by providing points of intervention and support that highlight the students' situated environments. Furthermore, gendered and integrative perspectives can broaden how we contextualize adult learning. The psychological component of cognitive development and learning theories proves to be a generative source to inform adult learning research and instruction for both informal and formal settings.

Keywords

educational psychology; Piaget's cognitive development; Perry's developmental scheme; Gilligan's ethic of care; Belenky's epistemological categories; and Bronfenbrenner's ecological system theory

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Introduction

The changes in American society's demographic base underscore a growing need to focus on adult education. With adults now outnumbering those under 18 years old, and with the elderly population aged 65 and above continuing to increase, adult educators are challenged to respond to rapid social, political, and technological advances promptly and effectively (Kop & Bouchard, 2011; Merriam et al., 2007). Mizzi et al. (2021) noted that "adult and continuing education is considered the 'fourth leg of the chair' of the American educational system, alongside early childhood programs, K–12, and postsecondary institutions. Yet, in some ways, adult and continuing education is the weakest leg" (p. 3). To advance as a society, we must understand the capacities and learning needs of adults of all ages so that we can support them appropriately (Arnett et al., 2020).

This essay delves into the seminal authors in the fields of cognitive development and learning theory to explore how the field of Educational Psychology has contributed to adult learning. These foundational studies have shaped the discourse, methodologies, and theoretical frameworks within the domains of adult learning and instruction. Each seminal article will be discussed in terms of its significance within the field of Educational Psychology, its alignment with current Educational Psychology research, and its potential impact on future Educational Psychology research.

Adult Development

The dominant models of adult development typically present "a descriptive account of the development, an explanation of the fundamental processes underlying developmental progress, and a clear view of the endpoint of development: the mature, fully developed, psychologically healthy person" (Tennant, 2008, p. 10). This section is organized into three parts. First it explores research on constructivist stage theories such as Piaget's (1947/2001) four stages of cognitive development and Perry's (1970) developmental scheme. Second, it examines the contributions of feminist scholars such as Gilligan's (1982/2003) ethic of care and Belenky et al.'s (1986/1997) epistemological categories. Third, it delves into Bronfenbrenner's (1976) multidimensional ecological system theory.

Cognitive Development

Historical Significance: Piaget's Theory of Cognitive Development

Jean Piaget's (1896-1980) well-known grand stage model was first published in 1947 in a book entitled *The Psychology of Intelligence* (Brainerd, 2003). Piaget's foundational model theorized that all people actively structure and restructure meaning and experience at increasingly sophisticated levels attained through maturation (Berk, 1997; Spigner-Littles & Anderson, 1999). As a result, higher-order thought is made possible by the increasing ability to individually process and organize information (Hong, 2003; Merriam et al., 2007). Piaget challenged the prevailing notion in the early 20th century that a child's cognitive activity was only a less efficient version of an adult's. Instead, he claimed that children steadily and gradually passed through a series of cognitive developmental stages that were qualitatively different from each other (Tennant, 2006).

Piaget (1947/2001) posited that there are four age-related stages of cognitive development: 1. the sensorimotor stage (birth to approximately 2 years of age), 2. the preoperational stage (approximately 2–7 years of age), 3. the concrete operations stage (approximately 7–11 years of age), and 4. the formal operations stage (twelve-plus years). Piaget initially believed that children could reach the formal operational stage between the ages of 12 and 15, but he later revised this by stating that the development can occur up to the age of 20 (Piaget, 1972).

Piaget's work on the stages of intellectual development has had a major influence on educational practice (Collis, 2008; Kallio, 2020; McInerney, 2005; Zhang, 2022). As a consequence of his work, Piaget's central principles led to the development of a learner-centered pedagogy approach in Europe and America during the 1970s and 1980s (Hsueh, 2002).

Relevance and Future Application of Piaget's Theory of Cognitive Development

Although Piaget did not focus on adult learning (Sutherland, 1999; Zhang, 2022), Piaget's theory has enhanced our understanding of adult cognitive development and provided the basis for theory development with adults (Merriam & Bierema, 2014; Sutherland, 1999). Tennant (2006) outlined Piaget's significant contributions: "the emphasis on qualitative rather than quantitative developmental changes in cognition, the importance attached to the active role of the person in constructing his or her knowledge, and a conception of mature, adult thought (i.e., formal operations)" (p. 66).

Revised formulations of adult cognitive development attempt to take into account the complexities of context that operate within an adult's day-to-day life (Merriam & Bierema, 2014; Tennant, 2006). For instance, neo-Piagetians suggested there is development past the adolescent formal operations, such as a fifth stage of cognitive development called problem-finding (Arlin, 1975), dialectical model (Basseches, 1984), or relativistic model (Sinnott, 1981). These theories have helped to show that cognitive development occurs throughout the lifespan, a perspective that better represents adult behavior (Knight & Sutton, 2004; Marchand, 2002). Piaget's constructivist model is still relevant in helping us to understand the cognitive dimension of adult learning as an ongoing process of transformation (Bourgeois, 2012). Furthermore, acknowledging the existing mental structures that are present in this ongoing process of learning can generate future studies on instruction that promote learning transfer and engagement through environmental interactions. Since adults learn in a wide range of situations, Piaget's theory has endless applicability.

Historical Significance: Perry's Scheme of Intellectual and Ethical Development

William Perry (1913-1998) first published his developmental scheme in *Forms of Intellectual and Ethical Development in the College Years: A Scheme* in 1970. According to Stalker (2005), Perry's scheme defined learning styles for adults for the next two decades. The longitudinal, qualitative research study on the experiences of undergraduate students at all-male institutions provided a "map" of adult intellectual and ethical development (Merriam et al., 2007). The groundbreaking impact of Perry's scheme was the centrality of epistemological assumptions in

cognitive development (Seppälä et al., 2020) and its contribution to bridging a research gap to address the adolescent-to-adulthood transition (Patton et al., 2016; Sutherland, 1999).

Perry and his colleagues (1970) inquired into the experiences of students attending Harvard University and Radcliffe College. The students participated in open-ended interviews conducted at the end of each academic year, and the data was analyzed for structural components. The intellectual and ethical developmental scheme interpreted from the data consisted of nine positions, with each position comprised of a qualitatively different cognitive structure used by a student to perceive their knowledge and values. The first three positions indicate a dualistic view of the world (as either right/wrong), the middle three positions represent a modification of absolutist right/wrong classification and incorporate a contextual relativistic point of view, and the last three positions reflect the challenge of the personal commitment to establishing an identity in a relativistic world. It is important to note the critical role of transitions as the students transfer from one stage to the next.

Relevance and Future Application of Perry's Scheme of Intellectual and Ethical Development

Perry's scheme is still generating new research as it is being challenged, revised, and applied (Kannady, 1992). New studies have demonstrated the limitations of Perry's cognitive development model, which was originally based on the thinking processes of White, Ivy League traditional-age college undergraduate students in a liberal arts setting (Merriam et al., 2007). Zhang's (2004) findings indicate that the pattern of cognitive development identified in Perry's original study cannot be generalized to Chinese cultures. Hood and Deopere's (2002) study also showed that older adults continue to exhibit dualistic thinking.

Despite its limitations, Perry's scheme will continue to be useful in explicitly linking college students' developmental model to the learning process, as well as continuing to inform learning strategies to guide students' development (Cunningham, 1992; Patton et al., 2016). Like Piaget's constructivist model, Perry's scheme advocates for new ways to design student-learning environments. In Perry's model, this is in service of nurturing students' sophistication in epistemological beliefs. Perry's scheme has also been a valuable source of inspiration for practitioners in both student services and faculty development (Patton et al., 2016). Adult educational psychologists can continue this work by exploring how developmental schemes are formed within and across the various situated contexts that students encounter in higher educational institutions.

Gender and Epistemological Development

Historical Significance: Gilligan's Theory of Women's Moral Development

Carol Gilligan's (1936-) work continues to have a major influence on the research of adult cognitive development. According to Kallio (2020), Lawrence Kohlberg's and Carol Gilligan's research established the foundation for adult development stage theories for moral thinking. Utilizing a Neo-Piagetian perspective, Kohlberg's (1973) cognitive developmental paradigm emphasized a progression of moral-ethical reasoning stages that are universal and hierarchical. In opposition, Gilligan posited that Kohlberg was incorrect for exclusively defining moral

development based on the progression of rational reasoning. Furthermore, she critiqued that Kohlberg's theory is biased against girls and women because it is derived from a sample of primarily boys and men (Juujärvi & Helkama, 2020; Slavin, 2018; Tennant, 2006). Departing from Kohlberg's (1973) centrality of a justice orientation, Gilligan conceptualized an ethic of care as a second and distinct mode of moral thought (Jones & Gasiorowski, 2009; Kallio, 2020; Leicester & Twelvetrees, 2005).

Gilligan's groundbreaking book, *In a Different Voice*, was published in 1982 to widespread acclaim. She argued against models of human development that misunderstood women's everyday experiences and privileged the male perspective (Kallio, 2020; Patton et al., 2016). Gilligan's work advocated for the inclusion of women in developmental theories as they were often excluded from psychological studies (Patton et al., 2016). Gilligan's (1982/2003) book included three studies: the college student study, the abortion decision study, and the rights and responsibility study.

In the abortion decision study, interviews were conducted with 29 women who were pregnant in their first trimester and contemplating abortion. The abortion decision study provided an alternative explanation to moral development, proposing that women proceed through a sequence of three perspectives and two transition periods in the development of the ethic of care. Each of the three perspectives indicates a more complex relationship between self and others, and each transition represents a deeper understanding of the tension between selfishness and responsibility. In the final perspective, responsible caring, the conflict between selfishness and responsibility is resolved by a balanced understanding that moral obligation requires helping oneself and others.

Historical Significance: Belenky, Clinchy, Goldberger, and Tarule's and Women's Epistemological Beliefs

Citing the influence of "the theoretical and empirical work of Perry, Kohlberg, and Gilligan" (p. 14), Mary Field Belenky (1933-2020), Blythe McVicker Clinchy (1949-2014), Nancy Rule Goldberger (1934-), and Jill Mattuck Tarule (1943-2019) published the prominent and much-cited work, *Women's Ways of Knowing: The Development of Self, Voice, and Mind* in 1986. The research project began in the late 1970s as the researchers sought to understand why women often doubted their intellectual competence and why there was a lack of recognition of the lessons women learned through their relationships.

Belenky et al. (1986/1997) conducted 135 in-depth interviews with women from diverse social and ethnic backgrounds affiliated with "formal" educational institutions (current students or alumnae) and "informal" educational institutions (women affiliated with human service agencies supporting female parents). The authors identified five epistemological categories in the development of women's perspectives on knowing: silence, received knowledge, subjective knowledge, procedural knowledge (categorized as separate or connected), and constructed knowledge. Silence is a state of unknowing where women are voiceless. Received knowledge is a state where knowledge comes from external authorities such as fathers, husbands, or religious leaders and is reproduced without alteration. Subjective knowledge is intuitive knowledge that is personal, private, and experience based. In the last two categories, women adopt a more active role in their learning. Procedural knowledge involves applying objective procedures in gaining knowledge and constructed knowledge represents the experience of women seeing themselves as

creators of knowledge, perceiving the contextual limitations of knowledge, and valuing the utilization of both subjective and objective strategies for knowing. The authors also articulated that these categories are not necessarily rigid or universal, nor are they exclusive to women as men's thinking also encapsulates related categories (Belenky et al., 1986/1997).

Relevance and Future Application of Gendered Inquiry

Empirical work focusing on investigating gender differences in moral decision-making and learning styles has yielded diverging results. While some studies reflect a statistically significant difference in moral decision-making between women and men (Capraro & Sippel, 2017; Banerjee et al., 2010), other studies did not (Gibbs, 2021; Seyedsayamdost, 2012). Studies also conclude that there are no identifiable gender differences in the learning approach of students (Clifton et al., 2008; Yu & Deng, 2022).

Nevertheless, the contributions of Gilligan's (1982/2003) and Belenky et al.'s (1986/1997) work cannot be understated as these researchers challenged the traditional practice of conducting research with all-male samples and generalizing the results to females (Reio, 2021). With women in academia making up more than half of all college students (Johnson, 2017), gender differences in educational contexts warrant increasing attention to ensuring educational equity (Grebennikov & Skaines, 2009; Meyer et al., 1994). Research on women's development theories that acknowledge and value women's learning styles and ways of thinking and knowing can continue to be applied to contribute to inclusive, positive learning environments (Buskirk-Cohen et al., 2016; Kawalilak & Groen, 2021). Gendered inquiry can provide one answer as to how adult educational psychologists can meet the challenge of integrating relational perspectives with traditional concerns including cognition, learning, and development (Farley et al., 2016).

Integrative Perspectives

Historical Significance: Bronfenbrenner's Ecological Systems Theory

In the seminal publication of *The Experimental Ecology of Education* in 1979, Urie Bronfenbrenner (1917-2005) applied the principles of social ecological theory to the field of education (Anderson et al., 2014). Bronfenbrenner (1976) defined the term "ecology of education" as encompassing two sets of relationships: the first being the relationship between the learners and their environments, and the second being the intricate system of relationships between the environments. Bronfenbrenner proposed that the developing child is surrounded by nested layers of environmental systems that influence development. The microsystem described everyday settings where patterns of activities and interpersonal relations are experienced, such as the home or a daycare facility. The mesosystem encapsulated the interlocking influence across microsystems. The exosystem consisted of interactions between microsystems and the social structures and institutions that they are a part of. Lastly, the macrosystem consisted of overarching cultural patterns or society that frames the structures and relationships of the embedded systems. In an updated version of the bioecological model, the dimension of time was integrated with the elements of person, process, and context (Bronfenbrenner, 1993). The chronosystem, the fifth

environmental system, addressed the consistent change over time within the individual and the historical events impacting their environments.

Relevance and Future Application of Bronfenbrenner's Ecological Systems Theory

Collins (2021) emphasized that “because adult learners live and learn within complex systems, they must be understood from a variety of perspectives” (p. 32). Relatedly, Tennant (2006) warned against the danger of single-perspective theories “on shaping and maintaining conventionally held views about what it means to be a mature and healthy adult” (p. 65). By emphasizing systematic conditions operating in the background of our lives, Bronfenbrenner's (1979) theory continues to provide a framework that orients towards a growth perspective while refuting a deficit mindset. Bronfenbrenner's model provides adult educational psychologists with a theory to continue to “understand and incorporate the forces that have shaped and continue to shape the chronologically mature person” (Hoare, 2008, p. 70) in their scientific study of learning. Using the bioecological model, educational psychologists can continue to develop contextualized research inquiries into inequities in higher education.

Conclusion

The percentage of adult learners continues to rise. Additionally, the increasing socioeconomic and cultural diversity has implications for adult educators seeking to address social inequities (Merriam et al., 2007). Adult and continuing education, also known as the ‘fourth leg of the chair’ of the American system of education, can look to educational psychology to facilitate adult learner growth (Mizzi et al., 2021). Specifically, cognitive developmental theories can enrich research in higher education by identifying barriers to learning and by providing points of intervention and support that highlight the students' situated environments. Furthermore, gendered and integrative perspectives can broaden how we contextualize adult learning. The psychological component of cognitive development and learning theories proves to be a generative source to inform adult learning research and instruction for both informal and formal settings.

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