

Cognition and Instruction Comprehensive Examination:

Philosophy and Pedagogy Statement

W. Ian O'Byrne

University of Connecticut

Statement of Philosophy and Pedagogy

During completion of your coursework, you have encountered many theorists and scholars who have espoused tenets of thinking, teaching and learning. In 8, double-pages or fewer (Compliant with APA guideline; references, tables, figures are not included in 8 pages), present a statement of philosophy and pedagogy that describes three of your tenets regarding "best cognition and instruction practices." Of course, it may be obvious that teaching and learning positions complement one another. As you present these points of view, refer to at least one philosopher, psychologist or educational psychologist who would express opposing views to yours. Emphasize at least one major difference between your views and those of the opposing ones. With respect to this difference, argue why you think your view is better of the enhancement of thinking, teaching and/or learning.

Then as you begin to close your statement, we ask that you think about the future given your philosophical views. Be visionary. List one good and one bad thing that you think likely to happen to education in the next 25 years. How might your philosophy or associated practices help us realize this "good thing" or avoid/overcome the "bad thing" that you envision for us?

Your response will be evaluated for:

- a) your ability to state your philosophical views clearly
- b) your accurate reference and description of the viewpoints/works of others
- c) the overall cohesion and semantic clarity of the full response including accurate use of APA style
- d) your ability to hypothesize about the impact of your philosophical views for the future

For hundreds of years individuals have interacted within the cultures that spread across the planet. As individuals interact within each other, learning provides the capital with which to understand and comprehend the ways and means of agreed upon understanding. With the advent of Internet and Communication Technologies (ICTs) planet is brought even closer together than ever before. The theories that define literacy and learning have experienced more change than probably ever before (Leu & Kinzer, 2000).

I view learning as an active interaction that involves the acquisition of, or changes in knowledge, understanding or behaviors of an individual that affects their ability to understand, collaborate and communicate successfully within the spaces that they live. In order to formulate this philosophical stance, I have identified three perspectives that my idea of best practices is derived from: social constructivist thought (Bandura, 1977, Vygotsky, 1978); new literacies theory (Lankshear & Knobel, 2003; Leu, Kinzer, Coiro, & Cammack, 2004); and Cognitive Continuum Theory (Hammond, 1981; Dunwoody, Haarbauer, Mahan, Marino & Tang, 2000).

Theoretical Models that Support and Scaffold Change

As learning styles and behaviors change as a result of the effects of ICT upon society it is necessary to invest in theoretical frameworks that allow for, and scaffold learning for all individuals. Literacy and learning has been shown to evolve rapidly as ICTs interact with the very fabric of society. This deictic (Leu, 2000) shift ensures that what is understood or believed about learning and literacy has the potential to modify or change as time passes. Because of the constant change that is occurring, it is important to examine the field using multiple theoretical lenses (Labbo & Reinking, 1999). In my estimation, the perspectives of social constructivism, new literacies and cognitive continuum theory allow me to do this.

Social Constructivism

This branch of postmodern constructivist thought stems from the early work done by Jean Piaget. Piaget saw learning as the result that occurs from the physical and mental maturation of an individual, along with the modifier of experience (Moll, 1990). In social constructivism (Bruner, 1996; Salomon & Perkins, 1998; Vygotsky, 1978), the effects of constructivist thought are mediated by social interactions with others using text, images and language (Moll, 1990). Like constructivist thought, social constructivism is based on the tenet of knowledge as a

constructed process; whereas the theory differs in arguing that the construction occurs between individuals, and not solely at the individual level (Schunk, 2000).

There are two facets of social constructivist thought that are most important to the shaping of my philosophy as it relates to pedagogy and literacy. The first of which is the impact of Lev Vygotsky (1978) and his theory of the Zone of Proximal Development (ZPD). Vygotsky hinted in his work as to the power of social learning and the habits involved. The ZPD refers to the competency level of learners and the assistance provided in strategy exchange by others within the social community (Tudge, 1990). The second tenet of social constructivism that has shaped my philosophy is that of semiotics (Palincsar, 1998). Semiotics is the study of the signs and signals that are inherent in communication, and the transition or construction of these symbols by society (Hodge & Kress, 1988). Semiotics is the study of systems of signs and symbols and examines the methods in which meaning is transmitted and understood. These skills will influence a student's comprehension and communication abilities as ICTs become increasingly prevalent in society. Semiotic analysis and scaffolding techniques for all learners is needed, all while remaining cognizant of their ZPD.

New Literacies

The change that is brought about by ICTs causes researchers and educators to shift what is understood by the terms literacy and learning. Constant, dramatic shifts in the skills and strategies employed by individuals as they read, collaborate, communicate and express themselves while in online spaces demands a need to affect pedagogy with solid research. Leu, et .al (2009) describe new literacies theory as functioning on two levels: upper case (New Literacies) and lower case (new literacies). *New Literacies*, as the broader, more inclusive concept, benefits from work taking place in the multiple, lower case dimensions of *new literacies*. This is seen as an advantage, not a limitation. It enables the larger theory of New Literacies to keep up with the richness and continuous change that will always define the Internet. Recently, Coiro, Knobel, Lankshear, and Leu (2008) have identified four common principles that currently define the more inclusive concept of New Literacies:

1. new technologies for information and communication require us to bring new potentials to their effective use;
2. New Literacies are central to full civic, economic, and personal participation in a globalized community;

3. New Literacies are deictic and regularly change;

4. New Literacies are multiple, multimodal, and multifaceted.

Cognitive Continuum Theory

As ICTs change literacy and learning it is important to try to understand how individuals tailor their cognitive strategies to different environments. Decision-making has been viewed as judgments between the rational (coherent) and non-rational (incoherent) (Hammond, 1996). CCT posits that there is not a dichotomous scale between the two, but instead there is a continuum between intuition and analysis (Hammond, 1981). It is on this continuum that all judgments by humans are said to intersect. The research completed on CCT informs the work of healthcare and nursing (Hamm, 1988; Cader, Campbell & Watson, 2005) and other fields in which decision making behaviors are paramount (Dunwoody et al., 1997; Mahan, 1994; Mahan et al., 1998). Due to the fact that at this point, little is known about the attitudes and aptitudes of individuals interacting in online spaces, and less about pedagogy affecting this, I see CCT impacting my work. Due to the large amount of change that is occurring as ICTs impact literacy and learning, at times there is resistance to this change on the part of researchers or educators. I believe that a model to frame the changes occurring

to literacy and learning, and provide guidance for addressing these changes.

In the case of pedagogy as it is affected by ICTs, I see CCT interacting on two levels: that of the students and that of the instructor. In bringing new technology-infused lessons into the classroom, the two levels of "comfort" on the continuum determine how the students, and the instructor will find success in the integration of ICT infused lessons into the classroom in an authentic manner. The groups move further along the continuum as experience warrants, allowing expertise to be built upon and shared (Potter, 2004). The decision making process also is shown in the information comprehension and construction habits of individuals participating in an online environment (Shiffrin, 1988). Decisions and judgments made in online environments are meted in a subtle interplay between the analytic mind sharing what has worked before and intuition perceiving what might work in a novel situation. Students need to be provided with opportunities to obtain and practice these skills to provide a basis for transfer to new situations that will present themselves in the future.

The theoretical models that support my philosophy are specifically skilled in preparing for and supporting change that

will be present as literacy and learning advance. The skills we present to students in the use of specific tools, and for certain environments, will prove useless if ICTs continue to advance and drastically transform communication and socialization avenues. New Literacies provides a framework to examine the changes occurring to literacy and learning, both on a broad, and a micro level (Leu, O'Byrne, Zawilinski, McVerry, Everett-Cacopardo, 2009). This gives us the opportunity to observe the depth of work that is occurring as changes take effect. Social constructivism and CCT allow for the focus to remain on the student, and what affordances the student wants to envision for the future. These three theoretical frames support the change that is occurring to literacy and learning.

Social Learning Theory

As a theory that would present direct opposition to the tenets of my philosophy that I have described, I present social learning theory (Ormrod, 1999). Social learning theory is an extension of the behaviorist theory (Bandura, 1977) that observable behaviors can be acquired through conditioning, or overt reinforcement (Bandura, 1988). In examining the research and theories that arise from work involving changes to literacy, it is evident that there is more involved in student performance

using ICT tools that just direct instruction. In terms of the novel skills and strategies needed for success in online environments and acquisition solely due to social learning theory, or behaviorist principles, I point to the research from the fields of online communication (Faux, 2005), gaming (Gee, 2003; Harushimana, 2008), and content creation (Kiili, 2005) which shows that students learn best from lessons that are taught "just-in-time" when a student needs the expert advice to advance (Novak, Patterson, Garvin, & Christian, 1999).

Computer Supported Collaborative Learning

The impact of the multiple perspectives of provides for an environment in the classroom that allows for student comprehension and expression using a multitude of ICT tools, with social learning providing strategy exchange of skills when needed. A building field of theoretical research strives to inform this perspective (Warschauer, 1997; Kreijns, Kirschner, & Jochems, 2003). In terms of this theoretical perspective informing classroom practice, there are three practices that I would identify as exemplars of my philosophy:

- (1) *Authentic learning experiences.* The careful integration of ICT into learning has to ensure that lessons are scaffolded and instructed to students

around an authentic learning task. Computers have been shown to have an inherent ability to draw in even the most resistant students (Burnett, 2009), but there is a need for curriculum that embeds new technology in authentic meaning-making practices. (Merchant, 2007). Also in terms of learning experiences, the Internet provides a wealth of information and communicative functions. Lessons should provide opportunities for students to research and report on topics of interest to them, all while creating inquiry projects that address the goals of state standards.

- (2) *ICT used as a tool for expression.* Classroom instruction directed at the best possible use of ICT tools, allowing for greater student expression, engagement and agency. Student should be given the ability to choose the best tool to suit their needs for information seeking and communication measures. Instruction should build agency in students and provide opportunities for strategy exchange among students as experts in the classroom.
- (3) *School as learning system.* The school should be viewed as a learning system, "not as isolated activities"

(Cole, 1996). The various curricula that all students encounter in each year of their schooling blending together with ICT skills in affording students with the "communication and thinking skills" (Bandura, 1997, p. 212) they'll need as they interact in a more global marketplace.

Preparing for the future

As ICTs affect and drastically transform ideas of literacy, learning and pedagogy, it is important to remain fluid enough to be able to adapt and react as future evolutions warrant. These changes, as presented by the deictic nature of new literacies, allow researchers and educators with the opportunity to change pedagogy and prepare them for the world in which they will interact. With change and the opportunity for rethinking literacy and learning, the decisions made to address change must be cognizant of all the factors at work. "While the pace of technological change may seem dizzying, the underlying practices of sociability, learning, play, and self-expression are undergoing a slower evolution, growing out of resilient social and cultural structures that youth inhabit in diverse ways in their everyday lives" (Ito, Horst, Bittanti, Boyd, Herr-Stephenson, Lange, et al., 2008, p. 4).

Judging by the change that has occurred to literacy and learning as a result of ICT use, the future seems to be as dynamic, if not more (Rainie & Anderson, 2008). Adolescents will continue to invest in new forms of literacy (Jewitt, 2008), and allow these skills to modify their online and offline identities (Livingstone, 2008). A reliance on pedagogies of old will neglect the transformation that has occurred to comprehension, expression and communication, and students will continue to not be prepared for the changes that permeate online and offline interactions. Students will continue to acquire and reconceptualize new literacies skills according to their own needs, and without the guidance of educators (Hull & Schultz, 2001). Students will continue to interact in the global marketplace as users that are "technologically savvy, but not informationally savvy" (McVerry & O'Byrne, 2009).

The next 25 years presents an opportunity to react, respond and reconceptualize the manner in which the Internet changes learning. Researchers and educators will have the opportunity to work with adolescents in redefining what it means to be literate in the advancing technological society. As whole segments of our lives continue to be integrated into online interactions, it is paramount that we allow our students to take manage their own

education (Moore & Kearsley, 2005) and empower them with the higher order thinking skills and flexibility (Peterson & Walberg, 1979) they'll need as learners.

References

- Bandura, A. (1977). *Social learning theory*. Englewood Cliffs, NJ: Prentice Hall.
- Bandura, A. (1988). Organizational Application of Social Cognitive Theory. *Australian Journal of Management*, 13(2), 275-302.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: W. H. Freeman and Company.
- Bruner, J. (1996). *The culture of education*. Cambridge, MA: Harvard University Press.
- Burnett, C. (2009). Research into literacy and technology in primary classrooms: an exploration of understandings generated by recent studies. *Journal of Research in Reading*, 32(1), 22-37.
- Cader, R., Campbell, S., & Watson, D. (2005). Cognitive continuum theory in nursing decision making. *Journal of Advanced Nursing*, 49(4), 397-405.

Coiro, J., Knobel, M., Lankshear, C. & Leu, D. (Eds.) (2008).

Handbook of research on new literacies. Mahwah, NJ:

Lawrence Erlbaum Associates.

Dunwoody, P. T., Mahan, R. P., Marino, C. J., Haarbauer, E. S.,

& Tang, C. C. (1997, November). *Testing congruence in a*

simulated environment. Paper presented at the Thirteenth

Annual International Invitational Meeting of The Brunswik

Society, Philadelphia, PA.

Dunwoody P.T., Haarbauer E., Mahan R.P., Marino C. & Tang

C.C. (2000). Cognitive adaptation and its consequences: a

test of Cognitive Continuum Theory. *Journal of Behavioral*

Decision Making (13), 35-54.

Faux, F. (2005). Multimodality: how students with special

educational needs create multimedia stories. *Education,*

Communication & Information, 5(2), 167-181.

Gee, J. (2003). *What video games have to teach us about learning*

and literacy. New York: Macmillan.

Hamm, R. M. (1988) Clinical intuition and clinical analysis:

Expertise and the cognitive continuum. In J. Dowie A.

Elstein (Eds.) *Professional judgement. A reader in clinical*

decision making. Cambridge, UK: Cambridge University Press.

Hammond K.R. (1981) *Principles of Organization in Intuitive and*

- Analytical Cognition (Report 231)*. Center for Research on Judgement and Policy, University of Colorado, Boulder, CO.
- Hammond, K. R. (1996) *Human Judgment and Social Policy: Irreducible error, unavoidable injustice*. New York: Oxford University Press.
- Harushimana, I. (2008). Literacy through gaming: The influence of videogames on the writings of high school freshman males. *Journal of Literacy and Technology*, 9(2), 1-22.
- Hodge, R. and Kress, G. (1988). *Social Semiotics*. Cambridge: Polity.
- Hull, G. & Schultz, K. (2001). Literacy and Learning Out of School: A Review of Theory and Research. *Review of Educational Research*, 71(4), 575-611.
- Ito, M., Horst, H. A., Bittanti, M., Boyd, D., Herr-Stephenson, B., Lange, P. G., et al. (2008, November). Living and learning with new media: Summary of findings from the digital youth project (Tech. Rep.). The John D. and Catherine T. MacArthur Foundation Reports on Digital Media and Learning.
- Jewitt, C. (2008). Multimodality and Literacy in School Classrooms. *Review of Research in Education*, 32(1), 241-267.

- Kiili, K. (2005). Content creation challenges and flow experience in educational games: The IT-Emperor case. *The Internet and Higher Education*, 8(3), 183-198.
- Kreijns, K., Kirschner, P. A., & Jochems, W. M. (2003). Identifying the pitfalls for social interaction in computer-supported collaborative learning environments: A review of the research. *Computers in Human Behavior*, 19, 335-353.
- Labbo, L. D., & Reinking, D. (1999). Negotiating the multiple realities of technology in literacy research and instruction. *Reading Research Quarterly*, 34, 478-492
- Leu, D. J. (2000). Literacy and technology: Deictic consequences for literacy education in an information age. In M.L. Kamil, P. Mosenthal, R. Barr, & P.D. Pearson (Eds.), *Handbook of reading research: Volume III* (pp.743-770). Mahwah, NJ: Erlbaum.
- Leu, Jr., D. J., & Kinzer, C. K. (2000). The convergence of literacy instruction with networked technologies for information and communication. *Reading Research Quarterly*, 35(1), 108-127.

- Leu, D. J., O'Byrne, W. I., Zawilinski, L. McVerry, J. G., & Everett-Cacopardo, H. (2009). Expanding the New Literacies Conversation. *Educational Researcher*.
- Livingstone, S. (2008). Taking risky opportunities in youthful content creation: teenagers' use of social networking sites for intimacy, privacy and self-expression. *New Media & Society*, 10(3), 393.
- Mahan, R. P. (1994). Stress induced strategy shifts toward intuitive cognition: A cognitive continuum framework approach. *Human Performance*, 7(2), 85-118.
- Mahan, R. P., Kirshenbaum, S., Jilg, J. M., & Marino, C. J., (1998). Supporting diagnostic judgment during delayed feedback decision making through reliability feedforward techniques. *International Journal of Cognitive Ergonomics*, 2(3).
- McVerry, J. G. & O'Byrne, W. I. (2009). *Encouraging critical thinking through content creation*. Presentation at Confratute Annual Conference, Storrs, CT.
- Merchant, G. (2007) 'Digital writing in the early years.' In Leu, D., Coiro, J., Knobel, M., and Lankshear, C. *The Handbook of Research on New Literacies*. New York: Lawrence Erlbaum.

- Moll, L. (1990) Introduction. In L. Moll (Ed.), *Vygotsky and education: Instructional implications and applications of sociohistorical psychology* (pp. 1-27). New York: Cambridge University Press.
- Moore, M. G., & Kearsley, G. (2005). *Distance education: A systems view* (2nd ed.). Belmont, CA: Wadsworth.
- Novak, G. M., Patterson, E. T., Garvin, A. D., & Christian, W. (1999). *Just-In-Time Teaching: Blending Active Learning with Web Technology*, Upper Saddle River, N.J.: Prentice Hall.
- Ormrod, J.E. (1999). *Human learning* (3rd ed.). Upper Saddle River, NJ: Prentice-Hall.
- Palincsar, A. S. (1998). Social constructivist perspectives on teaching and learning. *Annual Review of Psychology*, 49, 345-375.
- Peterson, P. & Wahlberg, H. (Eds.). (1979). *Research on teaching: Concepts, findings, and implications*. Berkeley, CA: McCutchan.
- Potter, W. J. (2004). *Theory of Media Literacy: A cognitive approach*. Thousand Oaks, CA: Sage.
- Rainie, L. & Anderson, J. (2008). The future of the Internet III: How the experts see it. Pew Internet and American Life

Project. Retrieved on December 23, 2008 from

<http://www.pewinternet.org/Reports/2008/The-Future-of-the-Internet-III.aspx>

Salomon, G. & Perkins, D.N. (1998) Individual and Social Aspects of the Learning, *Review of Research in Education*, 23, 1-24.

Schunk, D.H. (2000). *Learning theories: An educational perspective* (3rd ed.). Upper Saddle River, New Jersey: Merrill.

Shiffrin, R. M. (1988). Attention. In R. A. Atkinson, R. J. Herrnstein, G. Lindzey, & R. D. Luce (Eds.), *Stevens' handbook of experimental psychology: Vol. 2. Learning and cognition* (pp. 739-811). New York: Wiley.

Tudge, J. R. (1990). Vygotsky, the zone of proximal development, and peer collaboration: Implications for classroom practice. In L. Moll (Ed.), *Vygotsky and education: Instructional implications and applications of sociohistorical psychology* (pp. 155-172). New York: Cambridge University Press.

Vygotsky, L. S. (1978). *Mind in society*. Cambridge, MA: Harvard University Press.

Warschauer, M. (1997). Computer-Mediated Collaborative Learning:
Theory and Practice. *The Modern Language Journal*, 81,
470-481.