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# Michael Graham Moore: A Significant Contributor to the Field of Educational Technology

Michael Barbour  
*Sacred Heart University*

Thomas C. Reeves

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**Michael Graham Moore**

**A Significant Contributor to the Field of Educational Technology**

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Michael K. Barbour

Thomas C. Reeves

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Michael K. Barbour is a Ph.D. Candidate in the Instructional Technology Program at The University of Georgia. Tom Reeves, a Contributing Editor, is a Professor of Instructional Technology at The University of Georgia. Correspondence concerning this article should be sent to Michael Barbour at: [mkb@uga.edu](mailto:mkb@uga.edu)

Distance education has been around for well over a century (Bunker, 2003), but scholarly literature related to it has largely been devoted to defining distance education itself, in a manner not unlike what has happened in the related field of educational technology (Januszewski & Yeaman, 2001). Lowell (2004) argues that “the debate on whether or not distance education is a separate field has distracted practitioners and researchers, and confused administrators, for years” (p. 9). Regular readers of *Educational Technology* will recognize echoes of that debate in our field as well.

One of the defining features of a field of inquiry is a strong and clear theoretical foundation. Distance education still lacks such a foundation, but in the past few decades, advances have been made. Since the late 1960s, distance education theories have progressed from an organizational (structural) to a transactional (teaching and learning) focus (Garrison, 2000). One pioneering thinker in particular has led this movement – Dr. Michael Graham Moore. As the educational technology field has overlapped with distance education through developments such as web-based training (Khan, 2001) and online learning (Kearsley, 2004), it is worthwhile to consider the important contributions Moore has made to our field.

#### Biographical Sketch

Initially educated in the United Kingdom, Moore received his Ph.D. in 1973 at the University of Wisconsin-Madison. He began his academic career in Canada, but returned to the UK within a few years to work at the Open University. In 1985, he returned to the US to accept a position at Pennsylvania State University. Moore also spent seven years as an adult educator in East Africa.

While teaching the first course in distance education at University of Wisconsin in the early 1970s, Moore helped found the annual Distance Learning Conference

(<http://www.uwex.edu/disted/conference/>). In 1986, he was a co-founder of the American Center for the Study of Distance Education (ACSDE) at Penn State. A year later, he founded the *American Journal of Distance Education*, serving as editor since its inception. Moore also developed the first international Internet conference on distance education in 1991, the Distance Education Online Symposium, which now has members in over 70 countries. In 2002, he was recognized for his contributions to distance learning by the United States Distance Learning Association when he was inducted into their Hall of Fame. Finally, he co-edited the *Handbook on Distance Education* published in 2003 by the Association for Educational Communications and Technology.

#### A Theory of Transactional Distance

Moore began making significant theoretical contributions as a doctoral student when he introduced his original theory of distance education, the theory of transactional distance (Moore, 1973). This theory stated “there is now a distance between learner and teacher which is not merely geographic, but educational and psychological as well. It is a distance in the relationship of the two partners in the educational enterprise. It is a ‘transactional distance’” (Moore, 1983, p. 155).

Essentially, transactional distance is determined by three key factors:

- 1) the dialogue or interactions between the learner and the teacher;
- 2) the structure or responsiveness of the distance education program to the learner; and
- 3) the self-directedness or autonomy of the learner.

In the introductory chapter of the *Handbook of Distance Education*, Saba (2003) claims that Moore’s ideas are “important because it grounds the concept of *distance* in education in a social science framework, and not in its usual physical science interpretation. This is a

significant paradigm shift of the kind described by Kuhn (1970)” (p. 5). Paradoxically, it wasn’t until the mid-1990s that Moore’s theory of transactional distance began to be tested in any systematic way. For the most part, these studies confirmed the variables of dialogue, structure, and learner autonomy as important predictors of a students’ perceived distance in distance education courses, but also left questions about the comprehensiveness of the theory (see Bischoff, Bisconer, Kooker, and Woods, 1996; Saba and Shearer, 1994).

More extensive criticisms of Moore’s theory of transaction distance have emerged recently. Jung (2001) suggests the research into Moore’s theory of transactional distance has produced inconsistent results. This criticism is supported by Stein’s (2004) finding that “contrary to theories of transactional analysis that state that low structure, the ability to negotiate with the instructor, and the autonomy that online learning offers are valued at a premium... that structure was the most important factor in online learner satisfaction and community formation...” (p. F1). Jung’s (2001) critique is further supported by Lowell (2004) who found that while dialogue appeared to play a role in transactional distance, Moore’s structure variable did not. Lowell also found that social presence accounted for the largest variable in transactional distance. Despite these critiques, educational technology and distance education researchers continue to examine the transactional distance theory expressed by Moore over three decades ago.

#### A Theory of Interaction

Moore also outlined a theory of interaction in distance education. Moore (1989) described three types of interaction in distance education:

interaction between the learner and the content or subject of study... interaction between the learner and the expert who prepared the subject material, or some other expert acting as instructor... [and interaction] between one learner and other learners,

alone or in group settings, with or without the real-time presence of an instructor (pp. 2-4).

Unlike his theory of transactional distance, Moore's theory of interaction was both embraced and expanded upon shortly after its introduction. Hillman, Willis and Gunawardena (1994) introduced a fourth type of interaction: "learner-interface interaction is a process of manipulating tools to accomplish a task" (p. 34). Less than a decade later, Sutton (2001) added a fifth type of interaction that she framed as vicarious interaction. "Vicarious interaction takes place when a student actively observes and processes both sides of a direct interaction between two other students or between another student and the instructor" (p. 227). With the growth of online learning, the acceptance and expansion of his theory of interaction is further evidence of Moore's influence upon educational technology researchers.

#### Moore's Perspective on Technology

Historically, distance education practice has often been driven more by the availability of new technology than by pedagogical inspiration. Moore (1997) expressed concern about too many promises being made about the benefits of technology in distance education:

just as the information superhighway is said to offer the promise of dramatic change in education in the 1990s, so did radio in the early years of this century, and television in its turn during the 1950s. Both radio and television failed to change schooling or higher education in any significant ways. (p. 1)

In discussing Internet technologies, Moore (2002) wrote that "there might be more successful distance education programs if more people who are taking responsibility for setting up and managing programs could first get some grounding in basic principles, philosophy, concepts, and methodology of the field" (p. 129). Moore issued a similar critique in 2003 when he editorialized:

most of what is happening in the name of distance education is simply traditional pedagogy and traditional structures of higher education with the addition of new technology. And people are proposing new names for this old wine in new bottles, such as e-learning, asynchronous learning, distributed learning, flexible learning, open learning, and so on. All this is part of distance education, and none of it alone is distance education. (p. 74)

Despite obvious concerns, Moore does see a role for newer technologies in distance education and even appears to be optimistic about the future. Regarding e-learning, Moore (2003) wrote:

Distance education has the potential of delivering more educational opportunities to more people than ever before, to do so at lower average cost, and, what is most important, to be of higher quality than most people can get in other ways. (p. 74)

### Conclusion

Moore's status as a pioneer in the field of distance education is obvious, and his contributions to educational technology research should be acknowledged. In addition to the contributions he has made to the theory foundations of distance education, Moore's founding of the American Center for the Study of Distance Education in 1986 was a watershed for the field. Through his editorship of the *American Journal of Distance Education* and his development of the Distance Education Online Symposium, educational technology practitioners and scholars working the distance education have important outlets for scholarly communication.

Moore's theories related to distance education, his contributions to scholarship and practice, and his efforts to establish the venues for distance education researchers to interact with one another have influenced many educational technologists in valuable ways. The global

growth potential of online learning has been noted by many including Gunawardena and McIsaac (2004) who pointed out “more than 553 million people worldwide having Internet access” ( p. 387) and predicted the emergence of an explosion of distance education opportunities in Africa, Asia and South America. Of course, these opportunities stem from the efforts of hundreds, if not thousands, of educational technology professionals around the world. As these developments evolve, we predict that Moore’s work will increasingly be recognized as both pioneering and meritorious.

#### References

- Bischoff, W.R., Bisconer, S.W., Kooker, B. M., & Woods, L. C. (1996). Transactional distance and interactive television in the distance education of health professionals. *American Journal of Distance Education, 10*(3), 4-19.
- Bunker, E. L. (2003). The history of distance education through the eyes of the International Council for Distance Education. In M. G. Moore & W. G. Anderson (Eds.), *Handbook of distance education* (pp. 49-66). Mahwah, NJ: Lawrence Erlbaum Associates.
- Garrison, R. (2000). Theoretical challenges for distance education in the 21<sup>st</sup> century: A shift from structural to transactional issues. *International Review of Research in Open and Distance Learning, 1*(1), 1-17. Retrieved on September 7, 2004 from <http://www.irrodl.org/content/v1.1/randy.pdf>
- Gunawardena, C. N. & McIsaac, M. S. (2004). Distance education. In D.H. Jonassen (Ed.), *Handbook of research on educational communications and technology* (pp. 355-395). Mahwah, NJ: Lawrence Erlbaum Associates.



- Hillman, D.C.A., Willis, D.J. & Gunawardena, C.N. (1994). Learner-interface interaction in distance education: An extension of contemporary models and strategies for practitioners. *American Journal of Distance Education*, 8(2), 30-42.
- Januszewski, A, & Yeaman, A. (2001). *Educational technology: The development of a concept*. New York: Libraries Unlimited.
- Jung, I. (2001). Building a theoretical framework of web-based instruction in the context of distance education. *British Journal of Educational Technology*, 32(5), 525-534.
- Kearsley, G. (Ed.) (2004). *Online learning: Personal reflections on the transformation of education*. Englewood Cliffs, NJ: Educational Technology Publications.
- Khan, B. H. (Ed.) (2001). *Web-based training*. Englewood Cliffs, NJ: Educational Technology Publications.
- Kuhn, T. S. (1970). *The structure of scientific revolutions* (2nd ed.). Chicago, IL: The University of Chicago Press.
- Lowell, N.O. (2004). *An investigation of factors contributing to perceived transactional distance in an online setting*. Unpublished doctoral dissertation, University of Northern Colorado, Greeley.
- Moore, M.G. (1973). Toward a theory of independent learning and teaching. *Journal of Higher Education*, 19(12), 661-679.
- Moore, M.G. (1983). The individual adult learner. In M. Tight (Ed.), *Adult Learning and Education* (pp. 153-168). London: Croom Helm.
- Moore, M.G. (1989). Editorial: Three types of interaction. *American Journal of Distance Education*, 3(2), 1-6.

- Moore, M.G. (1997). Lessons from history. *The American Journal of Distance Education*, 11(1), 1–5.
- Moore, M.G. (2002). Learning the necessary principles. *The American Journal of Distance Education*, 16(3), 129–130.
- Moore, M.G. (2003). Handbook of distance education. *The American Journal of Distance Education*, 17(2), 73–75.
- Saba, F. & Shearer, R. (1994). Verifying key theoretical concepts in a dynamic model of distance education. *American Journal of Distance Education*, 9(3), 36-59.
- Saba, F. (2003). Distance education theory, methodology, and epistemology: A pragmatic paradigm. In M.G. Moore & W.G. Anderson (Eds.), *Handbook of distance education* (pp. 3-20). Mahwah, NJ: Lawrence Erlbaum Associates, Publishers.
- Stein, D. (2004). Course structure: Most important factor in student satisfaction. *Distance Education Report*, 8(3), F1.
- Sutton, L.A. (2001). The principle of vicarious interaction in computer-mediated communications. *International Journal of Educational Telecommunications*, 7(3), 223-242.