Criteria for Educative Experiences within the Technologically Mediated Elementary Classroom

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As Dewey noted in the Preface to Experience and Education (1938), challenges in the practice of education require us to identify the underlying problems that exist and then to consider the issues more “deep[ly] and more inclusive[ly]” (p. 5) so that we may proceed more “intelligently” (p. 5). Such examination is indeed intellectually challenging and, hence, often leads to a return to past, familiar practices without resolving the problems. Further, the daily demands faced by teachers and the current pressures to produce high student scores on high-stakes tests, especially at the elementary level, make it difficult for teachers to reflect on how the classroom tools that they use influence children’s learning. This essay is an attempt to help teachers consider how tools and their use in technological processes influence learning in both educative and mis-educative ways so that they might more carefully develop educative experiences that use technologies to enrich learning.

Today’s challenges of incorporating new technologies into the educational life of classrooms point to a fundamental problem regarding the role of experience in learning. In particular, efforts to respond to a myriad of reform initiatives have led to an instructional focus on identifying and prescribing activities—often mediated by curriculum software packages—that are presumed to lead to increased student learning. However, as Zais (1976) noted in his acknowledgement of Dewey’s concept of an educational experience, instructional activities or “learning activities” are not necessarily educational or learning experiences. Activities, as such, embody intentions for learning; in contrast, experiences can be the result of engagement in activities that may lead to learning. Therefore, not examined deeply, the use of such activities and their accompanying classroom practices may undermine the role of learning experiences and, in the process, may run the risk of diverting children from the constructivist goals that accompany experience-based learning because they may lead to experiences that are only “immediately enjoyable, . . . agreeable, . . . [or] exciting” (Dewey, 1938, p. 26). In addition, these technologies may be used as a substitute for the direct experience that leads to deep learning.

This essay focuses primarily on the challenges inherent in the use of the new technologies in elementary education as they enhance, inhibit, or undermine constructivist learning. That is, it recognizes that the use of these new technologies—similar to the use of any “experience” in education—has the potential to be educative, mis-educative (Dewey, 1938, p. 25), or simply non-educative. This focus on elementary education recognizes the need, particularly at that level, for an “experience base” to learning in order to move intellectual development from the concrete to the abstract. According to Piagetian theory, the need for first-hand experience is necessary for cognitive development to move forward to subsequent stages where more abstract thinking can occur. Thus, deep consideration of the nature of educative experiences in the early years of schooling is essential if we are to nurture children’s learning. And, such analysis also requires that we examine how we use
technologies in classroom practices, why we use them, and what takes place during their use and as a result of their use.

Technologies have, of course, been a central part of human activity for millennia when considered as “the application of scientific, material and human resources to the solution of human needs” (Williams & Jinks, 1985, p. 50). The invention of tools and the development of ways to use those tools have created key technologies used in teaching so as to promote learning. For example, ways of communicating have changed in educational settings as humans have invented new ways to record our thinking, to access others’ thinking, and to share what we know. The focus in this essay on what I term the new technologies includes those developed in the last three decades which, through substantial economic investment, have made their way into so many classrooms, specifically various forms of computer-based hardware and the computer-mediated software applications that accompany them. The unquestioned acceptance and use of these technologies and their increasingly ubiquitous presence in classrooms demand analysis of how they affect the fundamental role of experience in learning.

These technologies have changed the nature of how children interact with the world. Without leaving the classroom environment or even moving from a desk chair, these technologies allow children to access information from many databases and to navigate to many websites. What is challenging about such access is how to determine the quality of the information collected and how to connect such information to the learning process, especially when learning is conceived as based in experience, as Dewey (1938) argued. His premise of a “theory of experience” (p. 25) as underlying both the “means and goal of education” (p. 89) calls into question whether such access counts as experience and whether such experience is educative.

### Experience in the Learning Environment

Central to this line of thinking is the concept of experience itself and how experience contributes to meaningful learning. For Dewey (1938), experience must promote growth—expansion of one’s intellectual understanding of the world. Agreeableness, pleasure, efficiency, convenience, or easing of one’s effort are not characteristics to justify the use of such technologies in the learning environment as “experiences.” In such cases, they become tools for the management of that environment and not tools that can contribute to educative ends. Hence, the use of the new technologies must enrich thinking and thus expand understanding to be educative.

Of use in grasping how experiences in schools differ from each other and yet comprise the array of what educators may term educational experiences is Edgar Dale’s “Cone of Experience” (1954, p. 43). First published in 1946, Dale’s text described the role of audio-visual tools as they influenced practice in the learning environment, their relationship to the empirical world, and their appropriate use in classrooms. His depiction of the various experiences found in schools places “direct, purposeful experiences” at the broad base of a cone that serves as the foundation for all other experiences. For Dale, these first-hand experiences were “the bed rock of all education” (p. 42), indeed similar to what Dewey (1938) called “the actual life-experience of . . . [an] individual” (p. 89). Without such a foundation, other experiences higher in the Cone, such as demonstrations, exhibits, motion pictures, visual symbols, and verbal symbols, increasingly risked premature abstraction, detachment of the child from meaningful learning, and thus the possibility of the mindlessness of rote learning. Further, the experiences higher in the Cone—mediated by the use of various tools and technologies—
become more and more distant from the first-hand experiences central to all learning. Ignoring these differences in experiences depicted in the Cone overlooks both principles from learning theory and Dewey’s concern for how continuity in experience (p. 35), and ultimately significant learning, can be fostered. Thus, the key is to use these first-hand experiences as starting points for learning which lead to other experiences that remain connected to educative ends.

Another example of how to examine the nature of experience as it can be differentiated in actual classroom life is grounded in the analysis of data from long-term, ethnographic research in an elementary school in England. This analysis depicted multiple forms of children’s experience occurring over time in the course of studying complex topics involving the integration of several content areas in the curriculum (Hunter & Scheirer, 1988). Similar to Dale’s Cone of Experience, sequences in the “experiential learning process” (p. 40) began with the teacher engaging children in a rich, first-hand experience designed to arouse curiosity, to encourage the development of questions to be pursued later, and to provide perspective and data to inform later in-depth investigation into topics embedded in the original experience. For example, here the children interacted fully with an authentic natural environment, the northeast English seaside. They were able to observe animals and plants, the location and history of the nearby village, and the everyday lives of the local people. From such careful observation, they recorded field notes and posed questions to pursue upon returning to the classroom when they gathered more information and carried out in-depth investigation of embedded topics.

The early first-hand experiences not only piqued children’s interests but also provided the context from which they were able to articulate meaningful questions for further investigations which were connected to the empirical world. Although this sequence led from a first-hand experience to experiences that were more abstract as children pursued their questions, all of these experiences were grounded in authentic everyday life and thus retained the characteristics of meaningful, educative experience. Further, this deliberate sequence in learning reflected Dewey’s notion of the continuity of experience that expands and enriches children’s understanding and leads to children’s growth toward desirable educational goals.

Criteria for Classroom Experiences with New Technologies

For the classroom teacher engaged in the demanding, day-to-day life of schools, the development of educative experiences for children can be both time-consuming and daunting. Identification of criteria to guide such efforts might facilitate careful and deliberate use of experiences that are more likely to be educative. In addition, such criteria must offer guidance regarding the appropriate use of new technologies as they intersect with the demands for educative experiences, especially given the sociological and political pressures to incorporate technological tools into as many parts of the curriculum as possible—ostensibly to prepare children for participation later in the 21st Century global economy. The challenge, of course, is to assure that current experiences are educative and that they lead to subsequent meaningful learning.

Establishing criteria to guide practice is one way of clarifying how the goals we hold can be implemented appropriately. If these criteria are carefully honed, they reflect our values—both with regard to educational goals, the ends of education, and with regard to the ways in which we wish to seek them when we work with children, that is, the means of education. Although it may be desirable to provide
teachers in the high-pressured elementary classroom a detailed set of criteria to guide practice,[2] the following criteria are only a prolegomenon so as to invite further deliberation with fellow educators.

This guide for the development of educative experiences using the new technologies seeks to differentiate educative experiences from learning activities, that is, to consider not only the intentions for the work offered to children but the consequences in actual experience that result from those intentions. Indeed, the list of criteria which follows builds on Dewey’s criteria for educative experiences and the discussion thus far in this essay.

1. The learning experience using the new technologies relates clearly to authentic, direct, first-hand experience that is foundational to the learning sequence and that leads to worthy educational goals. The centrality of such experience in the empirical world as a requirement for learning recognizes both developmental learning processes and learning conceptualized as an effort to make meaning of the empirical world. Indeed, this emphasis on the fundamental connection between experience and learning parallels a central tenet of Dewey’s concept of the scientific method in education (1938).

2. The learning experience using the new technologies connects both to previous learning experiences and to learning experiences that will follow. Such connections make more likely Dewey’s notion of a continuity of experience (1938) in the learning process and might enable children to understand and value that continuity and appreciate the interconnections within their own learning.

3. The learning experience using the new technologies contributes credible information or data that enrich, extend, and contextualize what has been encountered in the direct first-hand experience. Children can thus take advantage of access to information or data not otherwise available in order to enhance the meaning of the first-hand experience. Such new data or information both broaden what has already been documented during a first-hand experience and demand further thinking to synthesize understanding.

4. The learning experience using the new technologies demands rigorous thought from children. These technologies provide children with data or information to encourage thought rather than serving as a substitute for their need to make sense of the empirical world. Indeed, children must interact and engage with the data or information provided by the technologies in order to analyze how the latter relates to what has already been examined and tentatively understood.

5. The learning experience using the new technologies sensitizes children to options for communicating what has been learned to others and to the strengths and weaknesses of those options. Clearly, the new technologies offer many graphic presentational formats and video formats for sharing what we know with others. However, what is most relevant to experience in learning is the decision-making process regarding how to communicate with an audience and how to appropriately shape what one has learned for others to understand. In this endeavor, the essential human desire to communicate remains at the center of children’s attention, with the new tools and technologies as facilitators of that process.
6. The learning experience using the new technologies leads to new opportunities for investigation that were not previously seen. In this sense, the new technologies may open up opportunities for subsequent learning that extend beyond the immediate focus of children’s work. The children thus realize that learning involves “cyclic processes” (Whitehead, 1929, p. 30), here encountering new and exciting interests and foci for learning built upon previous interests which have been studied rigorously. Concomitantly, children can reflect and become mindful regarding their own learning processes—what Noddings and Enright (1983) described as a “transcendent” (p. 187), holistic experience beyond the immediate moment—and, thus, conceive of themselves as learners.

7. The learning experience using the new technologies fosters independence rather than dependence in learning. The convenience, ease of use, and availability of a myriad of technological resources risk the development of “dispersive, disintegrated, centrifugal habits” (Dewey, 1938, p. 26) and challenge the educational goals of rigorous analysis, independence of thought, and reflection on one’s own learning. They challenge the development of children’s own agency with regard to the learning process. Indeed, these goals are intimately connected to the purposes for education in a democracy. Therefore, the use of the new technologies must not only provide children with support in their learning processes but also actively encourage them to become confident, independent learners who use technologies for their own educational purposes.

Teachers’ use of these criteria while they shape teaching practices and learning experiences that incorporate technologies is a demanding process, due not only to the complexities of classroom life but also to the sociopolitical context of teachers’ work with children. Indeed, a difficult road lies ahead to fully conceive a theory of experience in learning that incorporates the new technologies in ways that are educative for the learner and that contribute to increased understanding of our lives in a democratic society. It is a task that requires much collegial discussion, attention to intellectual rigor, and deliberate development of experiences toward worthy educational goals. Perhaps this discussion may contribute to those efforts.

Notes

[1] An example of a particularly problematic use of the new technologies as an experience is the “virtual fieldtrip,” an alternative to children being present in an actual environment via the use of video-clips, Skype interviewing, and the collection of information from websites and databases. Although this approach saves money and time and avoids the legal concerns for safety during the traditional field trip, the educative value of such an “experience” is questionable.

[2] See, for example, the rigorous and extensive set of primary and secondary “principles” (p. 14) for the development, implementation, and evaluation of instructional activities offered by Brophy and Alleman (1991). This framework reflected extensive research on actual classroom activities and student responses to those activities in pursuing instructional goals. The principles they presented focused on differentiation among instructional activities, even though they acknowledged that criteria for curriculum content are also important to curriculum development processes.
References