Introduction: Experience and Education in the Information Age

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For John Dewey, experience arises as an upshot when a living creature interacts with its environment. Such an interaction generates a situation, which is not a coming together of two distinct existences; rather, the organism both takes in and reshapes the environment, as in the situation where a dog chews meat from a bone and then digs a hole to bury it. The ‘environment’—the meat—enters into the dog as nutrients, and these eventually remake the dog at the cell level, just as the dog by digging a hole reshapes the environment. Dewey will later call this kind of interaction a transaction. The specific environment of living creatures is constructed just in the course of their everyday living—acting to solve problems and pursue ends to sustain life and to grow. The environment is what the creature picks out as pertinent to—as means for securing—its life ends. As Dewey noted in his reflex arc article of 1893, perceiving is already trying to get, e.g., as reaching is already present in the coordinated act that includes the seeing of the desired object—as something wanted.[1]

Experience is acting and getting feedback from the environment that reconstructs subsequent action dispositions. As Dewey puts this point in Democracy and Education, creatures are often “more than compensated” for the energy expended in taking action in pursuit of their ends. By dint of feedback from the environment the creatures learn. They reconstruct habits and gains increased powers to achieve ends in subsequent situations—they grow.[2]

When considering humans, language and culture become new dimensions of action situations. Humans, in transacting with their environments, go beyond mere habit reconstruction; they can explicitly take note of the lessons of experience in language, share them with others, write them down and pass them on their descendants. Institutions—libraries, schools, museums, universities—grow up for the preservation and conveyance of these lessons from experience.

Nonetheless, the foundation of vital understanding lies in the lessons derived directly from first-hand experience of things and processes in everyday life. [3] Human learners have to feel acutely their own needs and drives that motivate their own actions in everyday environments, convert them into ends-in-view, think and plan their way to reaching these ends, suffer the frustrations of failure and delight in the joys of success. The learning that develops from vital first-hand experiences filters into being as what Dewey calls the first of three stages in the development of knowledge.[4]

Human individuals act in social contexts. Even when acting in isolation from others, their behaviors are shaped by cultural norms acquired through initiation into life in their families, neighborhoods, and larger social worlds. Moreover, humans often act in social situations, cooperating with others and being guided by more experienced peers or adults. Communications within the context of action in these social environments add up to a second stage of knowledge.

These two levels of knowledge arise as individuals pursue ends and ‘learn by doing’—that is the natural way to learn. These forms of knowledge are unsystematic, but they are foundational: they shape the substrate for
subsequent learning and knowledge seeking upon which systematic learning of organized subject matters depends for its vital significance. If systematic knowledge—third stage knowledge—is not presented to individuals against the background of their earlier levels of knowledge—as additional powerful means for forming and achieving ends—it becomes merely inert and ornamental.

Developing this third level of knowledge is largely dependent upon schools and teachers. Their function is to move learners beyond foundational knowledge in the direction of adult functional expertize. But there is always the danger that this organized knowledge will be served up in isolation from its history in human problems and inquiries, its uses in achieving human ends, and its connection to learners’ prior learning histories. This kind of knowledge is alien to experience. Learning it is not natural. It requires extraordinary effort, and often leads to boredom and fatigue.

Dewey’s educational project was to break through this ineffective conventional approach to teaching, to naturalize school learning by making it continuous with everyday learning by doing. And the only way to accomplish this, he insists, is to fold pre-organized knowledge into the knowledge stock already built up by learners, in the course of school activities governed by the learners’ own ends.

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Not all school experiences have valuable educational upshots. Some are simply stifling or deadening. Others may be highly stimulating but leave behind no traces that add to learners’ powers in dealing with subsequent problems or achieving ends. They are experiences, nonetheless, but they are not educative. In Experience and Education Dewey offered two criteria for educative school experiences. He called these the principles of interaction and continuity. Here is how Dewey himself expresses these principles. Here is his statement on continuity:

While the principle of continuity applies in some way in every case, the quality of the present experience influences the way in which the principle applies. The effect of over-indulging a child is a continuing one... There is no paradox in the fact that the principle of the continuity of experience may operate so as to leave a person arrested on a low plane of development, in a way, which limits later capacity for growth... If an experience arouses curiosity, strengthens initiative, and sets up desires and purposes that are sufficiently intense to carry a person over dead places in the future, continuity works in a very different way. Every experience is a moving force. Its value can be judged only on the ground of what it moves toward and into.

Each experience re-makes to some extent the experience—each experience lives on in the modified habits for good or ill. Here is his statement about interaction:

The word “interaction” expresses the second chief principle for interpreting an experience in its educational function and force. It assigns equal rights to both factors in experience—objective and internal conditions. Any normal experience is an interplay of these two sets of conditions. Taken together, or in their interaction, they form what we call a situation. The trouble with traditional education was not that it emphasized the external conditions that enter into the control of the experiences but that it paid so little attention to the internal factors which also decide what kind of experience is had.
Interaction here signifies the living interaction of individuals with their worlds in their life situations. If the materials of the school world are meaningless to learners, if they do not bring them out of themselves, so to speak, into lively attention and action, they are dead zones, educationally speaking.

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These principles are highly abstract. They do not provide recipes for establishing learning environments, but rather constraints against mis-educative experience. If the environments do not conduce to lively engagement, including the formation of learners’ own aims, they fail to meet the criterion of interaction. If the actions they bring out in learners do not conduce to lessons that increase learner power in subsequent situations, they fail the test of continuity.

The actual means for creating educative situations change as new information and communications technologies emerge. Today the dominant new technologies in society and the schools are computers and the Internet. These new technologies profoundly reshape the behaviors and communication patterns of new cohorts of learners, which are referred to as the ‘net generation’. They also enter into classrooms as new elements of the learning environment. The educational situation has thus changed in profound ways in just a couple of decades. Meanwhile, our arrangements for learning have not been reconstructed. The new technologies have been brought into our classrooms as add-ons, without deep reflection on their radical significance for learning. We continue to put new wine in old bottles.[8]

That observation brings us to the papers in this symposium. The three papers each take up the new educational situation created by the new technologies and their new social and economic contexts. The papers address the new situation of the elementary school, college, and preservice teacher education.

Elinor A. Schierer considers the impact of new computer software curriculum packages used to convey subject matter knowledge in accordance with state and national standards. One problem is that they rely on computer mediated objects—instead of acting and undergoing in real worlds of experience, learners are manipulating simulations. She notes that these objects (e.g., animated characters in learning software programs) can engage students, but may not conduce to the kind of learning that adds to learners’ powers in their life situations: they may fail the test of continuity. She offers today’s elementary teachers and curriculum designers a set of design criteria—derived from Dewey’s two principles—that can help them avoid this problem as they employ software packages in their educational designs. These principles can readily be adjusted to apply to the use of educational software at all educational levels.

Matt Ryg and Eli Orner Kramer open by considering the new social and economic context for college students and adult learners. In a global economy shaped by neoliberal economic principles, industrial robots and off-shore workers replace domestic workers, while contingent labor replaces full time jobs with benefits. College tuitions rise at more than the rate of inflation, while wages stagnate or fall.

In this new situation the investment in four-year residential college degree programs may no longer make sense. Ryg and Kramer correctly recognize that these programs are themselves technologies, and question whether they are appropriate educational technologies for our society going forward. They explore the technological appropriateness of an alternative technology, low-residence college programs, where short periods of on-campus education are supplemented by distance education and project-based learning for transfer credit.

Finally, Mark Keitges addresses the problem of fragmentary knowledge acquired
from web sites and online courses—knowledge acquired outside of a well-structured and coherent educational or training program. Like Schierer, Keitges is concerned that today’s students—even graduate and professional students—lack adequate foundational knowledge acquired through direct engagement with people, things and natural processes. Their minds are filled with unintegrated chunks of third-level school knowledge. They are not habituated to enter environments primed to form personal goals and pursue them with all the means available in the situation. They think of learning as something served up in pre-determined curricula, not as the natural outcome of ends-directed behavior. As a result, today’s preservice teachers are unable to design learning experiences where their students form and pursue their own ends, or to facilitate learning in such situations.

Keitges sees this as a serious obstacle in preparing today’s preservice teacher trainees as effective teachers. He focuses on the example of the contemporary educational standard of preparing learners to have a ‘global perspective’. Preservice teachers enter their programs expecting to learn how to apply existing methods and materials. They rarely have overseas travel experiences, foreign language proficiency, or cultural understanding based on direct experience, on the basis of which to build up a global perspective in their students.

Keitges proposes that a case method in teacher education can address this problem. Well-developed cases, he says, can mirror the complexity of the real world situations they model, and allow for learning in messy, unstructured problem situations. Learning from case examples, also provides many opportunities to acquire more organized knowledge and put it to use in solving the problems built into the case activities. In this way, when preservice teachers learn from cases, they build up their own foundational knowledge and learn how to integrate it with level three knowledge. Keitges provides several examples of learning from cases, including a case investigating human rights violations where students follow the legal record, interview victims, and prepare reports proposing ameliorative measures.

Employing the case method in preservice teacher education has a double benefit. On the one hand, the preservice students in courses using the case method are learning by doing—approaching real world situations, communicating with affected individuals and peers, forming goals, thinking about means and working out plans, acting and getting feedback about what works, and reporting on their deliberations and conclusions. On the other hand, they confront problems requiring them to seek organized, level three, knowledge. The case studies thus supply the experiential substrate for their design of cases for use with their own school students. The case method bootstraps the missing foundational knowledge, and demonstrates how organized, level three, knowledge works as a powerful additional means in addressing problems and achieving ends.

The contributions to this symposium show how the principles of educative experience in Experience and Education can be applied to design learning experiences for today’s students – at all educational levels. School and Society welcomes both informal responses to these contributions and further article-length submissions on the design of educative experiences in the school and colleges of our contemporary technological society.

References

[2] The passage in Democracy and Education is worth quoting in full: “As long as it is growing, the energy it expends in thus turning the environment to account is more than
compensated for by the return it gets: it grows. A living being is one that subjugates and controls for its own continued activity the energies that would otherwise use it up. Life is a self-renewing process through action upon the environment.” MW 9: 5.

[3] Dewey is practically rhapsodic as he describes the foundational value of direct experience in everyday life in School and Society, and is worth quoting at length: “No number of object-lessons, got up as object-lessons for the sake of giving information, can afford even the shadow of a substitute for acquaintance with the plants and animals of the farm and garden acquired through actual living among them and caring for them. No training of sense-organs in school, introduced for the sake of training, can begin to compete with the alertness and fullness of sense-life that comes through daily intimacy and interest in familiar occupations. Verbal memory can be trained in committing tasks, a certain discipline of the reasoning powers can be acquired through lessons in science and mathematics; but, after all, this is somewhat remote and shadowy compared with the training of attention and of judgment that is acquired in having to do things with a real motive behind and a real outcome ahead.” MW 1: 9.

[4] “It is possible, without doing violence to the facts, to mark off three fairly typical stages in the growth of subject matter in the experience of the learner. In its first estate, knowledge exists as the content of intelligent ability—power to do. This kind of subject matter, or known material, is expressed in familiarity or acquaintance with things. Then this material gradually is surcharged and deepened through communicated knowledge or information. Finally, it is enlarged and worked over into rationally or logically organized material—that of the one who, relatively speaking, is expert in the subject.” MW 9: 193.
