On Brent G. Wilson: Trends and Futures of Education

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*Introduction*

B. G. Wilson (2002), professor of Information and Learning Technologies at the University of Colorado, Denver, presents his viewpoints of the present trends of distance education and their relevance to forecasting the future of this growing education structure. He reviews distance education in a scenario of “trends”, and explains that through the analysis of present and past trends, one can more readily determine the direction distance education may follow in the future. He stresses that trends do not predict the future of education, but rather “provide a basis for present action and an understanding of possible [italics added] futures.” His purpose “seeks to include different viewpoints, but is low on detailed analysis” (p. 91), and he invites the readers to come up with their own interpretations and conclusions based on the trends that he presents.

Wilson looks at education’s current status and trends, and categorizes them into seven major areas. These are:

- Technologizing of School Systems
- Learner- and User-Centered Philosophies
- Moves to Automate Instructional design
- The Digital Shift: Advances in Information Technologies
- Global Marketplace
- Radical Forces Inspired by Global Connectivity
- Changing Paradigms of Thought in Instructional Design (p. 92)

Through his presentation of these areas, and assuming educational authorities’ consideration of each, he asserts that the future of education will progress positively and constructively. Education and technology will continue to evolve; and the investigation into past and present trends will contribute to its success.
Technologizing of School Systems

Wilson explains that the pressure of “technologizing” school systems is enforced nowadays in American K-12 public school systems. This author believes that Wilson’s point is convincing because of the “No Child Left Behind” Act of 2001. As Wilson explains, the “technologizing” of school systems is occurring because of the system’s need for “establishing more predictable outputs and methods” (p. 92). Not only is this happening in the public schools, but also educational institutions in general are experiencing the pressure to “technologize” school systems. It is more of a requirement in the public school system because, as he explains, the standardized competencies are mandated by the government and determine federal funding. But, if the public school systems are utilizing more technology, then this influences institutions to follow suit.

As Wilson states, the present trend “is in the direction of standardization, conformity, and efficiency [. . . .] consistent with a factory or industrial output of schooling” (p. 92). Does this suggest that distance education, still in its formative stage of development, will assume a more “Fordist” and industrial approach to educating? And will traditional education, adapting to more technological means in conveying information, venture in the same direction? If so, does education follow a cyclical pattern through history, and repeat itself?

Learner- and User-Centered Philosophies

The next trend presented by Wilson is interesting in that although one movement of education points to an industrialized method of schooling, philosophies within the system are inclined towards a more learner-centered environment. Wilson explains that this philosophy includes constructivism, where the “constructivist movement in education stresses individual and collaborative construction of meaning” (p. 93). His definition of “learner-centered” accounts for the fact that distance learners can access learning at their convenience, when and where they choose, but at the same time, through the constructivist philosophy, a more individualized and collaborative form of industrialized education can take place. This presents a paradox to the educator who must follow the system’s “predictable rules and processes” (p. 93), but exercise
forethought in instruction, so that a student’s education is learner-centered, and “meaningful encounters with the world” (p. 94) are constructed subjectively.

Wilson states, that with this systematic tension, “both instructors and students are thus seen as end-users of [distance] learning resources” (p. 93). The teacher, he says, “often assumes a technician’s role of implementing prescribed rules, as opposed to a professional’s role of exercising judgment” (p. 93). The teacher provides students with programmed tools to construct individual meaning, while ultimately, that meaning will generate a more general and predicted outcome. And the success of the learning experience relies on its application to “encounters with the world as opposed to direct instruction in controlled settings” (p. 94). This author finds that the predicted outcome relies heavily on the instructor’s resourcefulness and intuition. For constructivist industrial learning to succeed, sufficient “scaffolding and support [would have to be continuously and consistently] available from colleagues or a teacher/facilitator” (p. 93). This support must be subjective and learner-centered.

Wilson says that industrial constructivism is totally feasible in distance education where “a well-conceived distance education program can fit squarely within a strictly controlled standards-based curriculum” (p. 94). In this case, industrialization and individualization of learning can coexist. Even though distance education has to be more structured than traditional F2F education, it is anticipated that collaborative and informal, “field based learning opportunities are compatible with constructivist values and are learner-centered”, and “semi-structured activities such as internships, practicum experiences, expeditions, and trips” where “emphasis is on individuals’ meaningful encounters with the world as opposed to direct instruction in controlled settings” (p. 94), would produce the anticipated results. This is not an easy task for an educator, though! Wilson says that it is achievable if the tools offered are more “people-centered”, rather than technology-centered (p. 94). This outlook assumes that the success of the instruction principally lies again on its designer, rather than the instructor who carries it out. This author believes that although a learner-centered design is vital, a learner-centered instructor is even more so. In order to flourish, the design should complement the
instructor, and not vice-versa.

*Moves to Automate Instructional Design*

The automation of instructional design is a present trend “based on a defined theory of instruction” (p. 94). Wilson notes Ragan & Smith’s “conditions-of-learning,” Gagné’s nine instruction events, and Merrill’s “component theory” as current essential and “standardized taxonomies” to the “systematic practice of instructional design” (p. 94). According to this thinking, instructional design and development would be based on a “data-driven activity” whereby one would “just plug in data concerning learning outcomes, learners, and situation, and the rule system spits out – not only a set of recommended strategies – but draft instructional materials” (p. 94). Wilson adds: “A major advantage of an automated system like this would be the efficiency gains achieved through re-usability of data,” and “investment in content representation – depicting the facts, procedures, principles, and examples in a subject area – could yield some quickly developed instruction for different learners in different situations, according to the rules of the system” (pp. 94-95). If this pre-determined data-driven activity actually succeeded, the role of the instructor would be considerably altered, and less crucial; the system would be the true facilitator of information, and the instructor would serve as an administrator and overseer of the system, assuring its proper function. Again, the system would take center stage in the instructional process, and the educator would assume a more passive role.

With the advancement of more powerful authoring tool designs, Wilson notes, designers no longer think and produce designs linearly (p. 95). Programs and authoring tools that incorporate “3-D modeling,” “prototyping,” and “dummy interfaces” are useful creations “to test out concepts at early stages before investing in full-design development” (p. 95). This way, assessing a design’s efficacy can be pre-determined, thus reducing added time, effort, and cost.

Wilson adds that with the automation of instructional design, these would be “more modular” and “re-usable”. As he says: “The idea is that good instructional design is based on a very finite number of models, templates, and solutions, created while addressing earlier problems” (p. 95). This would allow designers to function as “craftspersons re-using ideas and content for different
clients and purposes, somewhere between factory and pure-artist metaphors of production” (p. 95). In other words, already formed templates of instructional designs would be adapted based on the clients, and their particular needs and purposes. Again, the design is the essential stimulus, and the educator, its perpetrator.

The Digital Shift: Advances in Information Technologies

Wilson classifies “the digital shift” as the transformation of professional “thinking, knowledge, and communication” during the past twenty years of digital technology evolution, bringing about “a whole new set of possibilities” (p. 95). This trend, he explains, is largely due to “archivability” of digitized information, where information is “easily captured” since it is “traceable and archivable” (p. 95). Access and “searchability” to information databases permit users to “retrieve needed resources when solving problems in real time” (p. 95), and these resources can be replicated repeatedly with little expense.

Wilson continues with the concept of “hypertext linkability,” and compares this to the “associative structures conceived by behaviorists and systems thinkers of the 1940s and 1950s” (p. 96). Hypertext supplies users with “interconnecting information [. . .] in the problem-solving practices of information” (p. 96). In addition, “communication tools” in technology continue to improve, allowing for “higher resolution, more modalities, more choice, and more fidelity to everyday and face-to-face encounters” (p. 96). Even “representation tools – everything from PowerPoint to 3-D animation to digital TV and beyond – are changing our notion of reality [allowing a more] rich experience and interaction” within this environment (p. 96). He admits that with all these technological advances; “better understanding of how to use the tools” will result in achieving more favorable learning results (p. 96). Once again, the emphasis is on the instructional tools, while the instructor continues to play a less important role in the instructional process.

Global Marketplace

The trend in distance education is moving towards a more global marketplace. No longer is an educational market only local, persons can partake in educational growth effectively at a
distance. This shift, Wilson asserts, allows “larger investment and larger outreach” but also threatens “locally developed providers” (p. 96). It is the author’s opinion that this trend will continue to develop and transform distance education significantly, resulting in an increase in the number of global distance providers and learners, at a more decreased cost. This will generate increased competition between educational providers, increased alternatives for learners, and the special consideration of more attractive and imaginative incentives to attract and sustain learners.

Wilson argues that institutions offering online education may try to replicate traditional education through online experiences. Since online learning contrasts face-to-face learning, distance providers should examine the “valued outcomes of a schooling experience” and “design and encourage avenues for personal experimentation online” for example, through the use of “music or political involvement” (p. 96). This idea would be propitious, but it is the author’s opinion that it would be, in many cases, impossible to achieve. The absence of F2F contacts, campus experiences, and real physical interaction is a certainty in distance education. Anytime, anywhere education cannot replicate these physical experiences, and it is the author’s view that this attempt should not even be endeavored.

Wilson reminds the reader, “instruction can be seen either as a mass-produced product or as a unique experience” (p. 97). He states that since online learning requires “more up-front development”, it can be labeled as an “entrepreneurial enterprise” and a “commodity” (p. 97). This attitude contributes to the “industrial model of production and delivery” where distance education is structured through “input-output terms” (p. 97). Due to the process involved in developing an instructional design, “questions of ownership and control of distribution become more prominent” (p. 97). Since the educational product “can be distributed readily (unlike the typical classroom experience),” it needs to adhere to more stringent and controlled “proprietary standards” (p. 97). Publishers are the entities that capitalize most on this, and “maintain commercial control of content elements through proprietary standards” (p. 97). If education continues this trend, industrialization, capitalization, and commercialization will gain even more control and command in education. This “commercial appropriation of learning can result in
some confusion through blurring of boundaries between consumption and education, between entertainment and learning”, and “learning outcomes may suffer from neglect” (p. 97).

**Radical Forces Inspired by Global Connectivity**

As Wilson explains, the Web, since its origins, has been foreseen by many as an open-source for “universal sharing and access” of information (p. 97). The idea is to “create a world where software is freely available and a living is made through continuing relationships of service and support” (p. 97). Instead of the “hierarchically-controlled system” of Microsoft, for instance, the trend indicates, “end users themselves can publish solutions and locally valued resources” (p. 98). Linux, “an operating system whose source code is open for the world to see and costs nothing to download and use, has become a major movement in the software development world” (p. 97). He adds that these open-source and self-publishing prospects are met with “the occasional chagrin of copyright owners and librarians” since they challenge “commercial ownership through resources [that are] freely available” (p. 98).

With peer-to-peer networking, information is shared between individual’s hard drives, and there is no central control of information exchange. Commercial entities may be entirely bypassed in the acquisition of information. In addition, a more “self-organizing system” that “draws on distributed energy and participation for [. . .] survival” has proven to be “a very successful informal learning environment exhibiting both designed and self-organizing qualities” (p. 98).

Educational institutions are faced with the dilemma of available free information on the Web, and the value of an institution’s provision of information at a cost. Due to this, institutions are concentrating more on their “accreditation and credentialing” processes. One trend being used today is the replacement of the student’s physical “seat-time” with “demonstrated mastery of competencies” (p. 98). With “the growth in online and self-directed learning,” functional alternatives to traditional education are being implemented within the educational institutions.

The concept of global education is also a current trend. Students communicate across the globe, and ideas have transcended to a new level, incorporating more “broadly-based positions
on non-violence and conflict resolution, sustainable growth policies, treatment of rich and poor, and protection of the global environment” (p. 99). This provides added pressure on institutions to “create responsible citizens of the world” (p. 99).

Changing Paradigms of Thought in Instructional Design

According to Wilson, the actual process of instructional design is now inclined to “think less in terms of strategy deployment and more in terms of activity; what are people actually doing (concrete), rather than what strategy (abstraction) are they applying?” (p. 100). Although instructional designers “do apply plans and strategies, [. . .] they also respond very directly to environments, colleagues, and tasks at hand” (p. 99). Assuming more critical approaches to understanding human behavior “serve a needed role in the design of distance-education resources as they help us examine the various meanings implicit in our messages, and determine if that is what we really want to say” (p. 100).

Wilson concludes his paper commenting that instructional designers “must closely examine local, dynamic, and systemic interactions,” and “stop looking for linear cause-and-effect relationships” in “future models of instructional design’ (p. 100). Wilson suggests that instructional design will continue to apply “complexity theory” to effectively determine a design’s impact. This theory accepts the fact that instead of analyzing separate components within a design, the interrelationships and entwining qualities of the design must be acknowledged and investigated. As explained by Heylighen (1996): “Complexity can then be characterized by lack of symmetry or ‘symmetry breaking’, by the fact that no part or aspect of a complex entity [sic] can provide sufficient information to actually or statistically predict the properties of the other [sic] parts” (para. 5).

Technology will continue to progress, education will continue to progress, and as Wilson comments, “schools, classrooms, families, workgroups, [and] professional organizations – will find ways for distance education resources to work in their service” (p. 101). Through the process of identifying and analyzing developing trends, new technologies and thinking processes will emerge, thrive, and prosper in the educational system.
Wilson’s general viewpoint is optimistic toward the future of education and its technological applications. The article is well written and clearly presents present trends in education and technology. The concept of analyzing present day methodologies in predicting possible future results is convincing and functional. The author agrees entirely with Wilson that investigating and probing present day trends will better equip educators for the future. However, the author disagrees with Wilson’s placing more emphasis on the instructional designer’s role and power in accomplishing effective instruction. More bearing is given to the designer, with less accredited to the distance educator. This author believes that an instructor will continue to be the key component in effective distance education, with instructional design an essential and necessary tool for accomplishing this goal.
References
