

# Openness and the Transformation of Education and Schooling

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## Editors' Commentary

*It is tempting to couch the tension between open education and traditional educational models in simplistic terms such as free vs. commercial or permitting revision vs. static. In this chapter, authors Huitt and Monetti provide a more sophisticated discussion of the ways that openness is transforming education. They urge readers to consider the purpose and focus of education, outcomes and assessments, processes, and transparency. Parsing formal education into these components allows us more specific test cases to apply our thinking about open and to consider the transformation of schooling.*

Education, at all levels and in its many forms, is experiencing significant social and economic pressure to change. There are many ideas about the source of this pressure, including:

- A recognition that the world is becoming increasingly digital and global.<sup>1</sup>
- An increased importance of information and conceptual understanding.<sup>2</sup>
- A sociocultural context changing from an agricultural/industrial era focused on empire building to one of global, planetary collaboration.<sup>3</sup>
- An increased importance on creativity and innovation.<sup>4</sup>

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Openness has been proposed as an important concept to address many of these concerns.<sup>5</sup>

One of the challenges in discussing openness in education and schooling is that the terms 'open' and 'education' are relatively complex. Firstly, education can refer to formal, informal, and non-formal aspects of teaching and learning. Additionally, education can refer to activities across the lifespan, from infancy and early childhood, to elementary, middle, and secondary school, to higher education, as well as adult education. Likewise, open can be used in a number of ways, from the aims and goals of education, to resources used, to the organizational structure of educational institutions. The purpose of this chapter is to clarify important dimensions that differentiate traditional and open education, to discuss our personal experiences with these, and provide our views as to next steps in the development of open education.

### Types of Education

More often than not, when the term education is used, it refers to the formal organization of teaching and learning experiences for children and youth. However, that is only one aspect of education. La Belle (1982) advocated that a holistic, lifelong learning approach to human development and learning should consider all aspects of education, not just its formal conditions. This is especially important when considering open education as many of the dimensions discussed may apply more to the non-formal and informal types than to the formal.

- Formal education refers to any systematic form of teaching and learning that involves programs of study with defined, expected, and measurable outcomes. This, of course, would apply to early childhood through secondary schooling, but would also apply to higher education, including professional degree programs.
- Non-formal education refers to intentional teaching-learning experiences that do not necessarily involve multiple courses and measurable outcomes. This might involve extra-curricular activities for children and youth, but could also apply to workshops, training sessions, or other adult activities.
- Informal education refers to those spontaneous teaching-learning experiences that might occur as part of a classroom experience which result in unintended learning or brief encounters outside the classroom. It would also refer to most parent-child, workplace, or social interactions that are brief, natural encounters, incorporating some sort of teaching-learning experience.

The major point is that these three types of education can occur throughout the lifespan, although the relative mix would be different as the individual moves

from infancy and early childhood through childhood and adolescence and into emerging, young, middle, and older adulthood. Therefore, when discussing open education, one must be mindful of these alternative contexts.

## Openness

The terms ‘open’ and ‘openness’ have been used in a variety of ways when referring to education and schooling. In many cases, these terms are used to differentiate approaches to teaching and learning from more ‘traditional’ approaches. Table 1 provides an overview of some of the dimensions that have been used to distinguish between traditional and open educational experiences.

It is important to recognize that all aspects of education take place in a cultural milieu. For over 100 years, there has been a debate between those who advocate a more top-down, community-oriented approach to formal education (labeled here as traditional) and a more bottom-up, individualized approach (labeled here as open). Moreover, Berliner (1993) points to a debate as to what aspect of the community the curriculum should emphasize—the workplace (traditional) or living in a democratic society (open). This issue will be discussed more in the section on the purpose of education. Suffice it to say that in its present form, the debate is influenced heavily by the digital revolution that

	<b>Traditional</b>	<b>Open</b>
Transparency	Opaque or hidden data and decision making processes	Transparent data and decision making processes
Purpose	Socializing for factory work	Socializing for global democracy
Focus	Curriculum-centered	Person-centered
Desired Outcomes	Cognitive	Holistic
Assessment	Discrete cognitive knowledge	Authentic, holistic profile
Teaching Processes	Standardized, directed learning	Varied, as appropriate, with more self-regulated learning
Learning Tasks	Curriculum-directed	Problem- and project-based
Resources	Private enterprise controlled	Free or inexpensive
Work environment	Compartmentalized	Connected
Organizational structure	Centralized	Decentralized

**Table 1:** Analysis of Traditional and Open Education.

is permeating every aspect of both the lives of children and adolescents and the lives of the parents, teachers, and other adults in their communities.

### *Transparency*

Transparency is one of the most important attributes of an open approach to teaching and learning. In fact, the phrase ‘open and transparent’ is likely a more correct description of openness as described in this chapter than is ‘open and distance.’ That is because open and transparent are both value-laded adjectives better contrasted with standardized and opaque whereas distance is better contrasted with face-to-face.

One of the ways that all forms of education can become more transparent is the connection among the various dimensions described in Table 1. For example, if a mission statement declares that open-mindedness is part of the mission of an educational program, a transparent organization would point to specific assessments, teaching processes, or learning tasks that directly support that statement. Absent that, the institution is implying that it does not want to be held accountable for actually achieving that purpose or goal. Allowing for free sharing of ideas and openly reporting outcomes and results of activities are behaviors that are consistent with open education. Education becomes more transparent by allowing stakeholders to easily be able to see its decision making and strategic planning processes.

Additional aspects related to the importance of transparency for open education will be highlighted throughout the remainder of the chapter.

### *Purpose*

The debate as to the purpose of education in its many forms has been a source of contention from at least the ancient Greeks,<sup>6</sup> through the beginning of mass education<sup>7</sup> and the beginning of the industrial age in the United States,<sup>8</sup> to the transition to the modern era.<sup>9</sup> Historically, the focus on basic skills and standardized assessment is an aberration from the more generalized approach to developing the whole person. The emphasis on efficiency and preparation for factory work, while perhaps necessary for an industrial-age economy, is certainly not appropriate for a global, digital, information-age lifestyle.

In our view, a major purpose of education for children and youth should focus on developing the knowledge, attitudes, and skills necessary for global citizenship.<sup>10</sup> By this it is meant that children and youth should have the foundational skills sufficient to live and work anywhere in the world, in any lifestyle, that they may choose. At the same time, they should have the foundation to work with others to develop the neighborhoods and communities that will entice global citizens to live there. It is these two issues, an individual emphasis

on personal freedom and a social emphasis on creating inviting communities that ought to be the focus for educating children and youth.

The purpose becomes a bit more diversified for higher education, as it ranges from technical schools and some community college programs preparing individuals for specific jobs to the continued general preparation of arts and science programs in colleges and universities to career preparation and advancement in fields such as business, education, health care, and the legal profession. Adult education has an even wider range from basic skills development to continuing education for professionals.

The importance of purpose cannot be overestimated. Several hundred years ago most people were farmers or serfs; only a small elite needed to have an ability to read and write. The industrial age brought a widening of job roles, requiring a minimal education for most people. In today's environment, the diversity of work and career options as well as lifestyles is changing so rapidly that some type of formal education will likely be required throughout an individual's life.<sup>11</sup> Therefore, a discussion of purpose must be one aspect for all strategic planning activities.<sup>12</sup>

### *Focus*

Deciding on a general purpose for the various forms of education is only the first step. It is then necessary to consider how to make that broad statement more specific. For example, the traditional approach to early childhood to secondary schooling is to focus on the development of basic academic skills. The assumption is that if students have developed the academic competencies as described by the standards, they will be minimally prepared for successful adulthood in the twenty-first century. Likewise, the purpose of specific arts and science programs such as those found in the behavioral and social sciences is to provide opportunities for students to develop basic skills in scientific research, as well as concepts and principles that will allow them both to be successful in a wide variety of occupations and/or further specialized study.

Unfortunately, when learners only master traditional academic standards it might prepare them to be successful in higher education or advanced study, but that might not be sufficient to be successful in the workforce.<sup>13</sup> An open approach to formal schooling at the elementary, secondary, and tertiary levels would have a broader, more person-centered focus and would include flourishing and wellbeing; these latter are mainstays of the positive psychology movement.<sup>14</sup> More often than not, this broader approach includes a wider range of cognitive skills such as those involved in metacognition and problem-solving as well as competence in other domains such as emotional, social, and moral character development. Our personal experiences suggest this more open approach is not only possible, but it contributes to the development of more traditional academic skills.

We believe the same dichotomy can be seen in adult education. Whereas traditional adult education has focused on specific work-related skills, a more open approach would focus as much on developing the potential of the individual so as to empowering the person to take more control over his or her life. This would involve a consideration for how an individual forms and maintains professional relationships and how those could be mutually beneficial.

### *Desired outcomes*

In the United States, the desired outcomes for children and adolescents are currently embodied in the Common Core State Standards<sup>15</sup>. This is consistent with a very narrow cognitive focus of human potential. However, theorists and practitioners have come to the realization that a free-flowing, dynamic environment with a corresponding exponential rate of change<sup>16</sup> requires a substantial change in desired outcomes of learning as well as the structure and processes of schooling and education.<sup>17</sup>

Whereas the industrial age required commonality in the development and use of basic academic skills as well as attitudes such as recognizing a supervisor's authority and a willingness to work on monotonous tasks,<sup>18</sup> the post-modern digital, information/conceptual age requires a much wider range of knowledge and skills.<sup>19</sup> While basic academic skills are still important, the ability to engage in such activities as group-based problem finding and problem solving; planning and implementing personally developed solutions that relate to personal interests and strengths; behaving in a morally and ethical manner; and engaging in meeting the perceived needs of the community and society are just as important.<sup>20</sup>

Unfortunately, there is less agreement about this broader set of knowledge, attitudes, and skills. Based on an analysis of recommendations from such researchers as Costa and Kallick (2000), Diener and Biswas-Diener (2008), the International Baccalaureate Organization (2013), Narvaez (2008), Partnership for 21st Century Skills (2009), and Seligman (2011), Huitt (2012) compiled a set of recommendations for desired learner outcomes. For example, in addition to those stated previously, some researchers have discussed the importance of open-mindedness and risk-taking, self-efficacy, resilience, and self-regulation. One of the ways that the behavioral and social science can contribute to this discussion is the development of instruments and methods that will allow these additional desired outcomes to be assessed in a reliable and valid manner.

### *Assessment*

Of all the issues discussed so far, none is more important than the topic of assessment. That is because assessment embodies the purpose, focus, and

desired outcomes of education and schooling and influences the creation of learning environments, teaching and learning processes, and learning tasks that will be used to facilitate that development of the desired outcomes. Hummel and Huitt (1994) used the acronym WYMIWYG (What You Measure Is What You Get) to describe this phenomenon. In fact, one might go so far as to suggest that if desired outcomes are not assessed, they are not really desired outcomes. The focus will be easily replaced by what seems to be more urgent, but ultimately less important, activities.

A traditional approach to assessment relies on standardized tests. This is seen not only in a traditional schooling environment, but also in a wide range of adult education for purposes of credentialing and promotion. This focus on cognitive knowledge is in spite of research showing that as much as two-thirds of the variance in adult success can be attributed to non-cognitive attributes.<sup>21</sup>

Developing appropriate assessments should be a priority of an open education approach to education and schooling. These will likely be norm-based assessments because developmentally-appropriate standards have not been established for these types of data-collection procedures.<sup>22</sup> This is exactly the approach being taken by the Collaborative for Academic, Social, and Emotional Learning (CASEL)<sup>23</sup> and Transforming Education<sup>24</sup> in their work with school districts. Gabrieli, Ansel, and Krachman (2015) provide evidence that focusing on these non-cognitive domains improves traditional academic learning. It is also a critical part of the positive psychology approach taken by Seligman and his colleagues<sup>25</sup> in their work with schools and Diener and his colleagues in their work with adults.<sup>26</sup>

One approach to assessment takes the form of e-portfolios such as those based on the domains of the Brilliant Star framework.<sup>27</sup> In this process, learners can upload digitized forms of artifacts (written documents, pictures, videos, etc.) that represent various levels of mastery in different domains. Learners can continue to add to this record throughout their childhood and adolescence and can use exemplars from their school-based extra-curricular activities as well as whatever else they may be doing. This is the same process that master artists and craftsmen use to display their work. An e-portfolio is a much more authentic process than any single measure that might be obtained using paper-pencil methods.

E-portfolios have been used successfully in psychology programs as a way for students to document and reflect on their learning.<sup>28</sup> The American Psychological Association (2013) developed a set of learning goals and objectives that could serve as a foundation for what should be assessed. One recommendation is to include some documentation as to how the learners applied their knowledge of the discipline to themselves such as their learning and cognitive styles, their strengths, and their personalities. We would also recommend that learners document their knowledge and application of physical wellbeing and their awareness of their own and others' emotions and their emotional self-regulation. These are some of the desired outcomes discussed by researchers

cited above that are not included in the American Psychological Association (APA) guidelines.

Unfortunately, in prior progressive and education movements, while the advocated learning outcomes changed, the means for assessing learning did not. This was especially true for the 1960s version of open education in that learning assessments were not personalized, which was an important element of the various programs. Instead, the programs were required to use assessment methods more appropriate for an industrialized approach to teaching and learning – the use of standardized tests of basic skills for children and adolescents and standard assessments in higher education. This continues to be a challenge in the current open education movement.<sup>29</sup>

One final note on assessment. While it is readily acknowledged that feedback following action is necessary for learning, exponential learning is produced when both the action and feedback are shared among learners.<sup>30</sup> And when what is being shared has been digitalized, it can be shared at the speed of the internet, which is increasing exponentially.<sup>31</sup> This is why e-portfolios, when properly constructed, can impact learning in ways that traditional methods of assessment never could.

### *Teaching processes*

Once it is accepted that assessments of learning will be standardized, standardizing teaching processes is the next logical step. Traditionally, this has meant that the method of choice is directed or explicit instruction with the teacher as the focus.<sup>32</sup> A more open approach would focus on methods that would emphasize self-regulated, lifelong learning.<sup>33</sup> This dichotomy is sometimes referred to as the ‘Sage on the Stage’ versus the ‘Guide on the Side.’

However, it is important to realize that the issue may be more complex than this simple dichotomy would propose. For example, Gage and Berliner (1991) identified five principles that were adopted by those promoting open education in the 1960s and 1970s:

- Students will learn best what they want and need to know.
- Knowing how to learn is more important than acquiring a lot of knowledge.
- Self-evaluation is the only meaningful evaluation of a student’s work.
- Feelings are as important as facts.
- Students learn best in a non-threatening environment.

These turned out to be incorrect principles when the desired outcomes were improved academic achievement, achievement motivation, locus of control, or self-concept although learners did show improved cooperativeness, creativity, independence, and positive attitudes toward school.<sup>34</sup> However, the importance of attention to affect as described by Rogers’ and Freiberg’s (1994) Facilitative

Teaching was shown to be a more relevant principle. In an assessment of educator's implementation of Rogers' and Freiberg's recommendations (in both open and traditional settings), Aspy and Roebuck (1975, 1977) found students performed better in school and had higher levels of self-concept when teachers:

- Responded to student feelings.
- Used student ideas in ongoing instructional interactions.
- Had more discussions with students (engaged in authentic dialogue).
- Praised students appropriately.
- Engaged in more authentic (less ritualistic) talk.
- Tailored content to individual's frame of reference.
- Smiled at students.

Those promoting a more open approach to teaching processes must be careful to identify the most relevant principles. A cautious, exploratory approach is certainly warranted.

In our experience, it is necessary to consider expectations of all stakeholders when advocating a change from a traditional to an open approach to education and schooling. For example, those in elementary and secondary schools must consider parental expectations as one of the major challenges to moving to a more varied approach to instruction. Parents' experiences with the more traditional model leads them to believe that direct instruction is the most appropriate method for teaching their children. If there is to be a successful transition to a more open approach, parent education must be a part of the process. They must be provided with opportunities to experience the efficacy of using a variety of teaching methods.

Likewise, those in higher education, especially in the liberal arts disciplines such as psychology, must consider the expectations of faculty and administrators with respect to promotion, tenure, and university ranking. While university faculty are evaluated in terms of research, teaching, and service, more often than not research and publications play a larger role than the other two. Even community college faculty are beginning to be expected to publish in the area of the teaching of their discipline.<sup>35</sup> However, the level of innovation in teaching practice is not one of the criteria normally used to evaluate faculty and departments. Yet the requirement for innovative practice in teaching must be addressed if higher education is to keep pace with the disruptive sociocultural change in which it is embedded.

In particular, the processes of learning and their associated teaching methods must be made known to all important stakeholders. For example, it can be shown that current methods such as the flipped classroom, problem-based learning, and project-based learning are all supported by learning theories.<sup>36</sup> By showing stakeholders that next practices are simply a rearrangement or extension of best practices, they are more likely to be supportive of previously unfamiliar methods. The key is making these approaches transparent

so that everyone understands educators are not making changes simply for change sake.

### *Learning tasks*

There is no greater difference between traditional and open approaches to education and schooling than in the description of learning tasks. Even though other methods such as concept mapping and cooperative learning are used in traditional classrooms, direct instruction is still the dominant method used in the United States and throughout the world.<sup>37</sup> This means that learners spend large amounts of learning time listening to or watching a teacher and engaged in practicing isolated tasks that are directly related to curricular objectives. This is in spite of research showing that reciprocal teaching (where learners take responsibility for teaching other learners), the use of meta-cognitive strategies, and student self-verbalization or self-questioning all explain more variance in test scores than does the use of direct instruction.<sup>38</sup>

One result of having a more open approach to describing desired outcomes and its subsequent impact on a wider set of assessments is that a wider range of learning tasks will be necessary to accomplish those. For example, once different aspects of emotional and social development are deemed important, it is then necessary to create learning tasks that will allow learners to develop those competencies. The same is true for self-regulation, moral character, or any number of other desired objectives.

The most important principle is that learning tasks should address a wider range of desired outcomes and those outcomes must be appropriately assessed. The creation or selection of learning tasks that specifically address desired outcomes must be designed in such a way that assessment FOR learning is designed into each learning task.<sup>39</sup> For example, when a small group is involved in a discussion or collaborative learning activity, other students could be assigned as observers. The student observers collect data on desired competencies for working in groups and that data is shared with those in the discussant group. As students become more skilled as observers, they will become more aware of the competencies they should be developing when they are in a discussion group.

Experiential learning, especially academic service learning, should be part of every school curriculum. Rogers and Freiberg (1994) showed that experiential learning provides learners with an opportunity to know-how in addition to know-what, which makes the learning experience more personally significant. This is especially true for academic service learning as students are able to see a direct purpose for academic learning that makes academic learning meaningful.<sup>40</sup>

One of us (WH) is currently working with colleagues to develop a series of undergraduate courses that will provide learners with guided experiences at

multiple levels of community development.<sup>41</sup> A central concept is that young people need to have a variety of experiences that will allow them to make better decisions about how they want to contribute to the development of a society in which they would like to live. Without these types of learning experiences, young people, for the most part, are only guessing as to what their interests and strengths might be and how those could be used for social good. Providing learners with authentic learning tasks with built-in opportunities for feedback and reflection should be given a high priority in an open education approach to teaching and learning.

### *Resources*

Open access to resources is probably one of the most acknowledged aspects of an open education movement. This advocacy of free or inexpensive access to important information<sup>42</sup> is in direct contrast with a traditional approach where resources are controlled by for-profit corporations or professional organizations. Fortunately, there is an exponential growth in materials that are either free or relatively inexpensive; these are extensively covered in other chapters in this book (e.g., Chapters 17 & 18). Open access to resources is a central pillar of a more open approach to education and schooling.

One of us (WH) has been involved in the process of producing and sharing free resources for the purposes of teaching education and psychology courses since the early 1990s. The materials on the website<sup>43</sup> have been used to create a number of courses whose materials are largely comprised of free resources. It is our expectation that this trend will continue, and even accelerate, in the near future.

### *Work environment*

Creating a more open work environment is one area where educational institutions could learn from their counterparts in private enterprise. High-tech organizations such as Google are well-known for their willingness to break down compartmentalization and create more inter-departmental and connected communication systems.<sup>44</sup> For the most part, educational institutions are still organized via academic departments with very little cross-fertilization.

One area where this tradition is being challenged in elementary and secondary education is in the area of STEAM (science, technology, engineering, arts, mathematics) projects. With some projects including the social sciences as well as natural sciences in the projects, they are leading the way in creating a more connected work environment. For example, High Tech High School regularly integrates the arts in its project-based instructional program.<sup>45</sup> In fact, entire school districts are now coordinating their efforts to create an integrated curriculum.<sup>46</sup>

The Character through the Arts project<sup>47</sup> is another example of work on which one of us (WH) contributed. The focus of this project was on the development of arts-integrated units for elementary and middle schools.<sup>48</sup> One of the highlights of the project was the collaboration of one of the participating schools with the theater department at the local university.<sup>49</sup> Through this collaboration, the entire middle and upper schools participated in two one-day events that allowed students to explore important character issues such as understanding the consequences of one's decisions and the burdens (through the study of Macbeth) and responsibilities of leadership (through the study of Antigone).

Behavioral and social science departments could provide leadership in creating STEAM-oriented case studies and projects that would have learners connect across multiple disciplines. Lisa Delissio's blog<sup>50</sup> provides extensive examples of current work in this area. When these engage learners in experiential education, especially service learning activities that benefit the local community, the learning and work environment can better address the need for the working environment to contribute to the more open, holistic desired outcomes, assessments, teaching processes, and learning tasks described above.<sup>51</sup> These types of experiences make academic learning more relevant and meaningful to learners and will be a pillar in the transition away from the centuries-old approach to compartmentalizing learning experiences and preparing learners for the work of the future.<sup>52</sup>

### *Organizational structure*

The hierarchical structure that presently dominates educational institutions will slowly give way to more holarchical structures that rely more on consultation than authority.<sup>53</sup> The key element is that the decision making process moves from an industrial-age, military-like centralized decision-making process to one more like a set of embedded networks where most decisions are made by those who will actually implement them. Ismail, Malone, and van Geest (2014) state quite explicitly that organizations using these holarchical types of structures will be able to outperform more traditionally-organized institutions in times of exponential change. These organizations are simply able to more quickly resolve conflicts among various stakeholders and get on with creating value for customers.

While we do not have any direct experience with holarchical organizational structures in our educational experiences, our experience in using some of the principles with non-profit and religious organizations has demonstrated the power of a more nimble, agile approach to decision making. The time it takes for all stakeholders to discuss an issue thoroughly is more than made up for when actually implementing the decision. The buy-in from those implementing the decision is enhanced because they had influence in its creation. Those

involved in educational institutions at all levels will need to acquire the knowledge, attitudes, and skills to create and work in these more open organizational structures.

### More Open Psychology Departments

Even though we will address psychology departments specifically, our thoughts and recommendations are applicable to all departments in the liberal arts, especially to those in the behavioral and social sciences or educational psychology departments in colleges of education. That is because higher education is experiencing significant economic pressure to change. Enrollment at many campuses is down and costs are up. State contributions to public higher education are in most cases either flat-lined or eroding. Endowments are down as well, in lockstep with recent global financial and market reductions. Student debt is increasing and families are forced to analyze the kind of return on investment that they can anticipate from a college education.

However, to look at higher education classrooms at institutions around the world, it is likely that one would see familiar rows that have come to typify the traditional face-to-face college experience. As we have discussed, this tradition will see continued challenge in an era where students expect immediacy and are increasingly comfortable with mobile computing and collaborating and sharing information through social networks.

One reaction to such challenges is often righteous indignation, where traditionalists argue that openness and technological innovation amount to little more than window dressing. This same line of thinking was once held by video rental operations (like Blockbuster) who failed to embrace the digital content revolution. At the same time, any innovation or modification made which is not at its core imbued with quality will also fail. People pay more for luxury items because their quality is typically higher than competitors. Providing quality academic learning experiences is one of the primary reasons why investments in faculty and students are a critical component to educational ratings. The public tends to skeptically observe institutions with slick marketing campaigns without corresponding investments in students and faculty.

We have discussed ten characteristics that can be utilized to reflect upon the degree of openness in a k-12 (kindergarten through secondary school) or higher education unit, like a psychology department. These components were: transparency, purpose, focus, desired outcomes, assessment, teaching processes, learning tasks, resources, work environment, and organizational structure. With these elements in mind, what might a more open psychology department look like?

One of the key factors toward moving to a more open department would be an assessment of the purpose and focus of psychology departments. Many academic units tend to emphasize a narrow component of an open curriculum.

Moreover, the curriculum is generally thought of as fixed and does not routinely change based on the students in the class. In fact, the pacing and sequence of instruction is often decided before the professor meets the learners. One change that could be made is for faculty to assess students about their knowledge, attitudes, and skills as they relate to a more open set of desired outcomes. Faculty in a more open department will attempt to focus more on student strengths in terms of their interests and strengths. Case studies and projects would focus on these and learners would have the opportunity to make choices about how they would apply academic concepts and principles taught in the course.

Open psychology departments will also embrace that idea that a percentage of students (perhaps a vast majority for some institutions) will decide not to immediately attend graduate school. The challenge will be to help those students connect what they have learned about psychological science to their careers. There is a reason so many students select psychology as a discipline – it fosters curiosity, objectivity, awareness of the impact of bias, and skills in both writing and quantitative data analysis. Open departments will continue to expand the ways that they have connected students to the world of work and sharing these reasons with employers. Helping students participate in service learning, internships, relevant case studies, and capstone projects will help demonstrate to employers the intellectual, emotional, and social skills graduates are able to bring to the workplace.

Another area where openness can occur is around how data is collected and utilized in departments. Currently data is gathered primarily for the purpose of grading and accreditation. Efforts to organize data collection and analysis through reflective e-Portfolios using APA's guidelines are a step in the right direction.<sup>54</sup> Assisting learners to develop compilations, such as competency profiles on LinkedIn, is one way that individuals can connect personal learning to work-related social networking.

Another step would be to make data even more transparent to stakeholders such as students, parents, and citizens. The decisions that individuals make regarding higher education would be enhanced by providing aggregated information on these desired outcomes. Asking students to voluntarily share their e-Portfolios and competency profiles could become a dominant form of departmental accountability. Our experience with e-portfolios shows they are an excellent method for getting a holistic overview of an individual's learning and development, and competency profiles can provide a similar, though somewhat briefer, role.

Instructional processes have already starting shifting to more open practices. There has been a growth of delivery methods that include face-to-face, fully online, and blended approaches. Even face-to-face instruction has changed with increased use of flipped classrooms and problem- and project-based learning. These approaches have given students increased opportunities to develop a more holistic set of desired outcomes.

Options within degree programs are also starting to expand. In addition to the standard psychology curriculum with some course choices, varied options are becoming more prevalent. For students where cost is a very large factor and potential for college dropout is high, institutions are experimenting with direct path degree programs which minimize advising and course selection errors. There are also more options where students basically create their own degree program which encourages interdisciplinary thinking and learning.

Open departments will do a better job of intervening to help students avoid failing out. How students are grouped is a powerful intervention. Psychology departments tend to be really large; majors could be separated into smaller groups of learning communities and focus on helping students become connected to a much smaller and tighter peer group.

Another open practice would be to ensure that faculty meetings are places where data are discussed. In departmental meetings, faculty often do not have the hard data regarding the functioning of the department with which to start a discussion of improvement. Data could bring light to many important bottlenecks within the psychology curriculum. For example, data could help faculty to more empirically answer questions related to the connection of desired outcomes, teaching practices, and learning experiences. Faculty would be encouraged to share examples of innovations that did not work as designed. Failing often and quickly is the hallmark of the most successful innovative institutions.

## Summary and Conclusions

In summary, while it is generally recognized that the global sociocultural environment, heavily influenced by digitization and exponential change, is a current reality, it is less obvious as to how education and schooling need to be modified as a result of these changes. At the very least it requires a change in desired outcomes and related changes in assessments. Changing the first (e.g., a focus on higher levels of critical and/or creative thinking) without changing the second (e.g., creating new ways of assessing those more varied outcomes) will result in continued use of instructional methods more suited to the industrial age than the digital, information age.<sup>55</sup> At the same time, the organizational structure of schooling and education needs to be changed so that it is less hierarchical, more open, and more transparent. This is beginning to change with an increase in magnet and charter schools for elementary and secondary learners<sup>56</sup> as well as rapidly growing alternatives in distance learning for higher education<sup>57</sup> and adult education.<sup>58</sup>

The positive psychology initiative and a corresponding focus on creating learning experiences that result in higher levels of flourishing and wellbeing as referenced above demonstrate that all stakeholders can be provided with a solid knowledge base on how to create learning experiences that are increasingly

relevant to children, youth, and adults. This does not mean a total abandonment of an emphasis on academic knowledge, but it does mean that society-wide discussions need to be held as to what aspects of the academic curriculum are absolutely needed for global citizenship, which should be taught just in case they are relevant, and which should be taught on a just-in-time basis so they can be used in a problem- or project-based learning experience.<sup>59</sup>

Finally, the phrase ‘open and distance education’ should be replaced with the more accurate phrase ‘open and transparent education.’ Distance education is merely a delivery system and is not inherently open or transparent. Our experience shows that distance education can be just as traditional as any face-to-face classroom. Distance education will become increasingly relevant to the extent that educators can address the teaching and learning processes and the means of assessment that are appropriate for a global, digital, information-rich environment of living and learning. It is open and transparent that is the key to future models of education and schooling, not the delivery system, as convenient as it might be. It will be very interesting to watch how open and transparent practices shape education. We hope that all interested stakeholders will participate in this important discussion.

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### Notes

- <sup>1</sup> Prensky, 2010.
- <sup>2</sup> Huitt, 2007.
- <sup>3</sup> Gilman, 1993.
- <sup>4</sup> Diamandis & Kotler, 2012, 2015; Wagner, 2012.
- <sup>5</sup> Price, 2013.
- <sup>6</sup> Smith, 2001.
- <sup>7</sup> Filler, 1983.
- <sup>8</sup> Taylor, 1913; Dewey, 1991, 1997.
- <sup>9</sup> Freire, 2000, 2013; Wagner, 2012.
- <sup>10</sup> Huitt, 2013.
- <sup>11</sup> Gilman, 1993; Price, 2013.
- <sup>12</sup> Delprino, 2013; Proctor, 1997.
- <sup>13</sup> Gardner, 1995; Goleman, 1995; Sternberg et al., 1995.
- <sup>14</sup> Diener & Biswas-Diener, 2008; Rogers & Freiberg, 1994; Seligman, 2011.
- <sup>15</sup> Common Core State Standards, n.d.
- <sup>16</sup> Kurzweil, 2004; Diamandis & Kotler, 2012, 2015.

- <sup>17</sup> Prensky, 2010; Tapscott, 2008.
- <sup>18</sup> Chance, as cited in Huitt, 1999.
- <sup>19</sup> Huitt, 2007.
- <sup>20</sup> Huitt, 2013.
- <sup>21</sup> Gardner, 1995; Goleman, 1995; Sternberg et al., 1995.
- <sup>22</sup> Huitt & Monetti, 2015.
- <sup>23</sup> CASEL, n.d.
- <sup>24</sup> Transforming Education, n.d.
- <sup>25</sup> Duckworth & Seligman, 2005; Seligman, 2008, 2012; Seligman et al., 2009.
- <sup>26</sup> Diener et al., 2010; Diener, Inglehart & Tay, 2013.
- <sup>27</sup> Brilliant Star Framework, n.d.
- <sup>28</sup> Birkett, Neff & Pieper, 2013, Stephens & Moore, 2006.
- <sup>29</sup> Admiraal, Huisman & Pilli, 2015; Caple & Bogle, 2013.
- <sup>30</sup> Diamandis & Kotler, 2012.
- <sup>31</sup> Diamandis & Kotler, 2015.
- <sup>32</sup> Huitt, Monetti & Hummel, 2009; Monetti, Huitt & Hummel, 2006.
- <sup>33</sup> Cleary & Zimmerman, 2004; Sitzman & Ely 2011.
- <sup>34</sup> Giaconia & Hedges, 1982.
- <sup>35</sup> Palmer, 2015.
- <sup>36</sup> Huitt & Vernon, 2015.
- <sup>37</sup> Huitt et al., 2009.
- <sup>38</sup> Huitt, Huitt, Monetti & Hummel, 2009.
- <sup>39</sup> Stiggins, 2008; Wiliam, 2014.
- <sup>40</sup> Warren, 2012.
- <sup>41</sup> Huitt & Dressler, 2014.
- <sup>42</sup> Downes, 2011; McKerlich, Ives & McGreal, 2013.
- <sup>43</sup> Educational Psychology Interactive , n.d.
- <sup>44</sup> Price, 2013.
- <sup>45</sup> High Tech High School, n.d.
- <sup>46</sup> Integrated Curriculum, n.d.
- <sup>47</sup> Character through the Arts, n,d,
- <sup>48</sup> Educational Psychology Interactive, n.d.
- <sup>49</sup> Huitt & Huitt, 2007.
- <sup>50</sup> Lisa Delissio, n.d.
- <sup>51</sup> Bowdon, 2013.
- <sup>52</sup> Ross, 2016.
- <sup>53</sup> Robertson, 2015.
- <sup>54</sup> American Psychological Association, 2013.
- <sup>55</sup> Hummel & Huitt, 1994.
- <sup>56</sup> Huitt, 2006.
- <sup>57</sup> Allen & Seaman, 2014.
- <sup>58</sup> Milana, 2012.
- <sup>59</sup> Huitt, 2013.

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