

# Testing, Experience, and Reason: Perspectives from Comenius and Dewey

**David Snelgrove, Oklahoma State University**

## **Introduction**

I love history and I love working with these guys (her fourth-hour-block U.S. history class) but it is difficult to get them interested in the subject. We have the state standards to cover and the [End-of-Instruction] test to prepare for. I have to cover new standards every day. There is no time for reinforcement activities and if the students don't get it there is no time to re-teach the material. There is not time to extend the lesson into the interesting side-stories, biographical studies, or interesting events that can make history fun.

The woman speaking here is an intern teacher at Edmond High School (Go, Bulldogs!) completing her certification in a junior-level history class. Her peers, intern teachers in World History, Oklahoma History, Spanish, and English, had similar misgivings about the state of the art of education, so, as a result I, a clinical supervisor of intern teachers, embark on an examination of the background and status of this testing program and critique the role of testing from a teacher's perspective. This past year being the centennial of the publication of John Dewey's (1859–1952) *Democracy and Education* (1916), his educational theories underpin my critique. The work of an early reformer of education, Jan Amos Komensky, a.k.a. Jan Amos Comenius (1592–1670), whose *The Great Didactic* (1632) contains principles for reorganizing and reforming schools and teaching serves as another frame for my exploration into the role of testing in education. The “state of the art” of education provides my focus.

The art of education, that aspect arising from interest in the subject, the joy of working with young scholars (even reluctant ones), and the satisfaction of contributing to society proves wholly different from the science of education. This is not to say that the science of education—all teachers learn about methods, models, and strategies, and perhaps even their reflections on their own educational activities—are not important;

they are. However, academic, cognitive, and learned activities assist with but cannot replace the affective joy of teaching and love of learning. With that in mind, the purpose of this essay is to investigate the development of the situation in which testing and a focus on rote learning of prescribed content has taken priority over most aspects of education: one where the classroom model focuses on a lockstep method of teaching and learning discrete content, and evaluating that learning. My next objective is to identify the many ways federal involvement and the application of business models for educational administration affects public education with the governmental focus on education as an enterprise and educational testing its measure of success or failure. Finally, I apply the theories of John Amos Comenius and John Dewey to analyze the problem of testing in education from several vantage points: recitation, the result of testing-based curriculum, students' needs, the educational process, the curriculum, method, and the social institution.

### **Testing and Education**

The origins of our current situation in education have roots in the development of the science of education from Herbart to Hunter to Marzano. Educational administration is influenced by the application of an array of industrial and business models from Taylor to Deming to Baldrige. Federal interest and intervention proceed from the National Defense Education Act (NDEA) to the Elementary and Secondary Education Act (ESEA) to No Child Left Behind (NCLB) to the Every Student Succeeds Act (ESSA).

Teacher and student testing in one form or another dominate public education and have since Horace Mann introduced common exams in 1845. Oklahoma is but one example of the national situation of pervasive educational assessment and high-stakes testing as accountability measure. The state requires teachers who receive certification through college and university teacher-education programs to take the Oklahoma General Education Test (OGET), the Oklahoma Subject Area Test (OSAT), and the Oklahoma Professional Teaching Examination (OPTE).<sup>1</sup> Alternative certification is available to individuals who hold a Bachelor's degree in a field corresponding to a certification area who pass the OGET and OSAT, have two years of any kind of work experience, and a minimum grade point average.<sup>2</sup> Students in public schools must complete core curriculum, benchmark, and end-of-instruction tests. Students who choose classes like advanced placement or college prep must perform satisfactorily on additional tests. Some school districts, in the interest of demonstrating superiority, administer even more achievement tests than required by legislation. This intensive teacher-and-student testing regimen is a result of U.S. Department of

Education requirements for states to evaluate “achievement” and show improvement. The growth and application of educational administration practices based on business management models supplies the data that satisfies the need to determine public schools’ success.

### **Business Models in Education**

Business management structures, especially those quality-based, continuous-improvement models begun by Deming and supported by the Baldrige Foundation, when applied to education provide the drive toward and development of standards-based assessment. The industry-based management ideas of Dr. W. Edwards Deming (1900–1993), Total Quality Management (TQM),<sup>3</sup> and the Malcolm Baldrige Education Criteria for Performance Excellence<sup>4</sup> provide the management models. Schools which have planned and shown detailed, recorded improvements in leadership, strategic planning, customer- and market-focus, information and analysis, human resource focus, process management, and business results become eligible to receive the Malcolm Baldrige National Quality Award (established by the U.S. Congress, awarded by the U.S. President).<sup>5</sup> Deming outlines the Deming/Baldrige structure, often effective in business, in fourteen points.<sup>6</sup> This formula for success, so logical in the business world, proves much less effective when its criteria are applied to public education since public education offers a far more challenging sociopolitical context given its role as a social institution, governance by the state, beholden-ness to local communities, and monitoring by all. Nearly everyone believes he or she is an expert on education, having gone to school and taking as a truism Will Rodgers’ famous adage, “The schools ain’t what they used to be and never was.”

Schools ideally attain the goal of quality-driven education implementing a system of continuous improvement. Educational leaders utilize the expertise of teachers working in committees after school in districts and school sites to affect educational decision-making. In practice, this means the implementation of performance standards suggested by the authors of the Reagan-era 1983 *A Nation at Risk* report which proposes “the strengthening of high school graduation requirements by establishing minimum requirements for each student of: (a) four years of English, (b) three years of mathematics, (c) three years of science, (d) three years of social studies, and (e) one-half year of computer science. Regarding standards and expectations, schools, colleges, and universities the report encourages schools and districts to go “back to basics” by adopting more rigorous, measurable standards and higher expectations for academic performance and student conduct.<sup>7</sup>

The relationship between Deming's ideas of "Total Quality Management" outlined in his fourteen points, The Malcolm Baldrige Award with its business-values criteria, and the No Child Left Behind [now the Every Student Succeeds] Act requirements turns on questions posed of the data, for data in the educational setting is constructed as synonymous with the creation of standards and broadly applied testing resulting in measures of achievement and, ideally, continuous improvement. The consequence of imposing this business-based model on public education is dependence on a set of standards on which the testing is based—a faulty logic—which means a teacher must always be aware of and focused upon the standards to teach and the number of standards to cover.

### **Federal Involvement**

The growth of significant federal involvement in education began with the NDEA during the Eisenhower administration, ESEA and the War on Poverty during the Johnson administration, NCLB during the Bush presidency, and, finally, President Obama's signing of the ESSA in 2015. 2016 presidential candidate Clinton previously advocated for public education in Arkansas and so, as President, would certainly have shown interest in U.S. educational policy. The educational policy of President Trump is unclear but he supports state and local control of public education and calls for downsizing if not eliminating the U.S. Department of Education (ED) established in 1979 during the Carter administration. U.S. Secretary of Education Betsy DeVos reports a proposed 13 percent reduction in the ED budget eliminating or phasing out 22 programs. House Bill 899, if passed, will terminate the Department of Education at the end of 2018.<sup>8</sup>

The NDEA, passed by Congress in 1958, provides significant funding for science, technology, engineering, and mathematics (STEM) programs at U.S. colleges and universities. It also supports the practice of testing first to identify then track capable students into more rigorous classes and to determine the success of curricula and programs designed to improve teaching. These "new" curricula—School Mathematics Study Group (SMSG), Biological Sciences Curriculum Study (BSCS), Physical Science Study Committee (PSSC), and others—change teaching primarily in science and math,<sup>9</sup> coming at a pivotal time. By the mid-1960s the first generation born after World War II was in high school and beginning college. American involvement in Indochina and social change centered in race, class, and gender rights created a context of perceived crisis. By the time the Elementary and Secondary Education Act (ESEA) of 1965 was passed the focus in education had passed to the social. The six, then seven, titles of the ESEA were designed to support

school districts with funding focused on alleviating the impact of poverty and educational inequity. *A Nation at Risk* greatly increased federal intervention in public education. President Reagan supported abolishing the Department of Education and downplayed education as a political issue reconsidered. In the Reagan era, educational reform began anew on the national, state, and local levels and continued as the Clinton and subsequent administrations supported the establishment of national standards and the educational crisis mentality which promoted public education as a disaster.<sup>10</sup>

The No Child Left Behind Act (NCLB) version of the Elementary and Secondary Education Act required the following: 1. a high, objective, uniform state standard of evaluation (HOUSSE); 2. a systematic testing program; 3. a narrowly defined educational research program; 4. highly qualified teacher designation; 5. increased accountability for student performance; 6. a focus on “what works”; 7. reduced government control; 8. increased educational flexibility; and 9. empowerment of parents.<sup>11</sup> President Obama signed the Every Student Succeeds Act (ESSA), the latest incarnation of ESEA, into law in 2015.<sup>12</sup> ESSA retains the emphasis on standards and testing but releases to the states the evaluation of schools and the determination of responses to poorly achieving schools, retaining the right for federal intervention in some circumstances.<sup>13</sup> ESSA responds to backlash against the most onerous provisions of NCLB and promises to continue to support efforts in the nation’s schools to decrease the “achievement gap” between more-resource-advantaged and less-resource-advantaged students. Major changes in the ESSA version of ESEA include: 1. the number of standardized, high-stakes tests since such exams were criticized for trying to put all students into one category without taking into account significant individual differences; 2. encouraging states to develop challenging standards to replace Common Core state standards; 3. evaluating schools every three years based on approved standards and devised goals at the state and district levels; 4. emphasizing English Language Learner programs with increased federal oversight and control; 5. a permanent preschool development grant; and 6. modifying at the national level teacher evaluations and “highly qualified” teacher status. The impact these changes are having at state and local school district levels is variable at best.<sup>14</sup> Oklahoma, for example, eliminated both the “Highly Qualified Teacher” designation and the “High Objective Uniform State Standard of Evaluation.”<sup>15</sup>

Adapting to the new standards does not mean school cultures immediately will change, nor can they. Although ESSA has changed the relationship between the ED and the states’ departments of education and local school districts, it retains the overall structure of standards and

testing. Teachers are responsible for the transmission of knowledge contained in those standards. A history teacher, for example, teaching a “U.S. History 1878 to Present” course must cover seven content standards and 216 content objectives. Naturally there is little instructional time left for purposes of expanding the curriculum for the sake of generating interest, for re-teaching material not adequately learned, or for any of the myriad diversions and details that make history interesting. Standards guide teaching completely and any deviation proves detrimental to covering efficiently all objectives. In a sense the standards “teacher-proof” curricula by providing a comprehensive list of objectives and indoctrinating teachers with a keen awareness objectives make up the state’s end-of-instruction test. This same standards-objectives-test format is used in other curricula as well. Some school districts, in an effort either to standardize the curricula or to generate the perception of increased achievement, apply the same format across curricula. Foreign language, for example, is reduced to a predominately vocabulary-grammar test emphasizing competition between classes and schools for the best test scores. The pull then becomes between teaching and learning materials for the test versus teaching and learning for personal development, improvement, or pleasure.

### **Recitation**

Curriculum design, limited by the necessity for covering the standards and preparing for the tests, results in the manufacture of teacher-proof curricula. Such curricula limit teachers’ flexibility, creativity, and expertise in the interest of acquiring specified test-focused materials. Most teachers, hopefully, teach their favorite subjects. Forcing teachers into narrowly defined standards limits their ability to interact with curriculum design and to transmit the value teachers feel inheres in what they teach. This separation of the substance of the lesson from the form has been recognized as a problem since at least the time of Comenius who organized his *The Great Didactic* around the themes of: 1. the purpose of universal, common coeducation; 2. the need, possibility, and basis for school reform; 3. universal principles of instruction, facility, thoroughness in teaching and in learning, and conciseness and rapidity in teaching; 4. methods of sciences, arts, languages, morals, and piety; 5. discipline; 6. organization of schools; and 7. requisites for praxis. He notes, “the education of many, if not of most men, consists of nothing but a string of names; that is to say, they can repeat the technical terms and the rules of the arts, but do not know how to apply them practically.”<sup>16</sup> Comenius maintains the value of repetition is in the act of teaching, not of learning. He writes,

...by means of...constant repetition the scholars will gain a better acquaintance with the subject than they could possibly

obtain by private study.... When, by this method of repetition, the pupil has, as it were, been admitted to the office of teacher, he will attain a peculiar keenness of disposition and love of learning.<sup>17</sup>

Comenius sought to reform the prevailing method of education, recitation, that relies on rote memorization. Recitation, memorization, and recall is once again with us, this time in the form of testing. He asserts that nature provides the model for educational endeavors. In the fifth of his *Universal Principles of Instruction* he writes,

In all the operations of nature development is from within ... [first] to understand things, and then to remember them...teachers fall into error who, instead of thoroughly explaining the subjects of study to the boys under their charge, give them endless dictations, and make them learn their lessons off by heart.<sup>18</sup>

Comenius maintained *The Great Didactic* corrected the education of the 17<sup>th</sup> century. The principles found therein can certainly assist us with 21<sup>st</sup> century modifications.

Like Comenius, John Dewey wanted to reconstruct the education institution. He structured his educational thought around: 1. the individual student, the social and psychological needs of the child; 2. the process of education, the structure of the school, and the act of teaching; 3. the curriculum, how is subject matter conceived and how is it presented?; 4. methods, how are lessons designed and delivered?; and 5. the school as a social institution, its relationship to the society, its needs for progress and improvement. He developed these ideas, sometimes singularly, over several books culminating in *Democracy and Education* that brought his ideas together in a general exposition. Dewey's model for educational activities lies in the application of science and the scientific method. The pragmatist epistemology of tentative and continuous reconstruction of knowledge served as the foundation for learning. Rote learning has little value in a system in which all knowledge is tentative and subject to revision with the accession of new experiences or information. Education focuses not on the science of teaching but on science as teaching and learning, with students and teachers applying the scientific method in classrooms.

### **Students' Needs**

Comenius focuses on didactics: the art of teaching well. The student need only be teachable, have some aptitude, discernment, and zeal for learning. He understood student differences require varied pedagogical foci and teachability can be developed. Teaching consists then of three parts: the object of instruction, the manner of instruction, and

discipline.<sup>19</sup> Learning consists of proceeding from that which one knows toward something unknown through effort.<sup>20</sup> Teaching and learning require not only knowledge but also understanding, judgment, and memory.<sup>21</sup> The standard set for evaluation of the acts of teaching and learning come through the continuous motion from the known to the desirable unknown.

In one of his first publications on pedagogy Dewey writes,

I believe that all questions of the grading of the child and his promotion should be determined by reference to the same standard. Examinations are of use only so far as they test the child's fitness for social life and reveal the place in which he can be of the most service and where he can receive the most help.<sup>22</sup>

Other standards are important beyond the acquisition of factual knowledge such as,

...normal physical development, [the student's] advance in ability to read, write, and figure, his growth in the knowledge of geography and history, improvement in manners, habits of promptness, order, and industry—it is from such standards as these that we judge the work of the school.<sup>23</sup>

He theorizes that in a democratic society education and learning should be based on common experiences of students since these are social and interactive processes and thus the school itself is the social institution designed to develop and transmit the ideals of democracy. He opines,

All that society has accomplished for itself is put through the agency of the school, at the disposal of its future members. All its better thoughts of itself it hopes to realize through the new possibilities thus opened to its future self.<sup>24</sup>

### **Educational Process**

Comenius wrote *The Great Didactic* to condemn the condition of education in the 17<sup>th</sup> century. General principles and specific methods of sciences, arts, languages, morals, and piety provide the framework for his process of learning. Scholasticism's<sup>25</sup> methods of *lectio* and *disputatio* were no longer the focus of learning activity and the vernacular replaced Latin as the medium of instruction in the school for younger students. He uses nature as the guide for the process of education and sensory experience as the means. General principles and specific methods of sciences, arts, languages, morals, and piety provided the framework for his process of learning.<sup>26</sup>

For Dewey the content of the educational endeavor has to be social and educative at the stage of development of the student, “conceived as



a continuing reconstruction of experience; that the process and the goal of education are one and the same thing.”<sup>27</sup> He opines that schools rely too much on the competitive as opposed to the cooperative; “for one child to help another in his task has become a school crime.”<sup>28</sup> The social environment proves equally important. Dewey argues, “There is no obvious social motive for the acquirement of mere learning, there is no clear social gain in success thereat.”<sup>29</sup> He maintains, “the individual who is to be educated is a social individual and that society is an organic union of individuals.”<sup>30</sup> The results are not dissimilar: the growth of well-taught individuals who understand society and their places in it.

### **Curriculum**

Comenius argues for coordinating educational practice with the young person’s stages of development. In this regard he proposes different levels of schooling aligned with his perceived levels of development—the Mother-School, the Vernacular-School, the Latin-School, the University, and the College of Light—, offering a detailed description of each.<sup>31</sup> He proposes what he calls the mother-school for children up to about age six who are not ready for formal schooling. The mother-school curriculum is based upon the teachings of parents. Since not all children develop at the same rate Comenius found it impossible to develop what we now call a scope and sequence. He does, however, recommend and planned to write a handbook, *Informatory of the Mother School*, outlining such preschool education.<sup>32</sup> Furthermore, Comenius proposes, “they should send all the young of both sexes to the public schools, I now add that they should first be sent to the Vernacular-School”<sup>33</sup> where the mother-language (the day’s vernacular, not Latin) is the medium of instruction and they will learn “such things as will be of use to them throughout their whole lives.”<sup>34</sup> His Latin-School includes science, history, and philosophy to form a “solid foundation for any more advanced instruction that they may receive in the future.”<sup>35</sup> The University he proposes should provide the completion of training in any of the “sciences or faculties.” Only those who have completed the University course with success and who have shown themselves trustworthy in the management of affairs may acquire “positions of honour.”<sup>36</sup>

Dewey argues the educational dilemma lies in the different needs of the student; as “an immature, undeveloped being,” and the “certain social aims, meanings, values incarnate in the matured experience of the adult.”<sup>37</sup> He observes it as common practice for educational theorists to be on one side of the dilemma or the other but argues this is a mistake, transforming a “serious practical problem—that of interaction...into an unreal, and hence insoluble, theoretic problem”<sup>38</sup> resulting, he says, in the “case of the child vs. the curriculum; of the individual nature vs.

social culture.”<sup>39</sup> Schools break learning into subjects separating learning from experience. Students view things holistically, related mainly to personal and interpersonal interests. This leads into three...

...divergences: first, the narrow but personal world of the child against the impersonal but infinitely extended world of space and time; second, the unity, the single wholeheartedness of the child's life, and the specializations and divisions of the curriculum; and third, an abstract principle of logical classification and arrangement, and the practical and emotional bonds of child life.<sup>40</sup>

Responses to these three “divergences” make up different educational perspectives. At one extreme, are those who, he writes,

...ignore and minimize the child's individual peculiarities, whims, and experiences.... They are to be obscured or eliminated. As educators [of the logical school] our work is precisely to substitute for these superficial and casual affairs stable and well-ordered realities; and these are found in studies and lessons. Subdivide each topic into studies; each study into lessons; each lesson into specific facts and formulæ. Let the child proceed step by step to master each one of these separate parts, and at last he will have covered the entire ground. The road which looks so long when viewed in its entirety is easily traveled, considered as a series of particular steps. Thus emphasis is put upon the logical subdivisions and consecutions of the subject-matter.<sup>41</sup>

At the other end of the spectrum,

The child is the starting-point, the center, and the end. His development, his growth, is the ideal. It alone furnishes the standard. To the growth of the child all studies are subservient; they are instruments valued as they serve the needs of growth. Personality, character, is more than subject-matter. Not knowledge or information, but self-realization, is the goal.<sup>42</sup>

Dewey recognizes many problems of education come down to this dichotomy, what he calls the logical versus the psychological.<sup>43</sup> Educators of the logical persuasion emphasize the organization and transmission of knowledge and information in the most efficient manner. The ends and the methods of education originate in the subject matter. Those of a psychological orientation focus on the development of individual students, the growth of their personality and character. They emphasize active learning beginning internally with the experiences and ideas of the individual student. The goals of the school are to transmit the knowledge necessary for successful citizenship in a

democratic society. However, within this dichotomy, these oppositions, neither have the ability to win over completely the educative process. Educational theory originates in educational theorists advocating either one perspective or the other. There exists a problem within the dichotomous nature of the child-centered, subject-centered educational theories. Dewey opines, “It is just to get rid of the prejudicial notion that there is some gap in kind (as distinct from degree) between the child’s experience and the various forms of subject-matter that make up the course of study,”<sup>44</sup> arguing we must not accept the categorization of child-centered and subject-centered education as mutually exclusive. He then appeals to common sense to find compromises that will accommodate both views of education, if not those of the most extreme theorists. Education is a continuous reconstruction of experience, and learning is, by necessity, transitional. Confining teaching to students in their temporary state does not serve them any more than does discrediting the needs of students in the present.

Dewey argues students become conditioned to the processes of schooling but that such conditioning does not make those extrinsic processes educative. He advocates for balancing the extrinsic needs of society with the intrinsic needs of students. Such a task requires recognizing both the logical and psychological aspects of the curriculum employing cooperation and compromise. Failure to enact such a balance means putting either the student or the subject matter first without relevancy to student interest and experience. Inherent in a purely subject-matter focus one finds three evils: first, the lack of organic connection; second, the lack of motivation, need, or demand; and third, the lost quality of developing “the child’s reasoning powers, the faculty of abstraction and generalization,”<sup>45</sup> Dr. Bloom’s taxonomy. Thus, for Dewey,

...the value of the formulated wealth of knowledge that makes up the course of study is that it may enable the educator to determine the environment of the child, and thus by indirection to direct. [The curriculum’s] primary value, its primary indication, is for the teacher, not for the child. It says to the teacher: Such and such are the capacities, the fulfillments, in truth and beauty and behavior, open to these children. Now see to it that day by day the conditions are such that their own activities move inevitably in this direction, toward such culmination of themselves.<sup>46</sup>

## **Method**

Educators have proposed many recommendations for classroom instruction and teaching procedures in the last several decades. Robert

Glaser's five-component system<sup>47</sup> appeared in the 1950s. Robert Gagné identified nine conditions of learning in the 1960s.<sup>48</sup> Joyce and Weil published *Models of Teaching* in the 1970s and '80s.<sup>49</sup> Madeline Hunter's seven-step *Mastery Teaching* model was very influential in the 1980s and '90s.<sup>50</sup> Currently Marzano's one-stop shop for teacher inservice, evaluation, and nine essential instructional strategies dominate school districts across the nation.<sup>51</sup> Not that any or all of these are unworkable educational systems—any dogma works for a true believer, but that is what mere procedures and strategies become: dogma.

In his time Comenius thought it possible to use one method, a “great didactic,” to teach all subjects. Nature provides the model to be followed, for “the art of teaching all things to all men, should be, and can be, borrowed from no other source but the operations of nature.”<sup>52</sup> His theory depends on sensory realism as the source of learning and nature as the model.<sup>53</sup> Sensory perception as the source of all learning means teachers should immerse students in realia, in everyday experiences. *Orbis Sensualis Pictus* (1653), the first illustrated reading book, relates learning to read with the everyday world of the student.<sup>54</sup>

Dewey applies science both as means and paradigm for initiating thought and study. Psychology, education, art, economics, sociology, politics, and economics all are subjected methodologically and philosophically to scientific method in his work. Pedagogy is an important focus of his scientific dialectic. He notes the term “recitation” is often used as synonym for “lesson,” and that formal recitation is “the complete domination of instruction by rehearsing of secondhand information.”<sup>55</sup> He theorizes the most important system is the Herbartian “analysis of a recitation into five successive steps. ...the formal steps of instruction...preparation, presentation, comparison, generalization, and application.”<sup>56</sup> While he points out the similarities of Herbart's steps with his own “operation of thinking. ...problem, observation and inspection of facts, hypothesis or solution formation, testing by use in new observations and experimentations,”<sup>57</sup> he warns the teacher must be willing to break from it when leaps in understanding or lack of understanding occur, deviating in this way from the Herbartian system of adhering to formal steps. Not without value, “The formal steps,” Dewey writes, “indicate the points that should be covered...[when] preparing to conduct a recitation, but should not prescribe the actual course of teaching.... The teacher's problem [is] in adjusting a subject-matter to the nurture of thought.”<sup>58</sup> Therefore, I argue, in short, pedagogues may substitute for Herbart not only Glaser, Gagné, Hunter, and Marzano but also Kilpatrick, Counts, and Neill, for Dewey opposes any kind of lockstep methodology imposed from outside experience.

## Institution

Comenius finds the source of all knowledge, imperfect though it remains, in the sensory perceptions of the world, our experiences, and “the art of reasoning, of investigating what is unknown, and explaining what is obscure,”<sup>59</sup> what is to be learned. Education proceeds from life, school is the environment, social and physical, but schools are necessary to provide educational opportunities to accede a “position of honor” to all children. It is education as a social institution that allows for the advancement of society and allows individuals to contribute based on ability and motivation.

Dewey posits, “the educational system must move...either backward to the intellectual and moral standards of a pre-scientific age or forward to ever greater utilization of scientific method.”<sup>60</sup> As such, the existence of standards is not the root of the problem. Subject-matter guides, scope and sequence outlines, and the like serve as guides for the development of lessons and the identification of suitable learning activities, but standards that define subject matter divorced from concrete application and relegated to abstraction are like nonsense words recited on demand. He observes that recalled, useless material remains useless.<sup>61</sup> From the time of his very first educational writings Dewey warns against the pitfalls of overemphasis on either a child-centered focus or a concentration on subject matter. Backlash against progressive education comes as a result of failure to heed his warning not to ignore the needs of society in transmitting knowledge necessary for a successful social life. His educational philosophy now informs educators’ opposition to an overemphasis on testing approaches that force teaching into a recitation model which stifles the joy educators know as inherent within learning and teaching.

## Conclusion

In the 17<sup>th</sup> century Comenius proposed a “School of Schools” or “Didactic College.”<sup>62</sup> An important contributor to philosophy of education and to the origins of the science of education,<sup>63</sup> he argues the study of didactics will help spread education and improve teaching and learning. He proposes universal education in students’ native vernacular based on a practical curriculum relative to the age and ability of the student. He couches educational success firmly within students’ practical application of knowledge.

In his educational philosophy Dewey furthers the application of the sciences to education and champions the development of the philosophy of education. *How We Think* was written to help teachers provide the “steady and centralizing factor...as the end of endeavor that attitude of mind, that habit of thought, which we call scientific,”<sup>64</sup>

and as the basis for teaching and learning. “The prime necessity for scientific thought is that the thinker be freed from the tyranny of sense stimuli and habit,”<sup>65</sup> and certainly from rote learning. Dewey trusts the common sense of teachers to negotiate the balance between subject matter, what he calls the logical on the one hand, and the needs, experiences, and aspirations of students, what he calls the psychological, on the other, the “common sense [which] vibrates back and forward in a maze of inconsistent compromise.”<sup>66</sup> The teacher can and should balance the child-centered/subject-centered, the psychological/logical continua, realizing that nothing can be taught effectively without authentic connection to student experiences, i.e., relevance, but that an overemphasis on student experience disregards the need for vicarious learning. Or, as he puts it,

Just as two points define a straight line, so the present standpoint of the child and the facts and truths of studies define instruction. It is continuous reconstruction, moving from the child’s present experience out into that represented by the organized bodies of truth that we call studies.<sup>67</sup>

I would like to call “the rational” that which recognizes the need for a flexible approach that applies both the psychological and logical aspects of teaching, now emphasizing one, then the other, as required by the content and activities of the lesson. The science of education is now in the hands of the department of curriculum and instruction; philosophy of education is, for the most part, a disliked educational portfolio assignment; and Foundations of Education has become a barrier course for beginning teacher-education students.

Comenius and Dewey, whose work is separated by two and a half centuries, view education from the standpoint of the impact education has on the student and on society. Comenius anticipates empiricism by relying on the senses as sources of knowledge, teaching, and learning. Dewey relies on the methods of science to inform educational practice. Both eschew the recitation method and its rote memorization. Neither espouses theory that might lead the modern audience to conclude either would support the existing testing climate of U.S. public education. Any educational practice that divorces learning from life and life’s experiences is miseducation. Lockstep recitation which focuses teaching and learning for the purpose of achievement on a test is not sufficient. Teaching and learning should satisfy the student’s need to know and to understand society and students’ place in the world. While teachers may not find every answer in the works of Comenius and Dewey, we may certainly gain useful perspectives.

## Endnotes

- 1 Oklahoma State Department of Education, *Traditional Certification General Questions*, <http://sde.ok.gov/sde/faqs/traditional-certification-general-questions#1>
- 2 Oklahoma State Department of Education, *Oklahoma Alternative Placement Program for Teacher Certification*, <http://sde.ok.gov/sde/oklahoma-alternative-placement-program-teacher-certification>
- 3 Maurice Holt, "Dr. Deming and the Improvement of Schooling: No Instant Pudding," *Journal of Curriculum and Supervision* 9, no. 1 (Fall 1993): 6–23, <http://www.ascd.org/publications/jcs/fall1993/Dr.-Deming-and-the-Improvement-of-Schooling@-No-Instant-Pudding.aspx>
- 4 Peggy Siegel, "Using Baldrige to Improve Education: A Rationale Based on Results," *Training & Development* 54, no. 2 (February 2000): 66–68.
- 5 Mohammed Arif and Frederick Smiley, "Business-Like Accountability in Education: Commentary on Morrill to Baldrige," *Education* 123, no. 4 (Summer 2003): 740–763.
- 6 W. Edwards Deming, *Out of the Crisis* (Cambridge, MA: MIT Press, 1986). Deming's 14 Points (abridged by the author): 1. Create constancy of purpose toward improvement; 2. Adopt the new philosophy: leadership for change; 3. Cease dependence on inspection: building quality into the product in the first place; 4. Don't award business on the basis of price tag: build a long-term relationship of loyalty and trust; 5. Improve constantly and forever the quality and productivity; 6. Institute training on the job; 7. Institute leadership with supervision of management and workers; 8. Drive out fear; 9. Break down barriers between departments; 10. Eliminate slogans, exhortations, and targets; 11a. Eliminate a. work standards and, b. management by objective, numbers, or numerical goals; substitute leadership; 12a. Remove barriers to joy of workmanship. emphasize quality; 12b. Remove barriers like merit rating and of management by objective for people in management; 13. Institute a vigorous program of education and self-improvement; 14. Involve everybody in the transformation. <http://demingcollaboration.com/wp-content/uploads/2013/05/14-Points1.pdf>
- 7 David P. Gardner, et al., *A Nation at Risk: The Imperative for Educational Reform. An Open Letter to the American People. A Report to the Nation and the Secretary of Education* (Washington, DC, National Commission on Excellence in Education, 1983), <http://reagan.procon.org/sourcefiles/a-nation-at-risk-reagan-april-1983.pdf>

- <sup>8</sup> Betsy DeVos, Opening Statement of U.S. Secretary of Education Betsy DeVos to the Senate Appropriations Subcommittee on Labor, Health and Human Services, and Education (6 June 2017), <https://www.ed.gov/news/press-releases/opening-statement-us-secretary-education-betsy-devos-senate-appropriations-subcommittee-labor-health-and-human-services-and-education-chairman-blunt-ranking-member-murray-and-members-subcommittee>
- <sup>9</sup> Rodger W. Bybee, The Sputnik Era: Why Is this Educational Reform Different from All Other Reforms?, Forum on Education (April 1998), Center for Science, Mathematics and Engineering Education of the National Academy of Sciences, [http://www.pkal.org/documents/what%20we%20have%20learned%20and%20where%20we%20are%20headed\\_DeBoer.pdf](http://www.pkal.org/documents/what%20we%20have%20learned%20and%20where%20we%20are%20headed_DeBoer.pdf)
- <sup>10</sup> Holt, “Dr. Deming and the Improvement of Schooling.”
- <sup>11</sup> Caroline Masterson, “No Child Left Behind For Dummies,” *The Balance Sheet* (Nov/Dec 2005), <http://balancesheet.swlearning.com/1105/1105f.html>
- <sup>12</sup> U.S. Department of Education, “A New Education Law,” Every Student Succeeds Act (ESSA), <https://www.ed.gov/essa?src=ft>
- <sup>13</sup> Holt, “Dr. Deming and the Improvement of Schooling.”
- <sup>14</sup> Libby Nelson, “Congress Is Getting Rid of No Child Left Behind. Here’s What Will Replace It,” *Vox* (9 Dec 2015), <http://www.vox.com/policy-and-politics/2015/12/2/9836014/every-student-succeeds-act>
- <sup>15</sup> Oklahoma State Department of Education, *Teacher Certification*, <http://sde.ok.gov/sde/teacher-certification>
- <sup>16</sup> Jan Amos Komensky (Comenius), *The Great Didactic*, trans. and ed. M. W. Keatinge (London: Adam and Charles Black, 1907), <http://www.archive.org/details/cu31924031053709>
- <sup>17</sup> *Ibid.*, 158.
- <sup>18</sup> *Ibid.*, 119–120.
- <sup>19</sup> Jan Amos Komensky, *The Analytical Didactic of Comenius*, trans. Vladimir Jelinek (Chicago: The University of Chicago Press, 1953), 99–100.
- <sup>20</sup> *Ibid.*, 103–104.
- <sup>21</sup> *Ibid.*, 131.
- <sup>22</sup> John Dewey, “My Pedagogic Creed,” *The School Journal* LIV, no. 3 (January 16, 1897): 77–80, <http://www.infed.org/archives/e-texts/e-dew-pc.htm>; John Dewey, vol. 5 of *The Early Works of John Dewey*,



- 1882–1898, ed. Jo Ann Boydston (Carbondale, IL: Southern Illinois University Press, 2008), 84–95.
- <sup>23</sup> John Dewey, *School and Society* (Chicago: The University of Chicago Press, 1907), 19, [http://www.brocku.ca/MeadProject/Dewey/Dewey\\_1907/Dewey\\_1907\\_toc.html](http://www.brocku.ca/MeadProject/Dewey/Dewey_1907/Dewey_1907_toc.html)
- <sup>24</sup> Dewey, *School and Society*, 19.
- <sup>25</sup> Jean Piaget, Jan Amos Comenius (1592–1670), [http://www.ibe.unesco.org/fileadmin/user\\_upload/archive/Publications/thinkerspdf/comeniuse.pdf](http://www.ibe.unesco.org/fileadmin/user_upload/archive/Publications/thinkerspdf/comeniuse.pdf)
- <sup>26</sup> Comenius, *The Great Didactic*, 23.
- <sup>27</sup> Dewey, “My Pedagogic Creed.”
- <sup>28</sup> Dewey, *School and Society*, 29.
- <sup>29</sup> Ibid.
- <sup>30</sup> Dewey, “My Pedagogic Creed.”
- <sup>31</sup> Comenius, *The Great Didactic*, 24.
- <sup>32</sup> Ibid., 264.
- <sup>33</sup> Ibid., 266.
- <sup>34</sup> Ibid., 268.
- <sup>35</sup> Ibid., 275.
- <sup>36</sup> Ibid., 281.
- <sup>37</sup> John Dewey, *The Child and the Curriculum* (Chicago: The University of Chicago Press, 1902), 4, <http://www.gutenberg.org/ebooks/29259>
- <sup>38</sup> Ibid.
- <sup>39</sup> Ibid., 5.
- <sup>40</sup> Ibid., 7.
- <sup>41</sup> Ibid., 8.
- <sup>42</sup> Ibid., 9.
- <sup>43</sup> Ibid., 10.
- <sup>44</sup> Ibid., 11.
- <sup>45</sup> Ibid., 26.
- <sup>46</sup> Ibid., 31.
- <sup>47</sup> Robert Glaser, ed., *Psychology and Instructional Technology: Training Research and Education* (Pittsburgh, PA: University of Pittsburgh Press, 1962).
- <sup>48</sup> Robert Gagné, *Conditions of Learning* (New York: Holt, Rinehart & Winston, 1965), <http://www.instructionaldesign.org/theories/conditions-learning.html>

- <sup>49</sup> Marsha Weil and Bruce Joyce, *Models of Teaching* (Upper Saddle River, NJ: Prentice Hall, 1972).
- <sup>50</sup> Madeline Hunter, *Mastery Teaching* (El Segundo, CA: TIP Publications, 1982).
- <sup>51</sup> Robert Marzano, *Marzano Research*, <http://www.marzanoresearch.com/>
- <sup>52</sup> Comenius, *The Great Didactic*, 127.
- <sup>53</sup> Ibid.
- <sup>54</sup> Ibid.
- <sup>55</sup> John Dewey, *How We Think* (Boston: D. C. Heath & Company, 1910), 201.
- <sup>56</sup> Ibid., 202.
- <sup>57</sup> Ibid., 203.
- <sup>58</sup> Ibid., 204–205.
- <sup>59</sup> Comenius, *The Great Didactic*, 279.
- <sup>60</sup> John Dewey, *Experience and Education* (New York: Collier, 1938), 89.
- <sup>61</sup> John Dewey, *Psychology and Social Practice* (Chicago: The University of Chicago Press, 1901), 32.
- <sup>62</sup> Comenius, *The Great Didactic*, 285.
- <sup>63</sup> Jean Piaget, “Jan Amos Comenius (1592–1670),” *Prospects* XXIII, no. 1/2 (1993): 173–196, [http://www.ibe.unesco.org/fileadmin/user\\_upload/archive/Publications/thinkerspdf/comeniuse.PDF](http://www.ibe.unesco.org/fileadmin/user_upload/archive/Publications/thinkerspdf/comeniuse.PDF)
- <sup>64</sup> Dewey, *How We Think*, Preface.
- <sup>65</sup> Ibid., 155.
- <sup>66</sup> Dewey, *The Child and the Curriculum*, 10.
- <sup>67</sup> Ibid., 11.