Defining Twenty-first-Century Education

By Jeremy A. Ervin

What should Christian education look like in the twenty-first century? To answer this question, one must consider how the twenty-first-century student learns. Give an elementary child an electronic tablet and be amazed how she navigates the operating system to make creative videos and plays games with technological efficiency. Watch a middle childhood student multitask by playing a video game, texting a friend on her phone, video chatting on her computer, and working on her homework. Listen to a young adolescent describe her individualized lifestyle and what she is currently doing via customized apps on her smartphone, her personalized online services for sharing thoughts, files, videos, photos, music, and websites all at her fingertips. These twenty-first-century learners are comfortable with instant communication with anyone anywhere in the world; quick access to vast, accurate (or not) information; and the immediate ability to produce creative multisensory projects with only access to the Internet. These students interact with content and each other in a different way than students did just a decade ago.

Consider your Christian school’s mission statement. Does it include a goal such as “to educate the whole student” or “thoroughly train each child”? This concept of educating the entire person is an essential distinction for Christian education. If thoroughly equipping each child is the mission of Christian schools, and since the twenty-first-century learner is uniquely different from his or her counterpart even 10 years ago, then why do many Christian schools appear to be educating in the same way they did 10, 15, or even 20 years ago? It is essential to synch today’s classroom with the twenty-first-century student’s way of learning. A teacher’s toolbox of instructional models, methods, and strategies should contain a plethora of ways to engage students in the academic content to motivate them to learn.
As a math coach at a school district, I had the opportunity to work with teachers during their combined planning periods. I recall one particular week that I went into a planning period in which the sixth-grade math teachers were working on next week’s lesson plans to teach a specific grade-level math concept. The same informational processing method used to teach me as a student many years ago was being used: write the math steps on the board in order to solve a noncontextual problem, demonstrate how to solve a simple word problem from the textbook with the same steps as presented earlier, and then have the students work independently on all the even problems at the end of the section. To my dismay, my alternative teaching suggestions for this math concept were rejected by the lead teacher: “This way has worked well in the past, so why do we need to change how we teach it?” With no data to suggest any error to this claim, I left.

Later that week in the seventh-grade planning period, I was surprised to find teachers discussing how to teach the same concept. When asked why they were teaching a sixth-grade concept, their response was “Because they don’t know it, and they need to before we teach them the seventh-grade concept.” Unfortunately, this story does not end here. During the eighth-grade planning period, the teachers were considering how to teach the same concept. As I listened to them describe how they would teach this sixth-grade concept, it was essentially the same as the sixth- and seventh-grade teachers’ plans. When the eighth-grade teachers rejected my suggested ways to teach the twenty-first-century learner, I asked them to explain how using the same method as the sixth- and seventh-grade teachers would help the students understand the concept.

The obvious answer was that the third time teaching through an informational processing paradigm would not increase the students’ ability to recall the mathematical concept. This traditional teacher-centered approach to teaching was guided by outdated brain research that theorized that short-term memory (now called working memory) was a single path to long-term memory, or learning. In the mid 1990s, this model was revised to say that working memory is composed of multiple memories that include the senses, emotions, physical movements, and episodes of past experiences that can individually or in groups produce memory that will be able to be stored in long-term memory (Amos 2000; Hopfinger, Buonocore, and Mangun 2000). The more paths that exist from these multiple locations for each concept to learn will enable easier recall of the concept. The educator must purposefully plan to create multiple memories for each concept. This current understanding of how the brain works best aligns with a nontraditional, student-centered approach to teaching, which is compatible for the twenty-first-century learner.

**Twenty-first-Century Education**

The challenge for Christian educators is to understand the mind-set of the twenty-first-century learner and provide the training for twenty-first-century skills.

**Digital Natives**

Today’s students have been born into a technological culture. Their way of life involves communication and collaboration through technology. They are comfortable with technology and how useful it is in life. Utilizing technology has become second nature to the learner. Therefore, in the twenty-first-century classroom, using technology is just natural to the learning environment. As you create a unit plan by determining what the acceptable evidence of the learning objectives would look like, consider how technological tools could be used in producing this evidence. For example, have groups use digital storytelling in a literature class, instead of having students type a summary or an outline of a chapter. By using free Web 2.0 tools, groups can take still images recreating the thesis of a chapter, record a voice-over narrative, add special effects, and produce a 60-second video to demonstrate their understanding of the text. This example requires the students to engage in the content, collaborate with other peers, and electronically produce communication in a succinct and informative manner, which aids in developing twenty-first-century skills.

**Global Thinkers**

The twenty-first-century learner does not think in isolated chunks of information but rather in big ideas. These global perspectives require teachers to use authentic activities that will produce real-to-life scenarios to consider. The twenty-first-century learner needs to have the ability to critically think in a creative way to solve problems. These authentic types of activities allow learning of concepts across subject areas and domains within a content area, which is reality. Only in formal education will a problem be so contrived that a student would need to consider a single, isolated concept to determine a
Too many Christian school classrooms are based on the traditional model of instruction in which the teacher is the giver of all information. Our global learners recognize that any problem that is worth solving requires thinking out of the box and across disciplines. This type of global activity would eliminate the students’ complaint of “Why do we have to learn this?” and replace it with “But I thought this was English class, not social studies.” No longer will learning just the facts of a topic be acceptable, but rather, applying, analyzing, and evaluating those facts to create evidence of conceptual understanding will be the norm. Teaching with these essential goals will help the twenty-first-century student develop skills to think at higher cognitive levels in creative ways for effective communication of solutions to authentic problems tailored to classroom needs.

This global thinking encourages the twenty-first-century learner to become an effective team member, taking on various roles throughout the learning process. This network society demands a social component that permeates careers, society, and home in today’s culture. An effective twenty-first-century school must allow for social learning and cross-curricular teaching to take place. For example, STEM (science, technology, engineering, and mathematics) education forces multiple content areas to be learned usually through group problem-based activities. STEM is not just doing an activity or lesson that involves science, technology, engineering, or mathematics. It is actually taking the benefits of all of those content areas together into an activity, no longer isolating just the science content or mathematic content or using only technology or teaching how to design things. The combination of each area provides a team activity that uses the language of mathematics to communicate scientific principles through technology along with the designing principles of engineering.

Information Literacy
Technology has eliminated the complaint that there is not enough information on a topic. Yet, it produces so much information that it becomes necessary to train the learner how to search, sort, and discern the information. Teachers need to incorporate informational literacy in their lessons. As the student becomes more literate in finding reliable, valid, unbiased, and trustworthy information, he or she will have the necessary data to make informed decisions about life. Being citizens of this world demands that students have the skills necessary to make good decisions. To be productive agents for Christ, students must be able to strip away inaccuracies and superfluous details to concentrate on the core issues surrounding careers and social and personal interactions. This ability to navigate through information in journals, articles, blogs, wikis, or social media will allow them to key in on what is the most accurate and important information concerning a specific situation. For example, a science teacher may use a current event to motivate the students to want to understand concepts related to radioactivity. No matter what level of radioactivity is to be learned, a teacher may use the tsunami that struck a nuclear power plant in Japan to encourage students to sort through the vast information to produce an interactive graphic organizer to visually demonstrate understanding of radioactivity.

Tools that Empower
The twenty-first-century learner wants to customize everything, including the learning process. The student-centered classroom approach empowers the student to become active and accountable for learning through self-assessment and to modify constructs of knowledge about the topic. The curriculum should be pliable enough to tailor any activities to meet the student’s needs, interests, learning style, cultural structure, and previous understanding. This individualized model will increase the probability that the student will become successful in meeting the learning outcomes of the unit. Through the use of technological tools, teachers effectively differentiate instruction, permitting the learner to use one or several of the God-given multiple intelligences to demonstrate understanding of the lesson.

Unfortunately, too many Christian school classrooms are based on the traditional model of instruction in which the teacher is the giver of all information, forcing the learner to be passive and absorb factual-based information. Getting through the year’s topics becomes the goal of most teachers. When teachers change the focus away from the content-driven classroom and toward students, lessons will be created as a means of preventing
individual academic failure by systematic assistance through instructional interventions. This classroom will be uniquely different because of the teacher’s style, the geographical region and culture of the school, and ultimately the individual students. This classroom is not based on an industrial model of stamping out the same type of learner like an assembly line produces a product with minor differences. The twenty-first-century classroom allows for shaping of the individual student with the beauty of the natural material. This individual crafting allows each learner to be uniquely different yet able to demonstrate understanding in different ways because of the God-given talents of that student.

Conclusion
In order for Christian educators to meet the school’s mission of educating the “whole student,” they must consider the twenty-first-century learner and the skills needed in this century throughout the learning process. Twenty-first-century education is epitomized through the student-centered classroom by integrating technology when teaching essential outcomes through authentic, performance-based activities. Facilitated lessons will embed social, team-building talents, critical and creative thought, and evaluation of information to inform decisions in problem solving. Utilizing technology as a teacher tool and a student resource will permit teachers to tailor projects to accommodate students’ needs and motivate learning to produce acceptable evidence of understanding for the learning outcome.

References

Jeremy A. Ervin, PhD, is the dean of the School of Education at Cedarville University in Cedarville, Ohio. He recognizes how the twenty-first-century classroom needs to center on the engagement of the learner through authentic, technology-enhanced lessons. His research interest on STEM literacy has reinforced his motto of “Teaching Students, Not Content.”