

Chapter 1

A Vision for Personalized Learning



ESSENTIAL QUESTIONS

- What does it mean for a student's education to be "personalized"?
- Why is personalization a potential solution to the problems of student disengagement and underachievement?
- What would a personalized learning environment look and feel like?

Personalized Learning—Articulating the Vision

Jillian is an eleven-year-old student who is still at home munching on her breakfast cereal while she looks at the screen of the notebook computer she received from her school. She is reviewing lessons that in the past would have been taught in school but now she does this work at home and discusses the implications with her classmates in school.

An hour later she arrives at school with other students and goes to a room where a group of them meet with Ms. Gabriel, their director of learning. Ms. Gabriel gives each student the activity schedule for the day. Jillian's first activity is a small-group discussion with four other students and an instructor in which they will analyze the assignment she was doing over breakfast.

Beatrice, Jillian's nine-year-old friend, is scheduled to attend a lecture on American history with a group of other students of various ages. Jonathan, who is the same age as Jillian, will stay with Ms. Gabriel for some tutoring in math.

Jillian's elementary school does not have grades. There are students there that range in age from five to twelve, but the students engage in independent work, small-group activities, one-on-one with a teacher, or in larger groups attending a lecture or watching a video. Age is never a factor in the groupings, only the readiness of the students for the level of instruction that they will be taught.

In each subject area the students advance as they reach the established level of mastery. Some students might accomplish mastery in a couple of days and others may require a week. Students progress at their own pace, with gentle prodding from the instructors when they sense that the students are not progressing as they should.

Assessment is ongoing, because most of the online programs used by the students monitor progress and automatically adjust the level of difficulty of the next lesson. In addition to formative assessment, the

instructors use performance-based assessments to gauge progress. The director of learning responsible for a group of students is aware at all times of exactly where each student is relative to the standards that have been set in each subject area. This monitoring is also enabled by technology by using a program that keeps track of all the students the director of learning is responsible for.

The learners never miss out on their education. If Jillian is home sick, she can still access lessons online or carry on with her independent work or have an online session with an instructor. The same is true if schools are closed because of inclement weather. The traditional school calendar is a thing of the past. Schools are open year-round and students follow the schedule that has been set for them.

Jillian's friend Maria is a recent arrival from the Dominican Republic. She speaks very little English, but Maria's director of learning has assigned her activities and online programs that enable her to learn in her native Spanish while she is learning English. Maria is very good in math and she is able to participate in some math activities with the English-speaking students. Her lack of competence in English will not deter her from progressing in school and by the time she masters English she will quickly achieve mastery in other subject areas as well.

Remedial programs no longer exist because at all times each student is assigned activities that build on existing knowledge and skills. The same is true for students with special needs. Students move on to the middle school as they achieve mastery of the standards required for all elementary students. There is some accommodation for age so as not to have elementary students move on to the middle school at too young an age or have students staying at the elementary school too long. Decisions are made for each child based on maturation level in consultation with the parents. The same process applies to movement to the high school level.

The middle school and high school no longer group the students by periods. Both schools are also year-round and offer extended days. As is the case at the elementary level, students are assigned to a learning director who has the responsibility to develop an individualized learning plan for each student. The students are also involved in selecting and customizing their schedules, and they take required and elective courses in a number of ways, realizing full advantage of the available technology and the numerous ways the schools are organized for learning. Students also have the option of enrolling in college-level courses and getting college credits.

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Because of the personal pacing, Jillian's bother, Chris, has met all of the requirements and will be graduating high school at age sixteen with a semester of college credits. Other students will require more time, but all who receive the diploma will have met the standards set for high school graduation.

BEGINNING THE JOURNEY: THE POWER OF PERSONALIZATION

We were at the Wright-Patterson Air Museum in Dayton, Ohio. Don Thompson was being installed as the incoming president for the American Association of School Administrators (AASA), and we were having a wonderful meal right under the huge wing of a space shuttle craft directly opposite one of the diminutive early crafts designed by the Wright brothers. Within a period of ninety years we had gone from being barely able to fly to flying to the outer reaches of earth's atmosphere and beyond.

Earlier that same day a group of us had visited an original one-room school-house in Dayton, a model from the Wright brothers' time. Immediately apparent were the students' desks facing the front of the room toward the teacher's desk. Shelves along the sides of the room were filled with books while the walls held maps and pictures conducive to a proper learning environment. Put a couple of computers in that room and it would look like a 21st century classroom.

Although the advances in air travel over a 90-year period had been truly dramatic, a classroom today is not remarkably different from what it looked like at the beginning of the twentieth century. Indeed, our educational system today is still tied to an agrarian calendar, we still follow a grade-level structure that dates back to the beginning of the industrial revolution, and we still group students according to age, placing a number of them in a classroom with a teacher. Attempts to reform education simply try to make the existing structure more efficient rather than re-creating the basic concepts of teaching and learning.

We were recently at an event with Washington University professor Yong Zhao, who told us about one of Google's creations, the driverless car. Yong suggested

that it was totally possible that within a short period of time, the driverless car would be a part of our lives and challenged us to imagine what life would be like. We took to the task and set about creating a vision of a world in which people would no longer drive. Driving schools would go out of business; so would motor vehicle bureaus, at least the driving license-issuing department; police would no longer issue tickets for speeding or driving under the influence of alcohol. The changes to the world as we know it would be dramatic, all because cars would drive themselves—changes similar to how the airplane has changed our lives over the last century.

DRIVERLESS CARS AND THE FUTURE OF 21ST CENTURY EDUCATION

What if we applied Zhao's driverless car exercise to education? What if we were asked to imagine a world in which the educational system revolved around teaching a single student? Forget about the educational system as we know it today. Reconstruct a system that focuses on teaching one student at a time. Can we do it and how would we do it? This essential question raises many others:

- How much of what is part of the system today would remain?
- Would the new system be able to achieve the goal of closing the achievement gap?
- Would it resolve the economic gap created by how we fund education?
- Would there be a need for remediation services, summer school, after-school programs, and the practice of not promoting children to the next grade? Would we need classrooms or school buildings for that matter?
- Would all students be expected to graduate after thirteen years of schooling?
- Would we need to assess all students at the same time with the same tests?
- Would we need report cards and grades?

We could let our imagination run wild with all the possibilities, because we would focus on educating a single student as opposed to group after group after group of pupils.

WHAT IS A PERSONALIZED 21ST CENTURY EDUCATION?

What is personalized learning? There is no agreement on one definition. In most cases today personalized learning refers to some form of blended learning in which software programs are used that adapt to the ability level of a child. It may also be used to define programs in which the teacher employs differentiated instruction. These are approximations of what personalized learning could be at the classroom level, but they do not encompass the systemic transformation that we envision.

In our version of personalized learning we envision a transformation in how children are taught and how the system organizes for learning. Each child is treated as a unique individual and his or her education begins with the development of a personalized education plan. The child is assessed in each of the subjects to be taught and, based on the assessments, integrated lesson plans are developed that builds on what the child already knows, with instructional strategies designed for his or her ability level. Material that is beyond the child's ability level will not be introduced. Consequently, the child will not experience the frustration of sitting for a lesson that is too difficult to grasp and learn. Similarly, the student will not be exposed to material that has already been assimilated, avoiding the boredom and wasted time that occurs when a child is being taught a lesson already learned. Instruction will always build on the child's existing knowledge and capabilities, thus fostering continual progress.

The child is part of a group of students assigned to the teacher, who is responsible for devising a personalized education plan for each learner. That plan will include activities when the teacher will work with the student one-on-one. There will also be activities when the teacher will work with a small group of students who are at the same stage in terms of the material to be learned and are at the same ability level.

Instances will occur in which a large group of the students will be exposed to a lesson, video, guest lecture appropriate to the ability levels and the base knowledge of the entire group. Taking advantage of the existing technology, students will also make use of the appropriate devices and programs to take independent online lessons and online sessions with teachers. Those sessions could take place in the school, at home, or anywhere where the student has a

computer and access to the lesson. Sickness and snow days will no longer prevent the child from engaging in the learning process.

In a personalized learning environment students will not have to be grouped in a grade according to their age. Grouping will be done according to proficiency level rather than age. Current practice indicates that the grouping should not span more than three years, particularly in the early elementary grades when maturation is a factor. In this environment students will never be rated below or above grade level because there will be no grades. The student's progress will be measured against the standards that all students will be required to meet. Formative assessments to monitor student progress against those standards will be necessary to ensure continual progress.

Because not all children learn at the same rate, personalized learning will enable students to learn at their own pace. Some children will advance very quickly and others will require more time. By current standards, we could see students graduating high school at ages that could span from fifteen to twenty-one. It would depend on the acceptance of a set of standards that would require students to have mastered the minimum requirements in order to receive a high school diploma, in essence turning the document into a competency-based certificate rather than a completion diploma based on thirteen years of schooling.

The role of the teacher changes dramatically in a personalized learning environment. Rather than the sage on the stage, the teacher becomes a director of learning. Teachers are trained to assess, diagnose, and develop a personalized learning plan for each student. They become experts in prescribing the appropriate strategy that will maximize their students' ability to learn. Rather than developing a lesson plan for an entire class, they must develop a lesson plan for each child along with selecting the appropriate materials, groups, and venue in which the instruction will take place. This will need to be a team effort in which a differentiated staffing approach will be helpful.

In the mid-1960s the Kettering Foundation in Dayton, Ohio, developed a program called *Individually Guided Education* that created a framework that was intended to facilitate instruction in a multiaged, nongraded, continual progress environment. Unfortunately, back in 1965 we did not have the technological advances that we have today to support such a system.

In a personalized learning environment the child progresses at her or his own pace. The learner with special needs and achievement issues is not left behind and the gifted child can progress without being held back. At this stage we can

begin to envision the multitude of barriers that would stand in the way of making personalized learning a reality. After so many years, can we dispense with grade levels and grouping kids by age? Are we ready to accept that if we truly want all children to learn, we will have to enable them to progress at their own pace. Can we do away with the “edifice complex” and accept that children can learn in environments other than the school building. Are we ready to erase the slate and start from scratch in truly transforming education from what is to what it can be if the system is redesigned to educate one child at a time?

HOW DID WE GET HERE? HOW CAN WE GET OUT?

The current education system is convenient for the adults, not necessarily for the children whom it is intended to serve. The current age-determined grade-level structure mimicked the industrial revolution’s assembly line. In spite of the fact that child psychology has for years told us that children develop at different rates, we continue to conveniently group children of the same age in the same grade level. Kindergarten is for five-year-olds and students are supposed to finish high school around the time they turn eighteen.

Because it is not practical to have a teacher for every child, we assign groups of students to a teacher who then proceeds to teach them as a group, in spite of the range of aptitudes that will exist within the group. The typical approach is to teach to the middle of the group, beginning a process in which the more capable students get bored with what is going on and the less capable students are lost and become candidates for remediation, summer school, getting left back, and eventually dropping out of school.

The school calendar itself is a throwback to the nineteenth century. Schools are typically closed during the summer months because back in the day the children were needed to help with harvesting of the crops. Again, in spite of the fact that we know how detrimental to learning two months away from school can be, we retain the calendar because it is convenient for the adults. It is also convenient for the resort and entertainment industry. When Dan Domenech was a Virginia superintendent, for years he attempted to get rid of what is known in Virginia as the King’s Dominion Bill, a piece of legislation that requires schools to start after Labor Day so that students and their families will not miss out on the opportunity to spend that last wonderful weekend of summer at an amusement park such as the bill’s namesake.

Schools tend to be locked into a set number of school days per year and a set number of hours per day, again because it is convenient for the adults. Such is the case when we need to organize for the teaching of groups of students. Depending on the school district's financial resources, students will be assigned to classes of anywhere from fifteen to forty students, or more. We have also divided knowledge into distinct subject areas so that we teach language arts, math, science, history, music, art, physical education, and so on as separate courses. At the elementary level this can lead to teaching subject areas in which the instructor may be lacking expertise.

The school curriculum takes each subject area and spirals it in terms of levels of difficulty so that students are often learning the same things but at higher levels of difficulty as they grow older and move up the grades. Because teachers have to deal with a group of students at the same time, they seldom have the opportunity to work with a struggling student one-on-one. Students begin to fall further and further behind and at the end of the school year, if they are promoted, they move on to the next grade level where the very subject that they could not understand is now being taught at a higher degree of difficulty. But perhaps they will not be promoted and will have to repeat the same grade and be exposed again to all of the things they did not learn as well as the many they did learn, out of convenience for the adults.

A VISION FOR PERSONALIZED EDUCATION IN THE 21ST CENTURY

The typical solutions for helping students catch up generally do not work. Children pulled out of their classrooms to receive remediation services tend to miss what is going on in their classroom while they are out and fall further behind. Those who attend summer school because they did not succeed after ten months of instruction are expected to master the subject in four to five weeks. Curriculum and pacing guides require that students keep up with the instruction because there is a specified amount of material that they have to learn, regardless of the student's ability to keep up with the pace. There can be no slowing down for a single child because so many chapters have to be "covered" prior to the end of the school year.

In recent years the standard assessment and accountability movements have exacerbated the problem for many students. Students are expected to have

acquired a certain amount of knowledge by a certain age, and they will be tested to see if that is so, totally ignoring the fact that we know that children learn at different paces. Consequently, the opportunity to teach a child at a pace appropriate to his or her ability is discounted because all children are expected to know this by a certain grade level. Throw into the mix the ongoing reality that we now hold teachers accountable for whether the students in the class have all learned what they are expected to learn by the end of that grade level.

We submit to you that all of the problems we have stipulated in this chapter will disappear if we convert the current education system to one that focuses on personalized learning. Let us begin with a blank slate and build from there. The tools are available right now. Our technological advances make it totally possible. We have to rebuild and reorganize but we do not have to throw out the baby with the bath water. The good news is that many districts are already doing bits and pieces of what a personalized educational system should look like.

There are major implications for our legislators and policy makers. We have too many laws, rules, and regulations that are an impediment to personalized learning. We will need to get rid of those. There is a considerable amount of required retraining for our educational professionals. As we have suggested previously, teachers will need to become directors of learning rather than sages on the stage. Administrators will need to learn to coordinate the many resources and venues that will be necessary to truly personalize learning.

Parents will have to get used to a new school culture in which their child will not be in a grade; they may, when appropriate, be grouped with children older or younger; and, rather than getting a grade for the student, they will be told the skills and level of performance their child has mastered relative to the uniform set of standards all children are expected to attain but without a specific time limit.

Seat-time requirements will be passé, because students will be able to learn anywhere without always having to be in the classroom, thus ridding ourselves of the edifice complex. Students will interact with many instructors who will fulfill the individualized education program developed for the child by the lead teacher. Because each child will be progressing at all times at the pace appropriate for his or her ability, there will not be a need for remediation. Some children will actually be able to graduate high school at a much younger age if they have fulfilled the standards prescribed by their district and state, and perhaps the nation. Other students may need to be in schools beyond eighteen years of age in

order to fulfill the aforementioned standards. Similar to the world with driverless cars, it will be a very different place when each child receives a personalized education.

QUESTIONS FOR REFLECTION AND DISCUSSION BY STRATEGIC PLANNING TEAMS

1. What is our vision for a personalized education?
2. To what extent do we agree—or disagree—with the claims and assertions made in this chapter?
3. How practical or feasible would it be for schools and districts to “begin with a blank slate and build from there”?
4. To what extent does our school or district reflect the characteristics of the old industrial model presented here?
5. What aspects of our school or district reflect features of a commitment to personalizing learning?

