

—Innovate to Educate: System [Re]Design for Personalized Learning

A Report From The 2010 Symposium

Dear Colleagues:

On August 4-6, 2010 in Boston, Massachusetts, our three organizations hosted an invitation-only convening of education leaders to focus on the need for the systemic redesign of our K-12 education system to one that is centered on the personalized learning needs of each student. This report summarizes that two-day discussion and outlines the shared vision, views, and recommended action steps of the participants.

“Innovate to Educate: [Re]Design for Personalized Learning” was an initiative of the Software & Information Industry Association (SIIA) in collaboration with ASCD and the Council of Chief State School Officers (CCSSO). It uniquely brought together three key groups of education leaders – local and state practitioners, national thought leaders, and senior technology executives – with participants selected for their vision, leadership, and expertise with personalized learning.

- We joined under a common belief that our industrial-age, assembly-line educational model - based on fixed time, place, pace and curriculum - is insufficient in today’s society and knowledge-based economy.
- We focused on identifying the policies, systems, practices, supports, and technologies needed to reengineer our education system to a student-centered, customized learning model.
- We developed a shared vision that educational equity and student success require that each student’s educational path, curriculum, instruction, and schedule be personalized to meet his unique needs.
- We identified the key elements of student-centered education, as well as action steps necessary to advance its development, adoption, and implementation.

Most importantly, we, including our organizational constituencies and initiative participants, believe the fundamental redesign of our K-12 education system around the student is required for their and our nation’s future success.

We wish to thank our sponsors, partners, and participants for their support and contributions. We look forward to a growing community of practice needed to redesign our education system and meet the personalized learning needs of our students.

Kenneth A. Wasch President, SIIA

Personalization and Equity

Gene R. Carter Executive Director/CEO ASCD

Gene Wilhoit Executive Director CCSO

The education leaders participating in the Symposium represent a growing chorus of educators across the country who are increasingly focusing on redesign for personalized learning as critical to meeting the needs of all students. They recognize the definition of educational insanity: offering the same type of education model over and over again and expecting a different result. They admit that many educational “reforms” have fallen short as additional layers that have not changed the underlying core model. As Symposium speaker Rick Hess (AEI) put it, “In education, time after time, we ask people to wedge in innovation on top of and beside all that has come before.” They understand that changing student outcomes requires transforming their experience and our current education system. These leaders see that educational equity is not simply about equal access and inputs, but as importantly requires that a student's educational path, curriculum, instruction, and schedule be personalized to meet her unique needs.

Personalization provides the opportunity to dramatically redefine the very concept of equity: from one that goes beyond providing all students with the same educational inputs and opportunities to one in which all students have access to a unique learning experience (and resources) based upon their individual needs. For America's students, equality does not necessarily equal equity. The intent is to meet each child where he is and help him meet his potential through a wide range of instructional resources, content, strategies, and schedules appropriate for his learning style, abilities, and interests, as well as social, emotional, and physical factors. Equity must also go beyond the classroom to educate the "whole child," recognizing that each child deserves to be "healthy, safe, engaged, supported, and challenged" (ASCD, 2010) and to incorporate informal and community learning opportunities.

Five Essential Elements

1. Flexible, Anytime/Everywhere Learning
 2. Redefine Teacher Role and Expand “Teacher”
 3. Project-Based/Authentic Learning Opportunities
 4. Student Driven Learning Path
 5. Mastery/Competency-Based Progression/Pace
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The School of One illustrates how technology – through online learning, online tutors, and instructional software (including games and simulations) – helps support each student’s path. Inherent in this concept is *student-driven*, meaning that the student has more explicit control to design and determine their curriculum. Online or blended learning can provide access to courses not otherwise available, give additional help or support, and allow for learning at a time that works better for a student's schedule. (p. 15)

“Moving to a competency- based system, away from seat-time, is an essential condition to getting personalized learning.”

SUSAN PATRICK

President and CEO, International Association for K-12 Online Learning (iNACOL)

Most districts and schools redesigning their system to personalize learning move away from narrow grade/age level grouping policies as a key component.

These five core components of personalized learning identified by the Symposium attendees lay the critical groundwork for providing opportunities to meet the needs of all students based upon their needs, abilities, and preferences. And while personalized learning is not about the technology itself, technology is a critical driver and conduit to transforming our current one-size-fits-all system.

(p. 18) The RISC approach grew out of efforts in Chugach, Alaska and includes the following characteristics, several of which are consistent with key components for personalization:

- Students become leaders of their learning process.
- Teachers become facilitators and partners.
- Low-level knowledge/skill is not enough, and students must demonstrate a much higher mastery level.
- The pathway from level to level - and ultimately to graduation - is transparent to everyone. (P. 20)

"If personalized learning becomes real . . . you're going to be facilitating a person in a process of self inquiry, intrinsically led self-directed learning. The teacher will have to have a very different role. That whole shift in paradigm will require a long-term orientation... with teachers getting out of their environments and visiting... [model] schools. In order to really grasp the way learning is going to change, having that personal experience is important..."

TALMIRA HILL

Director, Association for High School Innovation Personalized Learning Symposium,
August 2010

ASSESSMENT, DATA, CURRICULUM, TECHNOLOGY & EDUCATOR SUPPORT

Assessment : To power personalized learning, assessments should encompass a broader range of measures beyond performance on academic tests, including information on a student's learning style preferences, previously successful experiences, interests, and other factors in a learner's life.

Data: Personalized learning requires that teachers and students have real-time access to meaningful data to better facilitate each student's experience. Typically, in our one-size-fits-all model, the data referenced is almost solely academic test data. The personalized learning models shared at the Symposium expand this definition to include data on student learning style preferences, correlations between instructional approaches and achievement, student interests, and information on the whole child. Having this depth of data available on a regular basis and being able to translate the information via algorithms into recommendations for instruction require a robust, sophisticated platform and data system. In the School of One model, the algorithms, which capitalize on data and assessments daily, allow for the development of individual playlists for students.

Curriculum : Personalized learning requires access to a universe of curriculum resources to meet the wide range of student learning styles, performance, and interests. A personalized curriculum utilizes and draws upon different types and sources of information, providing teachers and students with choices.

Technology helps enable many key elements needed to support personalized learning from a curriculum perspective, including digital content, online learning platforms and instructional software. Large banks of content are more easily accessible anytime, anywhere if in digital format.

Interoperable content can be more easily tagged, organized, searched and accessed in a manner unique to each student's needs. Interactive, multimedia resources can engage students by learning preference and modality. Adaptive courseware can support individualized pacing, reading levels, and opportunities for review or extension depending on a student's needs. Learning algorithms can track progress, identify skill gaps, and suggest learning resources. Web 2.0 methods provide students with opportunities to engage with peers and create their own content. Digital content and curriculum exists in many forms today, including through subscriptions, software, and open education resources. Symposium attendees agree that content delivery and pricing models, curriculum formats, and the learning platform are important areas of focus to realize the potential of personalized learning.

Technology

Technology underpins each of the areas referenced above and is critical to bringing personalized learning to scale. When considered systemically, technology allows for a shift from the current fragmented approach to curriculum, instruction, and assessment to a

much more integrated platform that can be managed and accessed anytime, from anywhere.

Technology applications support personalization, including:

- multi-modal and universally designed digital content, adaptive software, and multimedia resources, including learning games and simulations, that address various learning styles and reading levels;
- computer-based and learning-embedded formative assessments that dynamically identify student needs to immediately impact instruction, along with related data systems for managing that information; and
- online learning and virtual learning communities that provide a range of opportunities otherwise not available, including platform for peer- to-peer learning and communication with community-based people and resources.

Educator Support

As referenced in Section II, education leaders identified the changing role of the teacher as critical to achieving the authentic, student-centered approach required for personalized learning. However, most teachers do not have experience or training in the facilitator or collaborator role, and are challenged to differentiate instruction. Teachers require and deserve support through on- going and sustainable professional development to acquire these skills and fully implement personalized learning. This includes a comprehensive set of tools and resources, easy access to data, curriculum and content resources, and technology to implement the lessons and resources.

Additionally, teachers, administrators, and other educators need professional development, models, and peer support for changing their role as educators and how they interact with students. A teacher who has always taught a single group of 28 third grade students each year is going to have a very different day when working across a group of students with a broader age- range. This will require not only new training, but also a new design for ongoing teacher collaboration, professional development and support. Online professional development, professional learning communities, instructional coaches, and collaborative planning time are several options for teachers striving to change their role for personalized learning for all students.

Cross-cutting these five tools of personalization is the concept of the “learning genome” – To deliver a personalized pedagogy, we need to develop the science for further understanding the underlying traits, needs and appropriate learning resources/processes of each student. Further R&D is needed to create data-rich, dynamic learning communities to power personalized learning. Educators, researchers, and software developers must collaborate to carry out this R&D.

As Symposium attendees agree, implementing personalized learning requires a change in the business of schooling. Utilizing the tools and resources referenced above each has

many policy and operational ramifications and requirements. As districts and schools implement personalized learning models, careful planning is required to ensure that the tools and resources are in place and the educators supported in their use.

CONCLUSION AND NEXT STEPS

Symposium attendees left more convinced than ever that personalized learning offers much promise and possibility to address our nation's educational challenges and goals – to ensure equity for all students, and

to better engage each student to achieve at higher levels expected for them to be college and career ready, and successful overall in this global, knowledge-based society. Many education leaders expressed excitement about the breadth and depth of personalized learning models being developed and implemented across the country. Symposium organizers and participants feel compelled to continue the effort to shift from an institution/teacher-centered education system to one in which the student is at the center and learning and instruction are customized to their unique needs. Education leaders also reiterated that, while it builds upon long-standing research and understanding on how students learn and achieve in unique ways, personalized learning authentically implemented represents a true paradigm shift, not tweaks to the system.

By its nature, personalized learning does not have a one-size-fits-all answer to be simply replicated. But key components highlighted by Symposium attendees are common in the various models and approaches, including:

1. Flexible, Anytime/Everywhere Learning
2. Redefine Teacher Role and Expand "Teacher"
3. Project-Based and Authentic Learning Opportunities
4. Student-Driven Learning Path
5. Mastery- and Competency-Based Progression/Pace

As referenced earlier, 96% of attendees identified access to technology as critical or significant to implement all aspects of personalized learning and bring it to scale. This emphasis is particularly apparent as education leaders consider the potential with a robust technology platform using algorithms to personalize learning to address students' abilities, learning preferences, learning styles, and previous performance. Technology can accelerate this shift because it encourages and allows the extensive development and implementation of personalized content, curriculum, and assessment. It also empowers the learner through Web 2.0 learning communities. Ensuring personalized learning for all students requires a shift in thinking about long-standing education practices, systems and policies, as well as Collectively, as stakeholders committed to improving education and ensuring that each student receives a personalized education, education leaders overwhelmingly agreed that continuing the effort and movement for scalable personalized learning is critical for our

education and our nation to address the many achievement and economic challenges. Symposium attendees discussed and voted on the highest priority next steps, including:

- Expand research and development aimed at studying redesign for personalization models and practices, and sharing what works and the road map for getting there (92%)
- Support public-private partnerships to advance key technologies, including common metadata and technical standards needed to enable the interoperability of various applications, data, and content resources to form a more seamless, integrated learning platform (89%)
- Form a policy action network to identify and implement state and district policies that support personalized learning, including changes to seat time or Carnegie units (88%)
- Develop a shared understanding of the vision, definitions, and effective communication of personalized learning to help inform education stakeholders (83%)

The time is right for a true paradigm shift: Education stakeholders understand the need for change to meet today's demands. The technologies now exist to bring personalized learning to scale. Further, students themselves want to learn in the way that helps them achieve their potential. Education leaders at the Symposium left with a sense of responsibility and opportunity to move beyond the current mass production and marginal reforms. They will share the vision and models with other stakeholders to make personalized learning available for all students to address the dropout rate and other issues facing our education system.

The challenge before us is to take the research on how students learn and to build upon the models that represent a true paradigm shift to provide all students with a personalized learning system.

With bold leadership and a commitment to dramatic change in our education system, personalized learning is within reach. By maximizing the ideas shared at the Symposium, we can move the discussion forward, and we can further develop and implement tangible next steps. Fortunately, many education experts and leaders are dedicated to the urgency of this movement to ensure that equity and excellence will prevail by providing a personalized learning experience for all students.

significant changes in the tools and resources. Curriculum, online/blended learning, data, and assessment represent important areas for further development and adoption.

Policy-makers play an important role in providing the opportunities for personalized learning. Many decades-old policies are hindering innovative personalized learning models. The paradigm shift to a competency-based approach from a time-based or seat-time measurement of completion demands certain policies to be changed. Clearly, with Symposium attendees, policies related to seat time and the Carnegie unit are the highest priority for change, but this is just the beginning. As discussed in Section IV, education leaders identified the following five system and policy enablers:

1. Redefine Use of Time (Carnegie Unit/Calendar)
2. Performance-Based, Time-Flexible State Assessment
3. Ensure Equity in Access to Technology Infrastructure
4. Funding Models and Incentivize Completion
5. P-20 Continuum and Non-grade Band System

Education leaders and practitioners must not only further develop and implement these essential elements and policy enablers of personalized learning; they must also adopt new resources, tools, practices, and supports to carry through on this transformation. To support further development and refinement of these 21st century learning tools, 84% of Symposium attendees recognized as very valuable or valuable discussion between education leaders and publishers/developers of software, digital content, and related educational technologies and services