Professional Development for Personalized Learning Practices

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In the following report, Hanover Research explores personalized learning professional development practices. The report reviews the literature on personalized learning, identifies key areas of professional development, and profiles six schools that have established professional development practices for personalized learning environments.

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EXECUTIVE SUMMARY AND KEY FINDINGS

INTRODUCTION

Personalized learning is an emerging trend that seeks to support student-centered, 21st century teaching and learning. Founded on the premise that greater flexibility in curricular pace and instructional styles and formats will improve overall student achievement, the personalized learning model provides students with access to numerous options within the learning community and the initiative to help steer their own education. In a personalized learning environment, students typically follow a unique learning path dictated by an individualized learning plan, as opposed to a rigid, paced curriculum. In its ideal form, the model puts the needs of students first and provides students with "choice and flexibility in how, what, when, and where" they learn.[1]

The intent of personalized learning is to "meet each child where he is and help him meet his potential," as well as to "educate the whole child."[2] The model encourages varied learning environments, as personalized learning takes place both within and outside of the classroom. For successful reform, professional development for educators in personalized learning environments must adapt, as well. In the words of one author, "Implementing learner-centered professional development is one of the most important influences that schools can address."[3]

In this report, Hanover Research explores practices in K-12 personalized learning professional development. The report also profiles six high schools from across the United States that have both implemented personalized learning environments and put in place systems of professional development for those environments.

KEY FINDINGS

- **Best practices for personalized learning professional development closely resemble best practices for personalized learning for students**. Four areas should be closely considered in the development of professional development opportunities:
  o the learning environment and culture
  o the content and structure of teacher learning
  o the timing, duration, and frequency of professional development
  o the use of data and feedback

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[1] "About Personalized Learning." The APLUS+. http://www.theaplus.org/personalized-learning.php
[2] Wolf, M. "Innovate to Educate: System [Re]Design for Personalized Learning. A Report from the 2010 Symposium." ASCD. 2010. p. 21. http://siia.net/pli/presentations/PerLearnPaper.pdf
[3] "Learner-Centered Professional Development." etools4Education. http://www.online-distance-learning-education.com/learner-centered.html

- **Professional development in personalized learning environments should be collaborative and take place in a learning community**. Teachers should work together to develop effective approaches, strategies, and curricula for specific classes and across disciplines. Regular faculty meetings should use collaborative problem solving to improve instruction. Teacher leadership and peer observation systems provide additional support from within the faculty ranks.

- **Professional development should focus on both the content that students need to know and how they need to learn it**. While it is imperative for teachers to be well-versed and knowledgeable in the content they teach (which is commonly the focus of teacher professional development), teachers must also understand *how* students learn. Professional development groups may use active learning and modeling exercises to understand more deeply how experienced educators teach material and how students learn the given content.

- **Schools and school districts should provide time and space for adequate professional development**. Personalized learning requires different planning and teaching strategies than traditional, lecture-based instruction as it targets the individual needs of all students. Professional development should not follow the one-off workshop model, but should instead be ongoing, in-depth, and school-based.

- **Professional development programs should use data, student feedback, and careful analysis to make targeted adjustments in teaching strategies for effectiveness**. Teachers should also have access to relevant student data, and training in how to use such data, so that they can personally adjust their teaching to suit the individual needs of their students.

SECTION I: PERSONALIZED LEARNING LITERATURE REVIEW

In Section I of this report, Hanover Research provides a brief overview of personalized learning, establishing a common definition for the approach and outlining the key elements of a successful personalized learning program.

DEFINING PERSONALIZED LEARNING

In this subsection, we present two definitions of personalized learning developed by the U.S. Department of Education and the Association for Supervision and Curriculum Development (ASCD). It is clear that these definitions aim to describe similar movements, though, as is evident in these descriptions, areas of emphasis will differ slightly in different organizations' conceptualizations of the personalized learning model.

The personalized learning model exists in several slightly different iterations across supporting agencies. The U.S. Department of Education, for instance, states that the key attributes of a personalized learning initiative include the following:

> Transitioning away from seat time, in favor of a structure that creates flexibility, allows students to progress as they demonstrate mastery of academic content, regardless of time, place, or pace of learning. Competency-based strategies provide flexibility in the way that credit can be earned or awarded, and provide students with personalized learning opportunities...
>
> Depending on the strategy pursued, competency-based systems also create multiple pathways to graduation, make better use of technology, support new staffing patterns that utilize teacher skills and interests differently, take advantage of learning opportunities outside of school hours and walls, and help identify opportunities to target interventions to meet the specific learning needs of students.[4]

Comparatively, in 2010, attendees at an ASCD symposium on personalized learning agreed on five "essential elements" of personalized learning:[5]

- Flexible, anytime/everywhere learning
- Redefine teacher role and expand "teacher"
- Project-based, authentic learning
- Student-driven learning path
- Mastery/competency-based progression/pace

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[4] "Competency-Based Learning or Personalized Learning." The U.S. Department of Education. http://www.ed.gov/oii-news/competency-based-learning-or-personalized-learning

[5] List adapted slightly from: Wolf. Op. cit., p. 7.

KEY ELEMENTS OF PERSONALIZED LEARNING

Figure 1.1 displays some of the key elements of personalized learning, which highlight the long reach of the personalized learning design, as it seeks to modify and improve nearly every aspect of traditional education.

Figure 1.1: Key Elements of Teaching Practice in Personalized and Student-Centered Learning Environments

STRONG RELATIONSHIPS WITH STUDENTS	PERSONALIZATION AND CHOICE IN CURRICULAR AND INSTRUCTIONAL TASKS
•Teacher-student advisement •Norms of trust, respect, and inclusivenes •Easy contact among students and teachers •Reaching out to families •Connecting students with community	•Personal learning plans •Substantial choice in curricular tasks •Opportunities to show mastery in varied ways •Independent projects that build on special interests
APPROPRIATE CHALLENGE LEVELS FOR EACH LEARNER	**SUPPORTING STUDENTS' SOCIAL AND EMOTIONAL GROWTH AND IDENTITY DEVELOPMENT**
•Scaffolding •Differentiated instruction •Supporting students with special needs •Focusing on habits of practice and revision so that students push themselves	•Educating the "whole child"—and knowing students well •Student reflection •Engaging peers •Coaching students on presenting themselves
ANYTIME, ANYWHERE, AND REAL-WORLD LEARNING	**TECHNOLOGY THAT IS INTEGRAL TO TEACHING AND LEARNING**
•Flexible schedules •Community internships •Curricular projects that engage the world outside school	•Online learning adapted to individual student needs •Online tools that promote student collaboration •Email
CLEAR, TIMELY ASSESSMENT AND SUPPORT	**FOSTERING AUTONOMY AND LIFELONG LEARNING**
•"Just in time" feedback •Gateways and exhibitions •Customized assessments •Student feedback on curriculum and instruction	•Building students' skills around planning, time management, self-pacing, persistence, self-organizing, and taking initiative •Learning to learn

Source: Students at the Center[6]

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[6] Figure Adapted from: Cervone, B, and Cushman, K. "Teachers at Work: Six Exemplars of Everyday Practice." Students at the Center, March 2012. p. 11. http://www.studentsatthecenter.org/sites/scl.dl-dev.com/files/Teachers%20at%20Work_0.pdf

These elements reflect the need for schools to shift from teacher-centered learning to student-centered learning, emphasizing the individual needs of students, the advantages of addressing those needs in a tailored manner, and the benefit of using modern tools and research to do so.

In order to effectively address the goals of personalized learning, a number of experts contend that the role of the teacher must move away from the traditionally defined role of "sage on stage."[8] However, it is not the case that teachers must simply fulfill a different role, but rather that teachers must fulfill a variety of roles. In a 2012 research report released by *Students at the Center*, Barbara Cervone and Kathleen Cushman identify six overlapping roles that teachers should fulfill in a personalized learning environment: **curriculum planner, classroom facilitator and coach, assessor, advisor, connector, and communicator** (**Error! Reference source not found.**).

 The reasons behind these diverse teacher roles are many. For example, in a personalized learning environment, courses often focus more on depth than breadth, are shorter, and are tailored by educators to suit the needs of individual students. Teachers, then, must pay more attention to curriculum planning.[9]

Furthermore, as with many aspects of student-centered learning, experts emphasize the importance of community-based learning. Research has shown that the opportunity to participate in interpersonal networks can make a significant difference in students' learning in the short term and into the future. Part of the job of a teacher is to help students to make those connections and to foster a learning community.

Figure 1.2: Teacher Roles in Personalized Learning Environments
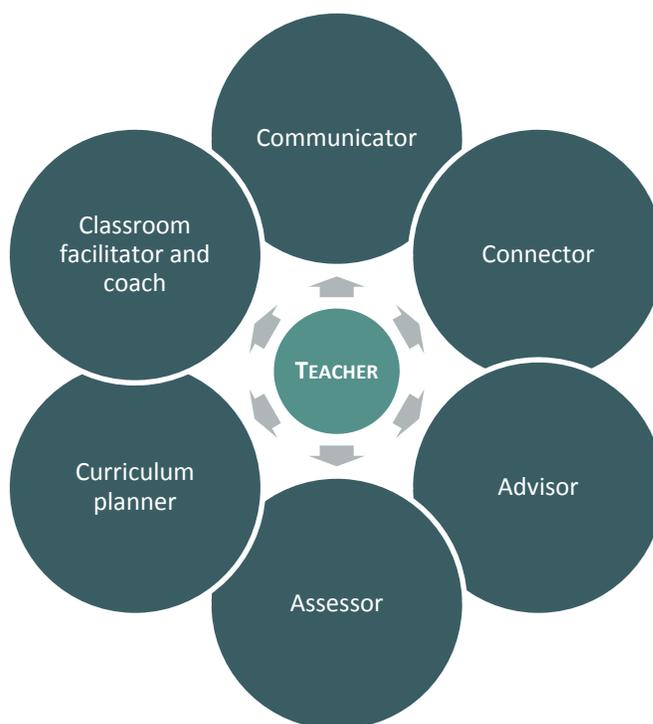
Source: Students at the Center[7]

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[7] Cervone et al., Op. cit., p. 36.
[8] Domenech, D. "Personalized Learning Closer to Reality." *School Administrator*, 3:70, March 2013.
    http://www.aasa.org/content.aspx?id=27486&terms=personalized+learning
[9] Ibid., p. 37.

Furthermore, teachers in personalized learning environments often act more like advisors or facilitators than traditional teachers. Even traditional teacher roles, such as classroom facilitator and assessor, take on new dimensions. In a student-centered classroom, teachers often look more like guides or coaches than lecturers, as they work to "set up scenarios in which students can explore, ask their own questions, and discover their own answers."[10] Furthermore, teachers act as assessors, though high-stakes test scores are not the only focus. Teachers also embrace ongoing, formative assessments, which measure deeper aspects of student learning and understanding and focus more on determining the instructional and support needs of individual students.

All together, the different dimensions of personalized learning add responsibilities to the traditional teacher role. It is, therefore, essential to provide support to faculty with adequate professional development. In a study of six schools with exemplary personalized teaching programs, *Students at the Center* researchers Cervone and Cushman observed that all six made efforts to ensure a robust professional learning environment for teachers.[11] In the next section, Hanover Research explores professional development practices for personalized learning.

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[10] Ibid., p. 37.
[11] Ibid.

SECTION II: PERSONALIZED LEARNING PROFESSIONAL DEVELOPMENT PRACTICES

INTRODUCTION

In a review of teacher professional development practices, Hilda Borko identifies several effective professional development strategies. Although not specific to personalized learning models, Borko's focus is on professional development in the context of educational reform.[12] Borko's review of past research on effective teacher professional development isolated three practices also found in all of the schools studied by *Students at the Center*. These three practices—focusing on *how* students learn, using data for feedback, and promoting collaboration and communication to foster engagement and learning among teachers—represent themes for how to best implement professional development strategies for personalized learning environments.[13]

The research on professional development shows that the older "drive-by" workshop model does not work.[14] Instead, evidence suggests that the reforms that work for student learning are also effective when applied to teacher learning. As one study suggests, "Student-centered learning and teacher learning go hand-in-hand."[15] It follows that professional development opportunities adopting a personalized learning approach may be effective for teachers, especially in schools using the personalized learning model to benefit students. Indeed, the *Students at the Center* study argues that teachers will benefit from the same kinds of learner-centered approaches as students do, including the following:[16]

- Strong relationships
- Choices
- Clear goals
- Appropriate challenges and feedback
- A culture that fosters personal growth
- Opportunities to extend and apply learning
- Autonomy

Realizing that a personalized learning environment requires "high-quality, collaborative, ongoing teacher development," schools adopting a personalized learning environment often perceive themselves "learning organizations" where all members of the community are

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[12] Borko, H. "Professional Development and Teacher Learning: Mapping the Terrain." *Educational Researcher,* 33:8, November 2004. p. 4. https://cset.stanford.edu/sites/default/files/files/documents/publications/Borko-Professional%20Development%20and%20Teacher%20Learning.pdf

[13] Ibid., pp. 5-6.

[14] Darling-Hammond, L., and Richardson, N. "Teacher Learning: What Matters?" *How Teachers Learn*, 66:5, February 2009. pp. 1-2. http://www.mimathandscience.org/downloads/math__professional_development/how_teachers_learn_20110908_165813_22.pdf

[15] Cervone et al., Op. cit., p. 5.

[16] Bulleted points reproduced nearly verbatim from: Ibid., p. 40.

learners, including both adults and students.[17] Developing the idea that teachers are learners and that learning takes place in a personalized environment, the Phi Delta Kappa Center for Evaluation, Development, and Research has produced nine guidelines for learner-centered professional development. These guidelines share many features of the guidelines for teaching students in a personalized learning environment presented in the previous section, but have been adapted to the particular learning requirements of teachers:[18]

- The content of professional development focuses on what students are to learn and how to address the different problems students may have in learning that material.

- Professional development should be driven by analyses of the differences between (a) the goals and standards for student learning and (b) student performance.

- Professional development should involve teachers in the identification of what they need to learn and, when possible, in the development of the learning opportunity and/or the process to be used.

- Professional development should be primarily school based and integral to school operations.

- Professional development should provide learning opportunities that relate to individual needs but are, for the most part, organized around collaborative problem solving.

- Professional development should be continuous and ongoing, involving follow-up and support for further learning, including support from sources external to the school that can provide necessary resources and outside perspectives.

- Professional development should incorporate evaluation of multiple sources of information on outcomes for students and processes that are involved in implementing the lessons learned through professional development.

- Professional development should provide opportunities to engage in developing a theoretical understanding of the knowledge and skills to be learned.

- Professional development should be integrated with a comprehensive change process that addresses impediments to and facilitators of student learning.

An example of the basic cycle for professional development comes from the State of Maine Department of Education, which, with the publication of its strategic plan, "Education Evolving: Maine's Plan for Putting Learners First," has placed emphasis on learner-centered, learner-driven education that allows for flexibility and individualization. The state has also developed the Maine Professional Development Model (MPDM) to prepare teachers for the state's plan to put learners first.

Figure 2.1 on the following page diagrams the ongoing cycle of professional development and highlights the need for effective collaboration, data collection and analysis, and content

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[17] Ibid.

[18] List adapted from: Hawley, W, and Valli, L. "Learner-Centered Professional Development." Phi Delta Kappa Center for Evaluation, Development, and Research, 27, August 2000.
   http://www.paadultedresources.org/uploads/8/6/3/4/8634493/learner_centered_pro.pdf

development. The components in white, along the gray curve, occur early in the professional development plan to lay the groundwork for a program that will implement the yellow ongoing components of professional development: data collection, collaboration, and the delivery of learning opportunities.

Figure 2.1: Cycle of Professional Development
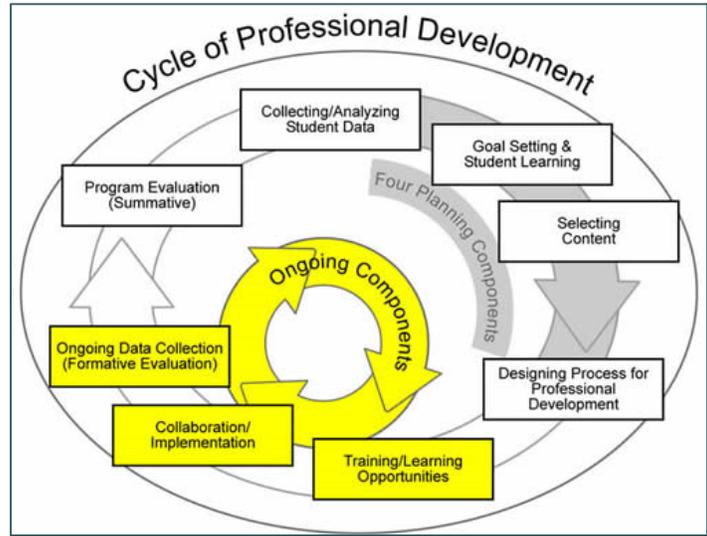
Source: Maine Department of Education[19]

In our analysis of the literature on professional development to promote personalized learning, there is some degree of consensus on fundamental best practices in four main areas, summarized in Figure 2.2.

Figure 2.2: Areas of Professional Development and Best Practices

AREA OF PROFESSIONAL DEVELOPMENT	BEST PRACTICE
Learning environment and culture	"[S]trong professional learning communities can foster teacher learning and instructional improvement."[20]
Content and structure	Emphasize "active teaching, assessment, observation, and reflection rather than abstract discussions."[21]
Timing, duration, and frequency	Maintain "professional development that is sustained, coherent, and intense."[22]
Data and Feedback	"[R]ecords of classroom practice are powerful tools for facilitating teacher change."[23]

It should be noted that these areas strongly overlap with one another, and change in one area affects the others. The shift from a one-off workshop model of professional

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[19] "The Maine Professional Development Model." Maine.gov.
http://www.maine.gov/education/achievingresults/index.htm
[20] Borko, Op. cit., p. 6.
[21] Darling-Hammond et al., Op. cit., pp. 1-2.
[22] Ibid.
[23] Borko, Op. cit., p. 7.

development to a collaborative, ongoing model, based on data and teacher input requires a holistic change.

In the next four subsections, Hanover Research explores the four components of professional development outlined above in greater depth.

LEARNING ENVIRONMENT AND CULTURE

REGULAR, FREQUENT OPPORTUNITIES FOR TEACHERS TO COLLABORATE

At successful student-centered schools, teachers ask for, and have time allotted for, collaborative professional development. Collaboration may take the form of "gathering to compare notes on the progress and problems of shared students, planning a curriculum within a content area, or integrating a curriculum across academic domains."[24] Professional learning communities represent a good way to provide the type of collaboration recommended by research on best practices in professional development. Not only does the embedded nature of learning communities facilitate collaboration, it also fosters the ongoing, school-based professional development model discussed in further detail below. Successful professional learning communities encourage collaboration at all levels of the school community, often nurtured structurally with frequent meetings, team problem solving and curricular development, advisory groups, and study groups to develop strategies and learn about education research and practice. Furthermore, learning communities often encourage peer observation of teaching practice. Reciprocal observation provides a safe environment in which teachers receive feedback and assistance, as well as participate in collaborative analysis of student work and data.[25]

The Great Schools Partnership (GSP), a non-profit organization working to "develop and advocate for … student-centered learning models,"[26] has published a guide on classroom interventions together with the Center for Secondary School Redesign (CSSR), a provider of "technical assistance to support policy and culture change at the federal, state, district, and school levels … [leading] to a richer and more personalized secondary school experience for all youth."[27] The guide recommends that schools should develop a professional learning community program with teachers grouped together based on shared students. This model promotes familiarity with the students across the group, and allows teachers to discuss specific students and address their personalized needs. For effectiveness, groups should meet multiple times a month during the school day.[28]

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[24] Cervone et al., Op. cit., p. 40.

[25] Darling-Hammond et al., Op. cit., pp. 3-5.

[26] "About the Great Schools Partnership." Great Schools Partnership. http://www.greatschoolspartnership.org/about/

[27] "About CSSR." The Center for Secondary School Redesign. http://cssr.us.s166207.gridserver.com/about-cssr/

[28] Templeton, K., Fazekas, A., and Abbott, S. "First Response: A Guide to Designing and Delivering Classroom Interventions." Great Schools Partnership and Center for Secondary School Redesign, 2013. p. 5. http://cssr.us.s166207.gridserver.com/wp-content/uploads/2013/06/First-Response1.pdf

In addition to collegial collaboration, schools with a personalized learning environment provide opportunities for administrators and colleagues to "observe, mentor, and learn."[29] The GSP and CSSR also recommend that frequent classroom observations be conducted by school leadership, so that leaders can provide constructive feedback to teachers, again using observation in conjunction with data to target areas that will benefit most from improvement and thereby providing personalized instruction to each teacher.[30]

All of the schools profiled in Section III of this report promote collaborative professional development. Professional learning communities do more than provide personal support for teachers. Collaboration also promotes school reform across the whole learning community.[31] For example, as Montpelier High School (profiled later in this report) developed its personal learning plan model, faculty met weekly, participated in planning and training, and thus encouraged and helped ensure the success of the model as good ideas spread and developed.

TEACHER LEADERSHIP

In its guide to developing school-based systems for professional learning and planning, the GSP recommends that school leadership should encourage leadership among teachers by "delegating responsibility, distributing decision-making authority, recognizing good ideas, providing leadership-development training, and creating new opportunities for professional advancement."[32] A core team of specifically trained teachers should plan and lead professional development activities, including organizing faculty meetings, training new teachers, and analyzing student data.

CONTENT AND STRUCTURE OF TEACHER LEARNING

LEARNING WHAT STUDENTS NEED TO LEARN

Much of the content of teacher professional development should focus on what students need to learn. In particular, such training should focus on those elements that students have the most difficulty learning, determined by analyzing discrepancies between actual student performance and student learning standards and goals.[33]

In addition, just as personalized learning works for students, teachers should participate in their own professional development planning by identifying what they need to learn and the learning experiences that will lead them to mastery of the selected content or techniques, again working collaboratively and with a focus on problem solving. Instead of the traditional, central office-controlled workshop model of professional development,

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[29] Cervone et al., Op. cit., p. 41.

[30] Templeton et al., Op. cit., p. 8.

[31] Darling-Hammond et al., Op. cit., pp. 1-2.

[32] "Harnessing Teacher Knowledge: A Guide to Developing School-Based Systems for Professional Learning and Planning." Great Schools Partnership, March 2011. p. 5. http://www.greatschoolspartnership.org/wp-content/uploads/2012/06/harnessing_teacher_knowledge.pdf

[33] "Learner-Centered Professional Development," Op. cit.

professional development should be closely tied to the goals of student learning, with teachers and principals continually adjusting to make improvements.[34]

Finally, professional development should focus on content areas identified as instructional goals based on the learning needs of the student population, determined by the use of data and other evidence, and should be consciously evaluated.[35] For example, at Noble High School, educators look at student survey data to determine what they think has been successful in the classroom and what has not.

FOCUSING ON HOW STUDENTS NEED TO LEARN

While teachers must have "rich and flexible knowledge" of the content they teach, which requires training in those subject areas, teachers "must also understand how children's ideas about a subject develop."[36] Teachers increase this type of understanding by "listening carefully to students in order to build on their understandings and misconceptions."

According to the GSP, national surveys of teachers have identified three top professional development priorities. These top priorities focus primarily on teaching methodology:[37]

- Improving classroom-management skills
- Effectively using new learning technologies
- Teaching students with special needs

Teachers should stay up to date on the latest research on teaching and learning and, to that end, the GSP and CSSR recommend that educators should:

> Dedicate time every week to sharing and improving [their] professional practice. Read one essay, book chapter, or research study, and consult with colleagues—either in [their] school or through online and social media—about specific instructional issues. Set achievable short-term goals for [their] own independent professional development.[38]

ACTIVE LEARNING

Another way for teachers to become more attuned to which pedagogies work and how their students learn is by doing it themselves through active learning. Research shows that active learning is generally more effective than passive learning, and this is true for students and teachers alike. Professional development for teachers should do more than tell instructors what to do in a seminar or textbook. Instead, teachers should model the practices of other colleagues and have opportunities to practice new strategies.[39]

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[34] Ibid.
[35] Templeton et al., Op. cit., p. 9.
[36] Borko, Op. cit., pp. 5-6.
[37] "Harnessing Teacher Knowledge: A Guide to Developing School-Based Systems for Professional Learning and Planning," Op. cit., p. 9.
[38] Templeton et al., Op. cit., p. 14.
[39] Darling-Hammond et al., Op. cit., pp. 1-2.

TIMING, DURATION, AND FREQUENCY

Many professional development guides are clear that school leaders, and the school community as a whole, should devote and protect time and space for professional development. For example, etools4Education, a Texas-based teacher certification company, recommends, "Professional development should be primarily school-based and built into the day-to-day work of teaching." In addition, training should move away from the one-off workshop model and towards a continuous, frequent, cooperative, and school-based model of professional development.[40]

The emphasis on long-term, ongoing, and cumulative professional development, as opposed to periodic, disconnected workshops, is widely supported across the literature. The GSP suggests that a school's professional development program be "intensive, in-depth, and ongoing throughout the school year." The guide notes that research demonstrates that teachers require at least 50 hours of "practice-specific, content-based" professional development in order for it to translate to transformed practice in the classroom.[41]

TEACHER INDUCTION

Even for experienced teachers, teaching within or switching to a personalized learning environment can be challenging. New teachers will require additional investments of time and attention as they navigate this new territory. This may include individualized help from the school administration, though a common practice among the schools profiled in this report is the use of peer mentors.[42] This is also a practice recommended by NextEd, which argues that schools should "structure the first year in a teaching or leadership position as an internship with strong, consistent coaching by experienced professionals committed to transformation."[43] For instance, The Dayton Early College Academy, which is profiled in Section III, has met with success with its model in which teachers rotate as coaches for other teachers and experienced teachers train those who are new to the school.

USING DATA AND FEEDBACK

Teachers should use data and information drawn from observations to examine their own and other teachers' instructional strategies and the effects they have on student learning and to use that information to make improvements.[44] In a study of the practices of five schools in Maine identified as "More Efficient" schools by the Maine Education Policy Research Institute at the University of Southern Maine, one of the identified characteristics was that More Efficient schools align their professional development with data-based

[40] "Learner-Centered Professional Development," Op. cit.

[41] "Harnessing Teacher Knowledge: A Guide to Developing School-Based Systems for Professional Learning and Planning," Op. cit., p. 9.

[42] Cervone et al., Op. cit., p. 42.

[43] "Boost Teacher Quality." NextEd. http://www.ctnexted.org/boosting-teacher-quality

[44] Borko, Op. cit., p. 7.

research on student learning. These schools set aside time within the day for teachers to research instructional strategies and to analyze student data.[45]

Personalized learning requires measures beyond performance on standardized tests. For example, the ASCD recommends including "information on a student's learning style preferences, previously successful experiences, interests, and other factors in a learner's life."[46] Furthermore, the GSP and CSSR assert that all teachers and support specialists should have access to academic and behavioral data for their students, as well as training on data collection and interpretation.[47]

All six schools studied by *Students at the Center* use data drawn from "close observation and careful listening," as well as standardized test scores, as feedback to ensure accountability and to make improvements. All the schools hold meetings at least one or two times each year to share and discuss the data.[48]

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[45] Silvernail, D., and Stump, E. "More Efficient High Schools in Maine: Emerging Student-Centered Learning Communities." Maine Education Policy Research Institute at the University of Southern Maine, 2012. p. 17.
   http://www.usm.maine.edu/sites/default/files/cepare/NMEF%20More%20Eff%20HS.pdf
[46] Wolf, Op. cit., p. 25.
[47] Templeton et al., Op. cit., p. 10.
[48] Cervone et al., Op. cit., p. 44.

SECTION III: PROFILES IN PRACTICE

In this section, Hanover Research profiles six schools that both use the personalized learning model to educate students and have corresponding systems in place for professional development. Many, including the Vermont Department of Education, recognize Montpelier High School as a long-standing exemplar for its personal learning plans. The other five schools selected for review—Noble High School, Alief Early College High School, The Dayton Early College Academy, NYC iSchool, and Bronx International High School—are all exemplars of personalized learning, selected for study by *Students at the Center*, which "synthesizes existing research on key components of student-centered approaches to learning."[49] The center selected these specific schools because all have established proven models of personalized learning, but also offer insight into a range of different initiatives.

MONTPELIER HIGH SCHOOL

Montpelier High School in the Montpelier Public Schools district in Vermont has long served as a model for the development and implementation of personalized learning plans. The Vermont Department of Education lists it as an "Example of Effective Practices,"[50] and researchers at The Education Alliance at Brown University followed the school's development for six years from the time the school's Community-Based Learning (CBL) program was first launched in 1992.[51] *U.S. News and World Report* ranks Montpellier High School as first in Vermont and 520th in the nation. The school enrolls 327 students served by 38 full-time teachers. Twenty-six percent of students are economically disadvantaged, and the student body is primarily white, with only 10 percent minority enrollment.[52]

According to the Montpelier School District action plan, the district values "student-centered education, excellence, economic sustainability, passion, courage, and [a] safe, healthy, and caring environment."[53] From its beginning, the Personal Learning Plan (PLP) model at Montpelier, which grew out of the original CBL program, involved interaction from all levels within the school community. Small groups of students met frequently with one teacher in advisories. These advisories required more time for curriculum development and problem solving, and so teachers developed a "continuous feedback cycle" of discussions, problem solving, and adjustment. By the time the model was well established in the school, faculty held weekly meetings and in-service training sessions. The training focused on

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[49] Ibid.

[50] "High Schools on the Move: Renewing Vermont's Commitment to Quality Secondary Education." Vermont Department of Educaton, August 2002. http://education.vermont.gov/documents/hsom.pdf

[51] Gibson, D, with Clarke, J. "Growing Toward Systemic Change: Developing Personal Learning Plans at Montpelier High School." The Education Alliance at Brown University, 2000. p. 2. http://www.brown.edu/academics/education-alliance/sites/brown.edu.academics.education-alliance/files/publications/Grow_Sys_Change.pdf

[52] "Montpelier High School." *U.S. News and World Report*. http://www.usnews.com/education/best-high-schools/vermont/districts/montpelier-school-district/montpelier-high-school-20306

[53] "Montpelier School District Action Plan 2009 – 2013." Montpelier Public Schools. http://www.mpsvt.org/images/stories/mps_action_plan.pdf

instructional techniques relevant to the advisory groups and the school's personalized learning environment. In addition, twice a year, faculty used their weekly staff development meeting to listen to feedback from students and parents.[54]

According to the Montpelier teaching guide on personal learning plans, the school has a support structure in place, including a staff seminar team that offers monthly training sessions and assists teacher-advisors. Students and their teacher-advisor meet for 20 minutes each week, and the personal learning plan organizational team meets once each month. In addition, the school schedules in-service training days on the first Wednesday of each month, and external educators provide training and support twice each year.[55]

In its study, The Education Alliance identified four key conditions relevant to professional development and necessary for positive "systemic resonance" to occur:[56]

- Innovation was led by faculty.
- There was a benefit to all participants: students, teachers, parents, and community members.
- Time within the teaching week was dedicated to faculty discussions of problems and solutions in daily work with students.
- A model of continuous improvement guided action and reflection.

The study argues that teachers require the same type of personalized learning strategy as students. "The boundaries separating members of the education system–learners, teachers, family and community members–can easily suppress change. However, when a common vision supports systemic resonance, the boundaries flex and allow people to come into dialogue and synchronize in unexpected ways."[57] The school district has extended the model of personalized learning plans from students to professional development. The school district posts guidelines for the creation of Individual Professional Development Plans (IPDPs), which teachers are to develop for themselves. The school district asks teachers to incorporate the following "Five Standards for Vermont Educators:"[58]

- Learning
- Professional knowledge
- Colleagueship
- Advocacy
- Accountability

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[54] Gibson, Op. cit., p. 26.
[55] "Montpelier High School Personal Learning Plans." Montpelier Public Schools.
http://www.state.vt.us/stw/montpelierplpteacherguide.pdf
[56] List replicated from: Gibson, Op. cit., p. 26.
[57] Ibid., p. 30.
[58] List adapted from: "Five Standards For Vermont Educators." State of Vermont Department of Education, 2003.
http://education.vermont.gov/documents/five_standards_03.pdf

The IPDP guidelines further stipulate that teachers must focus on goals that both meet their personal goals and that align with the school's action plan. A teacher's IPDP should address and describe the following "SMART" components of each goal:[59]

- **S – Specific**
  - The goals need to be specific, measurable and easily documented.

- **M – Measurable**
  - Describe how you will measure your progress.

- **A – Attainable**
  - Describe the resources available to you that will make this goal possible. Workshops, coursework, and learning communities fit in this category

- **R – Relevant**
  - How is this goal relevant to education in general, your endorsement, school, etc. How does this impact student learning?

- **T – Time-Bound**
  - When do you plan to finish the goal?

NOBLE HIGH SCHOOL

Noble High School serves the students of Maine's MSAD #60 School District. The high school serves about 1,000 students who come from three rural towns in Maine: Berwick, North Berwick, and Lebanon. About 20 percent of Noble's students qualify for free or reduced lunch. In 1994, Noble joined the Coalition of Essential Schools and implemented its model of personalized public education.[60] In recent years, the graduation rate at Noble High School rose from 75 percent in 2009 to 85 percent in 2011, and enrollment at two- and four-year postsecondary institutions rose from 44 percent in 2006 to 67 percent in 2011.[61]

Noble High School is recognized as a national model for personalized learning. The school recognizes this value in itself and has developed its own professional development center. The center offers online resources to other educators, such as portfolio documents, glossaries, timelines, statistical data, and more.[62] The school also schedules on-site visits. The website notes that, each year, "more and more" educators and administrators visit Noble to observe the practices being implemented.[63]

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[59] List adapted from: "Individual Professional Development Plan (IPDP) Guidelines." Montpelier Public Schools. http://www.mpsvt.org/images/stories/MPSDocuments/IPDP_guidelines.pdf

[60] Cervone et al., Op. cit., p. 9.

[61] Templeton et al., Op. cit., p. 8.

[62] "Resources for Visitors." Noble High School. https://sites.google.com/a/msad60.org/pdc/resources-for-visitors

[63] "Noble High School Visitation Protocol." Noble High School. https://sites.google.com/a/msad60.org/pdc/site-visits/1-day-visit

As a part of the school's professional development resources, Noble has developed five elements of effective small learning communities:[64]

- **Interdisciplinary teaching and learning teams**
  - Educational teams incorporate common planning time and common teaching time.
- **Rigorous, relevant curriculum and instruction**
- **Inclusive programs and practices**
  - Teaching teams include collaboration with parents.
- **Continuous improvement**
  - Collaborative, team-based professional development using data to guide work and a culture that supports risk taking.
- **Building- and district-level support for small learning communities**
  - A schedule that supports the work of teams and a professional development center.

These five elements reflect the collaborative, ongoing, and data-informed professional development seen at other schools that have adopted personalized learning. At Noble High School, students are grouped into "familial team structures," each of which includes 80 students and four teachers, as well as a guidance counselor who works closely with the students.[65] In addition, teams are made up of heterogeneous groups of students from various grade levels. For example, students from grades 9 and 10 are grouped together in teams.[66]

Like at other schools, every teacher at Noble is part of a team, each of which meets every other day for 80 minutes to "compare notes on students, seek advice on a class that did not go well or report on one that shone, plan interdisciplinary units, synchronize schedules, discuss upcoming events…, and look at cross-cutting issues."[67] The meetings are more focused on connecting to the students, than on particular instructional strategies, and groups tend to use this time to discuss the "learning styles, strengths, and interests" of their students. During the time set aside for teachers to attend these meetings, students enroll in a "tutorial," which provides an opportunity for students and teachers to interact one-on-one or as a team.[68]

Each year, the school also sets aside six half-days for teacher planning within content areas and four full days for school-wide professional development. In addition to these

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[64] List adapted from: "Five Elements of Effective Smaller Learning Communities at Noble High School." Noble High School. https://sites.google.com/a/msad60.org/pdc/resources-for-visitors/FiveElementsOfEffectiveSLCs.pdf?attredirects=0&d=1
[65] Cervone et al., Op. cit., p. 39.
[66] Templeton et al., Op. cit., p. 8.
[67] Cervone et al., Op. cit., pp. 40-41.
[68] Templeton et al., Op. cit., p. 8.

professional development events, faculty have the opportunity to take graduate courses and free mini-courses after school. As an example of the content of these opportunities, one workshop focused on layered curricula.[69]

The results of teacher planning time are diverse. For example, one teacher, Josh Gould, noted for the *Students at the Center* report that he and his colleagues have used the time to develop "integrated curriculum units and projects," such as one focused on immigration. To deliver the newly created unit, the teacher team put the regular class schedule on hold— "no 80-minute English, no 80-minute history. Instead, the students came in and we just worked on immigration for three weeks." [70] The director of Noble's Professional Development Center, Heidi Early Hersey, notes the positive results that come out of this type of community planning. She notes, "If you want teachers to teach differently, you have to give them the opportunity to work together, continuously, in a targeted and focused way."[71]

As a final note, Noble High School also tracks student data in order to make meaningful improvements to student learning. The school administers a yearly survey to its student population, and a faculty member who holds a degree in computer science performs the analysis of the data to drive improvement.[72]

ALIEF EARLY COLLEGE HIGH SCHOOL

Alief Early College High School is part of the Alief Independent School District, an urban district in southwest Houston, Texas. According to the district's website, Alief is the most ethnically diverse district of its size in Texas and has a student enrollment of 45,000.[73] Alief Early College High School, located on the Houston Community College campus, was created in 2009 with a grant from the Texas Education Agency. The school aims to help low-income students who might be the first in their family to attend college by enabling them to earn college credits while still enrolled in high school.[74] The high school has a total enrollment of 220 students, served by 13 full-time teachers.[75]

The school participates in the Texas Early College High School Initiative, as well as the AVID college-readiness system. Early college schools work with higher education partners—in this case, Houston Community College—to train teachers to successfully prepare students for early college education.[76]

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[69] Cervone et al., Op. cit., p. 41.
[70] Ibid., p. 37.
[71] Ibid., p. 41.
[72] Ibid., p. 44.
[73] "Welcome to Alief ISD." Alief Independent School District.
http://www.aliefisd.net/site_res_view_template.aspx?id=a9589cd6-6f34-46a9-a7aa-018b79580a98
[74] "School." Alief Early College High School. http://aechs.aliefisd.net/site_res_view_template.aspx?id=7055dd0d-6445-43fa-b555-fd46c134a5f3
[75] "Alief Early College High School." *U.S. News and World Report*. http://www.usnews.com/education/best-high-schools/texas/districts/alief-independent-school-district/alief-early-college-high-school-92264
[76] Cervone et al., Op. cit., p. 40.

Each Alief teacher mentors 12 students on a one-on-one basis. Teachers meet every Wednesday for an hour to work on the Common Instructional Framework, with meetings facilitated by an instructional coach. Of her work with the school's teachers, instructional coach Peggy Breef notes that she has relied upon different strategies, such as presentations delivered as if the teachers were the students, an approach that provides hands-on experience with the lesson at hand. She has also facilitated discussions of student work, as well as made an effort to point out that many teachers have already adopted the strategies naturally. Ultimately, her goal has been to leave teachers with new strategies, protocols, and tools in their instructional toolbox to improve delivery of student-centered instruction.[77]

In addition to consistent collaboration with peers, teachers also participate in a system of peer review, wherein they examine the performance of other teachers in "instructional rounds," a setting based on the practice of physicians. Of the model, Breef notes,

> Ideally, every teacher would be rounded once per nine weeks, by their peers or instructional coaches. It's time consuming; and so when we started off, it really wasn't full-blown rounds. Sometimes it would just be the instructional coach going into the rooms, just to give teachers feedback with "I saw," "I heard," and "What if" kinds of statements. The teacher requests it, comes up with the question, tells us what to look for. We meet in the morning and she might say, "I really want to know if my students are understanding this concept. And this is how I'm going to teach it and this is what I want you to look for." So we look for just that, and then in the afternoons we meet again. There's a nonjudgmental protocol for giving feedback, so it's not threatening to the teacher. I think we've managed to do that.[78]

THE DAYTON EARLY COLLEGE ACADEMY

The mission of The Dayton Early College Academy (DECA) is "to prepare potential first generation college students to attend and succeed in college through a personalized curriculum."[79] Like Alief, DECA is an early college academy. It was established in 2003 as a Dayton Public School, operating on the University of Dayton campus. In 2007, DECA became a charter school, but it still serves students "who are underrepresented in higher education, unprepared academically to meet college readiness standards, and unable to pay for college."[80] The school serves 426 students, in both high school and junior high.[81] Eighty-eight percent of DECA students are from minority backgrounds, and 70 percent qualify for free or reduced lunch.[82]

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[77] Ibid., p. 41.
[78] Ibid., p. 8.
[79] "Frequently Asked Questions." The Dayton Early College Academy, Inc.
   http://daytonearlycollege.org/index.php?option=com_content&view=article&id=68&Itemid=83
[80] "The History of DECA." The Dayton Early College Academy, Inc.
   http://daytonearlycollege.org/index.php?option=com_content&view=article&id=46&Itemid=59
[81] "Frequently Asked Questions," Op. cit.
[82] Cervone et al., Op. cit., pp. 41-2.

As part of the program, all students who graduate from DECA enroll immediately in college. The U.S. Department of Education features DECA on its Doing What Works website, and WestEd named it one of five programs in the nation that is "most innovative."[83] According to the school's website, educators interested in innovation from over 30 states and more than a dozen countries have visited DECA to learn about its program.[84]

DECA uses a peer-coaching model for professional development, in which two full-time faculty members rotate as peer coaches for other faculty. DECA teachers have found the program valuable. For example, one new teacher who struggled with in-class facilitation of group discussions noted that she would have the peer coach observe her classroom and take notice when the discussion "died down" and if she was able to successfully reignite the conversation. The peer coach would observe "multiple classes, since each class dynamic is different," and then meet with the teacher to discuss instructional practices and provide advice. In the words of the new teacher, it is much easier to work with a coach who has observed you in action, than to ask "about an issue in the abstract."[85]

DECA built its new teacher training program on the Common Instructional Framework of the Early College High School Initiative. This program demonstrates several features of best practices for professional development in a personalized learning environment. It is collaborative, teacher-led, and involves active learning. For the *Students at the Center* report, a second-year teacher, Jolie Ankrom, described the teacher induction program:

> At DECA, two experienced teachers taught all of our entry teachers the frameworks and how to implement them. They not only taught us what they were, but they modeled them for us and they co-taught with us for pretty much the entire first year.[86]

Regarding the content of the training, Ankrom said,

> Some are themes that every teacher should know, like scaffolding: how to integrate older material with newer material, how to help kids to connect the material. But others ... are specifically geared toward student-centered learning, like collaborative group work. Most teachers know what that means but not how to apply it. We learned specific activities to integrate collaborative work with the kids, and then practiced them...
>
> A big plus was that they actually taught us the frameworks by using the frameworks. So if we were learning how to do a Literacy Group, they had us become our own Literacy Group. We played it out in real time. We could see the logistics and what's tricky and what we needed to tweak.[87]

[83] "Awards and Recognition." The Dayton Early College Academy, Inc.
http://daytonearlycollege.org/index.php?option=com_content&view=article&id=114&Itemid=89
[84] "Schedule a Visit." The Dayton Early College Academy, Inc.
http://daytonearlycollege.org/index.php?option=com_content&view=article&id=65&Itemid=78
[85] Cervone et al., Op. cit., p. 42.
[86] Ibid., pp. 42-3.
[87] Ibid., pp. 42-3.

The result is a personalized learning environment where the teacher acts more as an advisor for students than a lecturer. Students play a strong role in developing their own curriculum, but teachers must work behind the scenes, as noted by Ankrom:

> In the end, the Common Instructional Framework centers around having the students being pretty much the leaders and the teacher the facilitator. What does student-centered teaching look like? Here's what I've learned. I'd say it looks like me doing a lot more planning in the background, but at the actual implementation of the lesson, you'll see me floating around, observing, listening to see whether kids were getting what I wanted them to get, watching to see if they're on task or off task. As a first-year teacher, you can be so focused on yourself and your planning and being the center of attention and lecturing that you don't see the students. It was freeing, once I'd done the background planning for an activity, to see the students run with it—and collaborate.[88]

Finally, DECA uses the Quaglia Institute for Student Aspirations' "My Voice" student survey to track student learning and feedback. Each year, teachers spend a day collectively going over the results of the survey and reflecting on what students like about the program and what aspects might need to be changed in the future.[89]

NYC iSCHOOL

The NYC iSchool started in 2008 as a high-tech New York City public high school with 100 grade 9 students. Today, the school serves 450 students from diverse backgrounds. In 2010, 45 percent of students were eligible for free or reduced lunch, 20 percent were African American, 45 percent Hispanic, 12 percent Asian or Pacific Islander, and 23 percent white. The school boasts accelerated completion rates on the New York State Regents exams, as well as high passage rates and scores. In addition, the school has a high daily attendance rate of 95 percent.[90]

The NYC iSchool is part of the New York City Department of Education's "Innovative Zone" or iZone, "a community of innovative New York City schools committed to personalizing learning."[91] According to the *Students at the Center* report, the NYC iSchool is the flagship school of the iZone initiative.[92] The school's website notes, "Based on core values of innovation and individualization of the student experience, the NYC iSchool provides an example of how schools can and should redefine themselves."[93] The school was never meant to be an isolated model; rather, the founders of the school developed it consciously as a "sustainable and scalable" model that could be emulated elsewhere.[94] The school offers tours and gives conference presentations on its innovative instructional program.[95]

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[88] Ibid., pp. 42-3.
[89] Ibid., p. 44.
[90] "Profile." NYC iSchool. http://www.nycischool.org/index.php?c=2
[91] "About Us." The New York City Department of Education.
     http://schools.nyc.gov/community/innovation/izone/About_Us/default.htm
[92] Cervone et al., Op. cit., p. 45.
[93] "Who We Are." NYC iSchool. http://www.nycischool.org/index.php?s=2
[94] "History." NYC iSchool. http://www.nycischool.org/index.php?c=3
[95] "Contact Us." YC iSchool. http://www.nycischool.org/index.php?s=9

As part of the iZone, the school gives teachers more time for lesson planning in collaboration with other teachers. Teachers also have access to professional development throughout the year and additional digital resources for instruction and data gathering and analysis.[96] Approximately 300 iZone teachers will complete 8,585 hours of professional development. According to an evaluation by Metis Associates, the technology allows teachers to better monitor individual student progress. Eighty-one percent of teachers reported being comfortable in a personalized learning environment, and rated the training as a 3.8 on a five-point scale for its success at increasing knowledge and a 3.7 for their ability to achieve the goals of personalized learning.[97]

In what NYC iSchool principal, Alisa Berger, calls a "professional development model in the progressive tradition," NYC iSchool has teachers spend an average of five hours each week collaborating on classroom teaching issues. The school offers ongoing training and targeted coaching for areas such as technology integration, provided by the school's technology coach. In addition, administrators, who make teacher coaching a priority, can spend three to five hours per day coaching teachers, each of whom spends one to two hours every week receiving individual coaching support.[98]

Administrators at the NYC iSchool also play a direct role in training new teachers. Berger notes,

> With our new teachers at the beginning of the year, we spend time on classroom management and classroom structures, how you support student learning, how you talk to kids in a way that they feel loved and supported and encouraged . . . where they feel safe and free to take risks, make mistakes, knowing that we love them no matter what. You can't learn unless that's in place.[99]

Teachers at the NYC iSchool must develop an online curriculum, which is often shorter and based on student challenges and learning opportunities, which "can daunt even a seasoned teacher." The principal and three assistant principals all help in providing one-on-one support for new teachers, including spending hours over the summer "designing the courses, setting up the expectations, and showing them what [is] expect[ed] … on a weekly basis."[100]

In addition to top-down training, the NYC iSchool uses a collaborative professional development model. As part of the iZone, teachers model instructional activities for one another. Berger notes that the approach allows newer teachers to observe "exceptionally skilled teacher[s]" in action in the classroom.[101]

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[96] "Frequently Asked Questions". The New York City Department of Education. http://schools.nyc.gov/community/innovation/izone/About_Us/faqnew.htm

[97] "Title IID Enhancing Education through Technology: Personalized Learning Systems Initiative." The New York City Department of Education, September 2011. http://schools.nyc.gov/NR/rdonlyres/F3AA52AB-D5C4-4E8C-A880-86FE24AFB2A9/0/PLSReviewExecSum.pdf

[98] Cervone et al., Op. cit., pp. 41-2.

[99] Ibid., pp. 13-14.

[100] Ibid., p. 43.

[101] Ibid., p. 44.

The NYC iSchool, like other schools implementing a personalized learning environment, sees the role of teachers as facilitators more than lecturers. Berger says, "We tell teachers that their most important role in the school is as [an] advisor." Students meet with their advisors during advisory periods, which typically meet for two hours weekly. These advisories promote the building of long-term relationships between the teacher and the 10 to 15 students who continue to meet together as a group through graduation. The "immense amount of time and professional development" dedicated to the advisory role pays off in the classroom, according to Berger, who says,

> It's a very intense relationship, but it also makes the kids have an adult that they feel very safe [with] and supported by. And it helps the classroom teachers frame their role as teacher. If they're struggling with a child in the classroom, they go talk to that kid's advisor, who is another teacher who can help frame their work.[102]

Like other personalized learning environments, the NYC iSchool treats teachers as learners in the same way that it treats students. According to Berger, "That is an inherent part of this model: We're all learning and we all work together."[103] That learning includes continual professional development and the use of data and student outcomes to inform changes.[104]

BRONX INTERNATIONAL HIGH SCHOOL

Bronx International High School serves about 320 students in grades 9-12 for whom English is not their first language. The school belongs to the Internationals Network for Public Schools. It only accepts students who score at or below the 20th percentile in the Language Assessments Battery and have been in the United States for fewer than four years.[105]

Embracing the idea that learning is enhanced when it is personalized, Bronx International uses "one learning model for all," including both students and faculty in its peer-mentoring system. Teachers collaborate in five interdisciplinary teaching teams, each made up of four teachers and a guidance counselor. There are three teams for grades 9 and 10 combined, and one each for grades 11 and 12. Each shares up to 75 students and meets three times a week to discuss "curricula, instruction, and assessment; plan interdisciplinary projects; look closely at student work; and confer about students' academic and personal development."[106]

New teachers also receive peer-based help from teachers within their clusters. The Bronx International model pairs apprentice teachers with mentors. There is also a coaching team "to differentiate professional development for all staff, so teachers might target areas of growth both individually and collaboratively."[107]

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[102] Ibid., pp. 12-13.
[103] Ibid., p. 39.
[104] Ibid., p. 44.
[105] "Mission Statement." Bronx International High School.
http://www.bronxinternationalhs.com/site_res_view_template.aspx?id=071dafba-729f-4b80-8d3a-aad60ca74d1c
[106] Cervone et al., Op. cit., p. 40.
[107] Ibid., pp. 12-13.

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