LEARNING DESIGNS

Study, learn, design; repeat as necessary

By Bruce R. Joyce and Emily F. Calhoun

Designers reside mostly in school districts and schools and can have primary assignments of all sorts. In many districts, central office personnel are most visible on design committees, but teachers, principals, and superintendents are included. Members of professional learning communities can design their own processes, and individual teachers can, too. States do also. National organizations and commercial companies are increasingly designing distance courses (Ross, 2011).

Learning Forward asked us to write about design referring to the new Standards for Professional Learning and drawing on research. We needed to synthesize a considerable quantity of research, opinion, and experience into a few principles of design that will have practical applications.

We organized this essay around a scenario that begins when a group of promising professional development providers from several school districts in a small state organize themselves to study design. They want to learn to build and implement programs for the districts that employ them. Let's call them the professional development design team.

Such groups have existed. Just in our own work with our primary colleagues, we organize teams whose members study design and make decisions and implement them, becoming providers in the process. Those teams are made up of teachers, principals, central office personnel, and superintendents and their deputies. Some groups have been intact for many years, helping each other to study and improve design (Joyce & Calhoun, 2010, pp.84-94).

The scenario moves through phases as our design team members experience the professional development that enables *them* to learn how to build effective and positive components of staff development. The program for the de-

Professional learning that increases educator effectiveness and results for all students integrates theories, research, and models of human learning to achieve its intended outcomes.

sign team is built from an inquiry perspective. Members are asked to test ideas, including standards. For example, if a standard recommends a given procedure, the design team will examine the literature behind it. The scenario works its way through three overlapping phases.

PHASE ONE: Study the learning capacity of people, educators, and students.

The first element of design is a stance toward learning capacity. How educators think about learning capacity will hugely influence the kinds of learning experiences they are likely to design.

Our design team looks at research on the general human capacity to learn and on conceptual flexibility (Joyce & Calhoun, 2010, in press). They will discover that the research on human learning leads to a positive view of the rich panoply of human abilities and the heroic efforts that have provided the knowledge that the present generations build on. Our team members will discover that people have considerable capacity to learn a vast variety of things. Humans have adapted and invented. They have mastered ideas and created new ones and have done so in all cultures. Several recent neuroscientific studies have been wonderfully affirming.

They will find that, in our culture, there are differences in integrative complexity (Hunt & Sullivan, 1974). That is, some folks hold on to ideas grimly while others welcome and integrate new information. As they think of the children being born today, they will note that virtually all these children can learn the culture and how to function in it,

and all will find a place if loved and educated. The average bear is a smart bear. The design team will test our belief that *teachers are wonderful learners. Nearly all can master just about any model of teaching that has been invented by other teachers and researchers, and do so to the extent that they can teach their students how to learn from those models and achieve their objectives.* If educators believe this thesis, they approach design from the perspective that teachers are intelligent, capable beings. If not, they can find themselves designing training for persons they consider second-class learners.

A second belief is that professional teachers have the capacity to adapt to and change circumstances, making things work for them. Our design team needs to study this question carefully, for there are educators who see teachers as rigid and resistant.

Finally, our team will examine a major hypothesis about student learning capacity. A decent place to begin is the reader-friendly but broad and well-grounded *How People Learn: Brain, Mind, Experience, and School* (Bransford, Brown, & Cocking, 1999).

We believe that all students have considerable learning capacity. Our team will learn that to design effective curriculums, educators have to give up the belief that students' socioeconomic backgrounds are the determining factor in achievement and embrace the belief that curriculum and instruction are the major factors in school learning. People who think that kids are impaired create curriculums for the impaired with predictable consequences — they im-

Schoolwide focus needs all, including parents

By Shirnetha Stinson

As told to Valerie von Frank

As instructional facilitator and assistant principal, I worked with my principal to develop a vision of sustained, ongoing professional development. We had to change from a "spray-and-pray" model — spray it out there and pray the teachers go back in the classroom and implement it — to professional development on campus involving everyone in our school. Now, we purposefully plan and execute professional development. We have eliminated faculty meetings. If we meet, we meet for a learning purpose.

We have a school leadership team that includes representatives from each grade level, the special education department, and the special areas, as well as the assistant principal, and principal. The team meets six times throughout the year, beginning with a leadership planning meeting in the summer. We look at performance expectations using state standards, federal Adequate Yearly Progress goals, and at our trends across the school to decide which areas to focus on. From there, we select professional development needs that align with our school improvement goals. We also get teacher input through a survey as an additional data point.

We have shifted our professional development to work more with one another. We have book studies based around student needs and teacher interests. I facilitate study groups in which we analyze the data and research instructional strategies. I work with teachers to develop their abilities to lead these

groups. We hire substitutes to allow us to do peer observations, co-teach, or observe model lessons, and then we have dialogue about what we observe and have consultants or coaches work with us to follow up. The district also offers daylong or half-day sessions that grade-level teams use in their studies.

Stinson

We periodically evaluate ourselves as a form of reflection, either individually or as a learning team. These are not performance evaluations. We use Innovation Configuration maps for teachers to decide at what level they are performing and to set goals for themselves.

We have a schoolwide focus. Everyone in the school, from paraprofessionals to office secretary to principal, takes part in professional learning around the topic. We also involve parents.

For example, we discovered students were struggling with figurative language and not understanding metaphors, similes, and idioms. Parents use idioms a lot in everyday language. So teachers would point out whenever a child used an idiom; we asked parents to explain the meaning of the idioms they used; and even the bus driver had students on the bus sharing idioms with him to see whether he knew what they meant. Sometimes it's not all looking at data, but having everybody aware of the strategies that are in place.

Our teachers are really teaching as one unit, teaching our children what they need to know according to the standards and the learning goals we have.

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pair them. As our team studies this issue, they will find many cases where schools generated outstanding achievement for students because the faculties believed their students were capable; whereas other faculties others regarded their students as hard to teach. Reality gradually matched the beliefs — schools where beliefs were positive generated high achievement, and low achievement occurred in schools with low expectations. A study by Harkreader and Weathersby (1998) that used data from *all* Georgia schools to build a sample found that some schools in the low socioeconomic bracket outranked many of those in the high socioeconomic bracket. Our team will examine the Iowa Association of School Boards (2007) study indicating that a positive ethos in both districts and schools was associated with the exceptional performance of schools in the low socioeconomic bracket. As Ron Edmonds said, "How many effective schools would you have to see … ," referring to schools that refused to be defeated by the negative rhetoric about socioeconomic status (Edmonds, 1979, p. 22).

A part of giving up the student background thesis is recognizing that in schools populated by middle and high socioeconomic status students, an average of 20% of the students fail to learn to read and write adequately. Essentially, favorable socioeconomic status does not override poor curriculum.

Let's summarize what our design team has learned in Phase One of its study:

- Teachers have fine learning capacity.
- Teachers have considerable flexibility — enough to understand their own individuality and modify professional development participation to help themselves have success.
- All students can learn, and the negative socioeconomic hypotheses are now passé. Socioeconomic status does not predict achievement — curriculum does.

These three affirmative theses are the foundations of design for professional development. Under the negative alternatives, teachers can be treated as mediocre and inflexible learners. Just as bad, the content of professional development will be muted if designers treat student learning as environmentally determined rather than as an outcome of professional function.

PHASE TWO: How teachers learn new repertoire when they need to do so.

Our design team now proceeds to study how teachers learn. They will find that the concept of repertoire is very important to how educators learn. Most teachers have good control over some teaching strategies and less control over others. For professional development design, the important consideration is how close the new content is to the developed repertoire of the teachers who are involved. Is it very close, a bit farther away,

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or in new territory?

Here are some items the design team will find on its journey.

A BIT OF NEW REPERTOIRE CLOSE TO THE RANGE OF DEVELOPED SKILLS

Let's imagine that a school faculty learns that having working in-class libraries gives students greater access and proximity to books, and that access has a positive effect on students learning to read (McGill-Franzen, Allington, Yokoi, & Brooks, 1999). So the faculty decides to obtain the resources to ensure that their classroom collections contain 400 to 600 books, and they do so without depleting their school library. Then, another facet of the McGill-Franzen et al. studies kicks in. Without some professional development, many teachers have difficulty getting new books into students' hands on a regular basis. Some new repertoire is apparently required. However, only about 10 hours of professional development (say, five two-hour sessions) were needed to help teachers learn to use the collections productively. For this initiative that increases student learning in reading and writing, some training is needed, but only a little.

Our design team decides that it needs to learn whether initiatives by school faculties, professional learning communities, and districts ask for additions in repertoire that are just out of the range of the educators who are trying to learn to use them and therefore require a only a modest amount of professional development to achieve implementation.

A LARGER NEED

Another faculty decides to study student learning in reading using performance-based measures. They discover the Gray Oral Reading Test and the Gunning procedure for assessing levels of competence when students are beginning to learn to read: It is very useful up to about a high end of grade 2 level.

They obtain the manuals for the Gray Oral Reading Test and begin by administering it to a few students. They find that assigning the levels in it is not easy and that miscue analysis is a lot more complicated than they thought. The Gunning procedures require finding books that require a range of competencies from students. This is not as easy as expected.

They end up finding an experienced consultant from their intermediate service agency and spend about two hours per week with her for about 10 weeks, practicing all the while. Part of their time is face-to-face, and part is on Skype. They also make and share videos of assessments, both for discussion and learning for themselves and for potential resources for teaching others.

The movement toward performance measurement was just a little too far out of their repertoire and needed more help than faculty had anticipated.

Again, our design team has discovered that they need to learn how to help clients (schools, professional learning communities, districts, individuals) assess whether an initiative requires knowledge and skills that are significantly outside the current repertoire of the majority of the staff.

NEW REPERTOIRE

Now our design team approaches initiatives where most participants need to learn ways of teaching that are really new to them. When that happens, what kind of design do participants need?

Our designers turn to an example of a learning community that realizes that its students are not receiving a top level of instruction in writing. Members of the community find they have much to learn, including:
- How to assess competence in writing much more precisely than in the past;
- How to understand the nature of writing and how it develops;
- How to demonstrate writing — showing students aspects of composition;
- How to develop stimuli to elicit writing from students; and
- How to help students assess and improve their writing.

Learning to demonstrate writing is a key here, and is seriously new repertoire for most teachers (Joyce, Calhoun, Newlove, & Jutras, 2006).

As the design team looks at the literature, they will find that really new repertoire needs the following:
- The in-depth study of rationale of what is to be added to the repertoire.
- Demonstrations: They need to see many demonstrations.
- Practice: As they study rationale and observe demonstra-

NEW COMPONENT

A new component of professional learning is being generated by the need to integrate information and communication technologies into core curriculum areas of the school. While many teachers are reaching out to the web and using the library resources being developed, the core curriculum areas need to be redeveloped into what my colleagues and I call *hybrid* courses (the term *blending* is often used), where the familiar campus course is augmented by technology resources. Components of distance courses can also be integrated into campus courses and curriculum areas from kindergarten through grade 12. The teachers who take this on will need support through serious professional development. Professional development to help them to learn to generate online components for their courses is currently available, often online itself. We should soon enter a new era of research on how to design the online and offline professional development on integrating this technology into core areas.

tions, they need to build lessons together and practice them, alternating demonstrations and practice.
- Study of student response and learning: As the teachers practice, they learn to examine student behavior — what they understand and what they produce — by studying student writing samples. The formative study of student learning is extremely important when new practices are implemented. While teaching, teachers observe evidence of learning and then decide if instruction needs to change. Our design team begins to realize that it cannot offer professional development without mastering the content of the innovation. In this case, the team cannot teach others methods for teaching writing without mastering them first.

Let's summarize what our team learned during Phase Two of its exploration:
- The design changes depending on whether the objective is close to familiar repertoire, is somewhat different repertoire, or is significantly new repertoire.
- For new repertoire, there may be other approaches that will work, but we know that teachers learn through studying rationale, analyzing demonstrations, practicing, and studying student response (Joyce & Calhoun, 2010). The study of student response is immediate and focuses on performance.
- The design team now knows something about how teachers learn new repertoire. They can judge whether the goal of the professional development involves learning things that fit more or less easily into the current developed repertoire and can adjust the complexity of the professional development process accordingly.
- A related bit of learning: Our design team learns that the first year of an initiative in professional development is critical.

During that first year, if there is a decent level of implementation but minimal effects on teacher repertoire, a decision needs to be made about whether to continue the initiative. The content or design may be weak. Energy for implementation may be weak. In most cases, it should be discontinued, because initiatives that have little effect in the first year usually have no better effects in subsequent years unless the content of the professional development is improved, the design is improved, or the energy for implementation increases. The hopeful belief that it takes several years to see if something works has not proven out in practice. The practical rule is if educators have good content and a good design that will get them good implementation, they will see the effects in year one. If not, they need to go back to the drawing boards and redesign content, process, or the organizational approach to implementation.

PHASE THREE: Design in field contexts.

Our team needs to work with projects in schools and districts as tem members continue their studies. Sometimes they will be asked to design projects and sometimes asked to see if they can improve existing ones.

AN ENTRY-LEVEL PROJECT

One district asks the design team to initiate a better program for assessing competence in reading.

The team needs to learn what the district has been using, who administers the tests, who analyzes the results, and what are the findings. The team finds that the district has been trying to use norm-referenced tests to measure growth and that its analysis is very hard to follow. The team recommends that the district learn to use tests of performance and to interpret the results. The design team needs to organize a district assessment team, prepare the assessment team to use the Grey and Gunning procedures as mentioned above (or similar performance-measuring tools), and shepherd the assessment team through the process of testing, analyzing, and interpreting. The district is then positioned to make an initiative. Note that the design team prepares a cadre. The design team or other consultants can provide professional development to the cadre, but without in-district providers, the district would be dependent on external help.

A MORE COMPLEX PROJECT

Another district asks the design team to assess its K-2 literacy coach program and see if the design team can improve it. Generally, the K-2 achievement in literacy is modest.

As in every case, the design team needs to get a picture of the program design, its administration, professional development that has been provided, and degrees of implementation. The design team needs to obtain opinions by personnel in all roles about the program's impact and success and estimates of the skills possessed by the current coaches (e.g their repertoire). They also need to assess the literacy-teaching repertoire of a sample of the K-2 teachers.

The design team soon learns why it was asked in. The team finds that coaches were selected from volunteers whose competence was attested to by the opinion of their principals. These volunteers were then relieved from classroom duties and assigned as coaches in schools other than their own. They were asked to introduce themselves to the principal and the faculty and to begin a process of finding teachers who might want their services. Few did, and the coaches occupied themselves with those friendly faces.

The study of repertoire proved to be most telling. Our design team concluded that the coaches and grade 1-2 teachers generally teach reading and writing very similarly. Thus, the coaching program would generally duplicate the teaching processes in schools where many students are not learning to read and write capably. None of the coaches were kindergarten teachers, and they had to study the kindergarten classes to get some idea about what was going on while knowing that they were probably not going to be in a position to help.

Our design team decided not to address problems stemming from poor administrative processes, but to recommend to the district that it consider developing a renovated K-2 curriculum, one with a good chance of improving student learning, and then determining the degree that it would require serious new learning by the staff, followed up by designing the professional development to achieve it. Essentially, coaches from failing schools had been sent to other failing schools with a terrible administrative interface but with little to teach. However, experiencing a new and successful curriculum will probably result in a new generation of coaches with much to teach.

A YET MORE COMPLEX PROJECT

The regional Title I organizers ask our design team to see if the team can improve the Title I reading program. The organizers want the team to concentrate on several schools where they believe student learning is unusually low.

Our design team begins by studying student achievement and current instructional practice in the schools starting with 1st grade. They will interview the teachers and principals to try to get their perspective on the school, parents, and the picture of achievement. Because Title I schools have such heavy supplementary funding — about $1,100 per qualifying student — they need to learn how that money is used.

Judging from district tests, the average achievement in one of the schools is awful — at the end of the year, 1st-grade scores approximate those normally achieved after three months of school. The design team's second school is similar to the first. It has six 1st-grade classrooms, three with virtually no achievement, three with respectable achievement, a faculty divided between those who think that low socioeconomic status is the major cause of low achievement and those who think that curriculum plays the major role.

After just their 1st-grade experience, our design team knows that designing professional development at this stage is not a worthwhile activity. The Title I organizers need to develop a team of their own to focus on general school improvement. The school cultures have to be changed, learning communities organized, and leadership needs to be renovated seriously. When the district has made progress on these fronts, it can turn to the design team again, if it chooses. This is an optimal time to redo the budget, including providing laptops for all students, interactive boards for all classrooms, and professional development for all teachers.

Let's summarize what our team members are learning from their Phase Three field experiences:

> **The practical rule is if educators have good content and a good design that will get them good implementation, they will see the effects in year one. If not, they need to go back to the drawing boards and redesign content, process, or the organizational approach to implementation.**

- In a given setting, planning a new professional development program or revising an ongoing program involves the study of the organization, the states of learning of students, the curriculum and instruction used by the instructors, and the professional social climate of a sample of the schools.
- A local design team needs to be organized and legitimized by the district officials and needs to include a healthy sample of teachers, principals, and district organizers.

DESIGN AND ALTERNATIVE MODELS OF PROFESSIONAL DEVELOPMENT

Here we draw directly from our formulation of five models of professional development and underline how our design team might relate to them. Each model can be the design core of a professional development component (Joyce & Calhoun, 2010).

Support for individuals: The most common form is stipends and brief leaves for individual teachers. The objective is to enable individuals to create their own learning opportunity. Their judgment determines goals, and their energy and good scouting ability generate the processes. Can our design team organize school district personnel, including policymakers, to build a component around this model? Yes, it can.

Personal and professional service models, such as coaching and mentoring programs, have been written about by so many others that we will simply urge our design team to look into them carefully.

Collegial study models (usually in the form of professional learning communities) also have a huge literature for our design team to explore.

Curriculum implementation models are important because curriculum improvement depends on professional development. Our design team finds that the concept of repertoire and the knowledge about how people learn new repertoire are at the core of those models.

DESIGN REQUIRES LEARNING

We will not try to summarize this short piece here, but rather to commend the organization for attempting to build standards to guide its constituency. We have read the Hall & Hord (2011) article in this issue on implementation (p. 52), and one of the authors' most important points is that implementation *requires* new learning. That is true of design as well. This may be the most important message from the latest version of the standards.

Ron Edmonds' fine statement makes the issue clear: "We can, whenever and wherever we choose, successfully teach all children whose schooling is of interest to us. We already know more than we need to do that. Whether or not we do it must finally depend on how we feel about the fact that we haven't so far" (1979).

REFERENCES

Bransford, J., Brown, A., & Cocking, R. (1999). *How people learn: Brain, mind, experience, and school.* Washington, DC: National Academy Press.

Edmonds, R. (1979, October). Effective schools for the urban poor. *Educational Leadership, 37*(1), 15-24.

Hall, G. & Hord, S. (2011, August). Learning builds the bridge between research and practice. *JSD, 32*(4).

Harkreader, S. & Weathersby, J. (1998). *Staff development and student achievement: Making the connection in Georgia's schools.* Atlanta, GA: Council for School Performance, Georgia State University.

Hunt, D. & Sullivan, E. (1974). *Between psychology and education.* Hinsdale, IL: Dryden.

Iowa Association of School Boards. (2007). *Leadership for student learning.* Des Moines, IA: Author.

Joyce, B. & Calhoun, E. (2010). *Models of professional development.* Thousand Oaks, CA: Corwin Press.

Joyce, B. & Calhoun, E. (in press). *Realizing the promise of 21st century education: An owners' manual.* Thousand Oaks, CA: Corwin Press.

Joyce, B., Calhoun, E., Newlove, K., & Jutras, J. (2006, November). *Scaling up: The results of a literacy program implemented in an entire education authority.* A paper delivered to the Asian Pacific Educational Research Association, Hong Kong.

McGill-Franzen, A., Allington, R., Yokoi, L., & Brooks, G. (1999, November-December). Putting books in the classroom seems necessary but not sufficient. *Journal of Educational Research, 93*(2), 67-74.

Ross, J. (2011). *Online professional development.* Thousand Oaks, CA: Corwin Press.

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