Focusing New Teachers on Individual and Low Performing Students: The Centrality of Formative Assessment in the Mentor's Repertoire of Practice

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Mentoring novice teachers often features buddy support, technical advice, and classroom management tips to meet teacher-centered concerns of survival. Such mentoring aligns with conventional models of teacher development that describe the novice concerned with self-image, materials and procedures, and management, and only after the initial years, able to focus on individual student learning. Drawing on the wisdom of practice of 37 experienced teacher induction leaders and case studies of mentor/new teacher pairs, this study found that mentors can interrupt that tendency among new teachers, focusing them on the learning of individual students, especially those underperforming. For this work, mentors tap knowledge of student and teacher learners, pedagogy for classrooms and for tutoring teachers, and especially multi-layered knowledge and abilities in several domains of assessment. These include assessment of students, alignment of curriculum with standards, and formative assessment of the new teacher. Skillful use of this knowledge can bring individual student learning into focus and help new teachers generate methods for shaping instruction to meet students' varied learning needs. These results challenge developmental models of teaching and conservative mentoring practices, calling for articulation of a knowledge base and relevant mentor development to focus new teachers early on individual student learning.

Do students think I'm in charge? What materials should I use in this unit? How can I manage the class? Such concerns with self-image, resources, and procedures characterize early teaching for many novices. With pressures to plan, perform, and manage, new teachers often attend less to the learning of individual students. Several models of learning to teach have described this phenomenon as part of naturally occurring development. One model

described movement from a focus on self, to curriculum, and finally to students (Fuller, 1969; Fuller, Bown, & Peck, 1967, cited in Worthy & Patterson, 2001). Another described the novice's inward focus and the adaptation and reconstruction of the novice's self-image as teacher, without which the novice cannot progress to a focus on students (Kagan, 1992). Following from this model, teacher education should promote the acquisition of standardized routines that integrate management and instruction, technical rationality over abstract thinking, and reflection on "the novice's own behaviors, beliefs, and image of self as teacher" (Kagan, p. 162).

Models of teacher development such as these have been critiqued on various grounds. Grossman (1992) noted that several relevant studies excluded from Kagan's (1992) review drew on cases of beginning teachers grappling with complex subject matter concerns before or while developing procedural routines. Grossman also noted that little evidence confirms that teachers who master standardized procedures will, in fact, move to a next stage of focusing on academic learning. In fact, a linearity dominates many of such models, failing to adequately account for movement or lack of movement from one stage to the next (Bullough, 1997; Richardson & Placier, 2001). The models also typically deny agency of teachers who have the power to make change in their teaching orientations. Moreover, while the models may map trends, they typically fail to capture influences of context variables, including social and historical factors (Huberman, 1995) or the diversity in development due to variables such as gender, subject area, grade level, and teaching assignment (Bullough). Also, inferences from developmental models fail to consider ways new teachers can and should wrestle with ethical and political issues regarding limitations of schooling, rather than learning to replicate the status quo (Gore & Zeichner, 1991).

Even if the models predict new teacher development, what of the students in classes of new teachers who may take several years to develop student-oriented instruction? Shall teacher educators promote development of classrooms shaped by management choices rather than a focus on student learning? If so, have educators not neglected a critical role in orienting novices to the urgent need to focus on students, the primary clients of schooling? New teacher mentoring, for example, can challenge teachers more quickly to move past self and procedures to focus on learners (Feiman-Nemser & Floden, 1981). Those drawing inferences from developmental models often conflate description and prescription, ignoring possibilities of educative mentoring (Feiman-Nemser, 2001) that move beyond more conservative mentoring functions that Little (1990) characterized as situational adjustment, technical advice, and emotional support.

What are the possibilities for focusing new teachers on individual student learning, especially of low performing students? Teacher induction programs have taken hold in much of the United States, with mentors

slated to provide new teachers with support and formative assessment (Porter, Youngs, & Odden, 2001; Sweeney & DeBolt, 2000). Little work, however, has examined how mentors in such programs might best function, particularly in focusing new teachers on individual and low performing students. The present study contributes to this relatively new and needed area of inquiry, by asking, What do mentors need to know and be able to do to help sharpen new teachers' focus on individual student learning and growth? To answer this question, we examined instantiations of the possible through a wisdom of practice study and cases of expertise (Shulman, 1983). We tapped the wisdom of practice of a network of teacher induction leaders who have taught, mentored, organized mentors, and conducted inquiry on their leadership practices. We extended our analyses through examination of case studies of mentors in action with new teachers.

FRAMEWORK

THE CHALLENGES OF LEARNING TO FOCUS ON INDIVIDUAL LEARNERS

Problems of focusing on individual learners are varied and complex. In a case of elementary literacy teaching, a new teacher Grace noted several challenges of teaching to individual learners (Tharp & Gallimore, 1989, cited in Hiebert, Gallimore, & Stigler, 2002). Among these were her lack of experience in making the most of a situation with students while she was in it and her need to know how to let students have more time to figure things out. In a story constructed from observations of May's first year of teaching high school English and discussions with her department head and mentor, Kilbourn and Roberts (1991) noted that May found it difficult to respond to students' needs, or even to know what those needs were. She explained that she couldn't diagnose a learning situation to see what support students needed: "It's not easy…how do you teach something that comes easily to you?" (p. 258). Also, her mentor helped her see that she failed to provide students with a context and purposes for their learning. Finally, May had difficulty moving beyond teaching as playing the role of "committed literary person" whom students would naturally emulate. As May remarked, "At this stage, content still means me working it out, *me* reading the book, seeing all the myriad things there are to observe" (p. 255).

May's struggles speak to the need to know more than subject matter and basic pedagogy. Through development of pedagogical content knowledge, new teachers can learn ways to organize a discipline for learners, sequence understandings, and structure lessons tailored to learners (Grossman, 1990; Shulman, 1987). In her study of six beginning teachers of high school English, Grossman found that teachers who had benefited from teacher

education courses on curriculum and instruction in English were able to more readily scaffold learning to make literature content accessible and meaningful to their students. Developing a repertoire of diverse instructional strategies pertinent to a subject area may in fact be a key in teachers' learning to teach to diverse students (Darling-Hammond, 1995; Stodolsky & Grossman, 2000).[1]

Current social and educational issues may provide special challenges and opportunities for new teachers learning to focus on individual student learning. Students in U.S. classrooms of the 21st century are more ethnically and linguistically diverse than ever. In California, site for the present study, an estimated 25% of current students are English language learners (ELLs) whose first languages vary greatly, with Spanish the overwhelming primary language for these youth. Despite such linguistic and cultural diversity, teachers remain predominantly white middle class women. A mismatch of background experience of many teachers and their students can challenge new teachers to learn about diversity and equity. Many may be "dysconscious" of negative assumptions about their students of color and may hold varied expectations for students based on race, ethnicity, class, and language (King, 1991). Teachers need to reject myths about those who come from lower socioeconomic households and homes in which English is not the primary language, as well as develop instructional strategies to help ELLs develop English language proficiency and self-esteem as users of the language (Garcia, 1996).

Also, the standards movement—which has articulated standards for what both students and teachers in the United States need to know and be able to do—holds potential to strengthen education for all learners (Darling-Hammond, 2001). The movement also has created pressure about teaching to new standards and, in many cases, with little guidance for doing so, leaving many new teachers "lost at sea" (Kauffman, Johnson, Kardos, Liu, & Peske, 2002). Moreover, testing mania has upped the ante, and new and veteran teachers alike bemoan the pressure to teach to tests, in a climate of intimidation by assessment (Stiggins, 1999) where assessment lust drives educators to use tests to measure more things, while abandoning the important formative dimension of assessment that supports student learning (Haertel, 1999). All of these current social and educational factors challenge new teachers in attempts to focus on individual students' learning.

THE POTENTIAL OF MENTORING TO FOCUS NEW TEACHERS ON LEARNERS

What roles can mentors play in guiding new teachers' focus on individual learners? Evans (2000) argued that mentors work in formal and informal

ways and serve both career and psychosocial functions. He analyzed four cases of effective mentors from business, community, and national organizational contexts for instances of four roles: role model, sponsor, motivator, and tutor. The cases provide evidence of these roles in action, with mentors assuming all the roles at different times in varying degrees, depending on need. These roles are instructive for the roles that mentors of new teachers play, with the tutoring role most salient to this review and the present study. Some evidence suggests that mentoring has helped new teachers move beyond classroom management concerns to a focus on individual students' learning (Darling-Hammond, Gendler, & Wise, 1990; Huling-Austin, 1989). Many teacher induction programs provide structures and mechanisms to foster a new teacher's attention to individual students, including, for example, ways to track learning of target students. Systems often instruct a mentor to use formative assessment, providing new teachers with information to guide growth in teaching. In the Beginning Teacher Support and Assessment (BTSA) program approved by the California legislature in 1992, new teachers work with mentors to complete activities that include review of student work (Porter, Youngs, & Odden, 2001). Mentoring programs are often linked to professional standards for teaching and learning that focus novices on individual and diverse learners. Among these are the Interstate New Teacher Assessment and Support Consortium (INTASC) Model standards for Beginning Teacher Licensing and Development and the California Standards for the Teaching Profession (CSTP). In these sets of standards, quality teaching is linked to understanding student differences, focusing on engaging all learners, and planning instructional opportunities that adapt to diverse learners.

However, despite the promise of mentoring, schooling contexts significantly shape and constrain mentoring practice. In a comparative study of mentoring of new teachers in the United States, Britain, and China, Wang (2001) found that while mentors identified focus on individual students as a central goal in mentoring new teachers, less than 5% of their mentor-novice interactions were devoted to such concerns. In the U.S. induction context, in particular, new teachers were expected to learn about their students, but they had few opportunities to discuss individual students with their mentors. Across the three national contexts, far more attention in mentor-novice interactions was paid to learning to adhere to local norms. A key problem Wang cited in this cross-national study was the often-cited challenge of needing to distinguish between good teaching and good mentoring. Tapped for their seniority, mentors tended to act as local guides, uninformed by a conceptualization of effective mentoring. His study points to an underlying problem: The lack of an articulated knowledge base for effective mentoring.

TOWARD A KNOWLEDGE BASE OF EFFECTIVE MENTORING TO GUIDE
FOCUS ON INDIVIDUAL LEARNERS

Developing a knowledge base for mentors of necessity borrows from
teaching and other professions in which a knowledge base and standards
are grounded in the work of their practitioners. Hiebert, Gallimore, and
Stigler (2002) propose three conditions essential for practitioner knowledge
to become a professional knowledge base for teaching: it must be public,
represented in a form enabling its cumulative and shared nature, and
continually verified and improved. Across initiatives related to teacher
knowledge, learning, licensure, and assessment, the professional knowledge
base for teaching has included knowledge, beliefs, and attitudes about (a)
learners and learning, (b) contexts and purposes, and (c) curriculum and
teaching (Darling-Hammond, Wise, & Klein, 1999). All of these concerns
inform a knowledge base for effective mentoring to focus teachers on
student learning.

Mentors, however, need knowledge of both student and teacher learners;
of classroom and community contexts, as well as professional contexts that
inform teacher decisions; of teaching as it relates to students, as well as
teaching, tutoring, and mentoring as they relate to adult learners as new
teachers. Many induction programs select mentors because they are lead
teachers, veteran teachers of some distinction, or teachers of greatest
seniority (e.g., Porter, Youngs, & Odden, 2001). We know little, however,
about the nature of expertise needed to mentor new teachers, particularly
in focusing on individual student learning. Earlier work offered broad
categories of a knowledge base for new teacher mentoring, a framework of
quality indicators, and mentor case illustrations (Bey, 1990; Odell & Huling,
2000; Shulman & Colbert, 1988). However, little work has examined in
detail what mentors need to know and be able to do to help new teachers
focus on individual learners. Following research on teaching, such a
knowledge base needs to consider articulated knowledge and analyses of
that knowledge in practice (Feiman-Nemser & Remillard, 1996; Uhlenbeck,
Verloop, & Beijaard, 2002).

Several recent studies contribute to this knowledge base. Drawing from
interviews and observations of Peter Frazer, an exemplary support teacher,
Feiman-Nemser (2001) identified eight strategies Frazer used to enact his
role. Among these was focusing on the students by asking new teachers
nonthreatening questions about individual students' performances, by
engaging students himself as coteacher, and by sharing information about
student thinking that he had gathered in class. In these ways, Frazer helped
new teachers focus on student learning. In the case of May's first year of
teaching (described earlier), her mentor Steve helped her focus on student
learning by linking his own use of setting the context for new learning with

students to his suggestion that May explore this in her class (Kilbourn & Roberts, 1991). This suggests a place in the mentoring knowledge base for knowing how to translate one's own understandings of teaching into forms novices can accept and use. In a study of Sandi's first year as a mentor for English teachers in northern Israel, Orland (2001) identified five developmental themes that captured Sandi's learning experience. Of relevance to the present study is Sandi's developing awareness of how she needed to learn about her learners (in this case, new teachers) or read a mentoring situation to know how to proceed. The present study contributes to this developing knowledge base by tapping the wisdom of practice of teacher induction leaders and mentors that relates to helping new teachers focus on individual learners and their growth.

METHOD

CONTEXT FOR THE STUDY

California has had a well-funded state-wide program of beginning teacher support and assessment. Over several years, experienced teachers became mentors for new teachers. Many of these mentors became leaders in teacher induction, designing professional development for new mentors, instituting mentoring programs, and brokering programs in districts and multi-district consortia for teacher induction. Since the late 1990s, more than 70 of these leaders have participated in the Leadership Network for Teacher Induction (LNTI) sponsored by the New Teacher Center at the University of California, Santa Cruz. LNTI members meet at least nine days a year to collaborate on innovations in induction; to conduct action research cycles to identify and address problems in teacher induction; and to generate ongoing support for common work. The authors engaged in cofacilitation, participant observation, and collaborative research with the group.

For several reasons, LNTI members serve as a rich source for examining wisdom of practice related to mentoring new teachers. First, LNTI members have had a wealth of experience as teachers, mentors, mentor leaders, and induction program developers. Second, LNTI members have reflected on and conducted action research as part of LNTI work to investigate and improve on problem areas in their teacher induction work. Third, in ongoing sessions, LNTI members have engaged in reflective conversations with other leaders who represent programs supporting 2,750 new teachers from over 60 districts in Northern California. These districts vary from lower income, large urban districts serving almost exclusively students of color, to smaller, more affluent suburban districts in predominantly

white communities. This range has facilitated the search for both similarities and differences in discussions of what teacher induction means; what mentoring can yield; and how problems of teacher induction can be identified and addressed. Finally, LNTI has provided a forum for participants to create an ongoing learning community that uses mutual knowledge, learning, and collaboration to explore critical issues in education, rather than relying solely on transmission of outsider knowledge—features of many successful education networks (Lieberman & Grolnick, 1996). In this way, LNTI members have worked in a network that supports, taps, and develops their wisdom of practice and knowledge grounded in inquiry.

To contextualize this knowledge base of practitioners, we examined two cases from a two-year mentoring study involving 20 beginning teacher-mentor pairs involved in an extensive mentoring/induction program in Northern California. The study examined teachers in their first two years of full time work, in Grades 2 through 6. The program, aligned with the CSTP, involves on-site weekly mentoring support and monthly beginning teacher seminars.[2] The mentors in this program are selected through a rigorous interviewing process and participate in ongoing professional development on a weekly basis in mentoring. The program is inquiry-oriented, promoting teacher learning through reflection on artifacts of practice (including classroom observation notes/feedback and analysis of student work). The mentor and mentee engage in lesson planning conversations, discuss observed teaching, participate in post-observation reflecting conferences, discuss model lessons, share resources, and set goals together.

We chose two cases to draw on because they highlighted central themes that emerged from LNTI members' reports of what mentors need to know and be able to do to focus new teachers on student learning. Also, these cases of mentoring in action raised questions and revealed the complexity of focusing new teachers on student learning and low performers. Excerpts selected were representative of interactions within the two cases. While there were differences among all mentor-mentee pairs, the cases selected were not unlike others in the larger study of 20 in terms of mentor experience, modes of interaction, and quality of practice.

PARTICIPANTS

Participants included 37 teacher induction leaders who were members of LNTI. These participants represent a subset of the full network membership and participated because they were present for a network session that included the questionnaire described later. As already indicated, these

participants had a wealth of experience as educators, mentors, and mentor leaders, and they represented a variety of districts in Northern California, covering the demographic map already described. Most participants were women, and most were white.

The two cases we examined most closely involved 4 other participants (2 mentor-novice pairs). Joshua[3] was a first year teacher at Hillside, a K–6 school of 564 students in a midsize city. The student population was 61% white, 26% Latino, 7% Asian, and 3% African American. ELLs made up 17% of students and 32% received free or reduced lunch. Joshua's sixth-grade class of 28 students consisted of English speakers and ELLs, students with special needs, including emotional and learning disabilities, as well as gifted students. Joshua's mentor, Meg, was a veteran upper elementary grade teacher and an experienced and full time released mentor. She also helped facilitate professional development of mentors in her program. The second case pair was Nan and her mentor Lisette. Nan was a first year teacher at Rivera, a K–5 school in a mid-sized city with a high Latino and migrant population. Of the 520 students at Rivera, 87% were Latino, 11% white; 65% were ELLs and 45% were migrant students. Nan's third-grade class of 20 included mostly ELLs and a high percentage of students with special emotional, learning, speech, and social needs. Lisette was an experienced mentor who had taught the primary grades.

DATA COLLECTION

This study asked two questions: What do mentors need to know and need to be able to do in order to focus new teachers on individual student learning? What are the complexities of this knowledge base as enacted in the mentoring process? To address the first question, we tapped the reported wisdom of practice of LNTI members. Written questionnaire responses served as data. Questions asked participants to identify and selectively illustrate the three most important things mentors need to know and be able to do to help new teachers focus on individual student learning. To address the second question, we examined cases of mentoring interactions to understand complexities of relevant issues in the mentoring context. We drew on a sample of two cases from the larger 2-year mentoring study. Data included audiotapes and transcripts of mentoring conversations between new teachers and mentors and taped interviews with teachers and mentors over the course of 1 year. The mentoring conversation excerpts that we include draw from planning conferences to review teacher lesson plans and to make adjustments, and from reflecting conferences that occurred after mentors observed lessons. Analyses also were informed by extensive tape-recorded interviews of mentors and mentees that included questions about mentoring interactions over time,

and questions about the teacher's development of practice, growth areas, and teaching beliefs.

DATA ANALYSIS

To address the first research question, questionnaire responses were typed into data files. Three researchers reviewed all responses, then discussed themes within and across responses. We constructed categories to analyze patterns in the preponderance of data (Merriam, 1998). We used participants' language and sense making to derive categories, but analysis was informed by research literature on the knowledge base for teaching (Feiman-Nemser & Remillard, 1996; Grossman, 1990; Shulman, 1987). Categories were recast repeatedly during critical discussions of data codes until we had refined a set of categories. Individual researchers reviewed emergent categories with a critical eye for consistency and coherence within categories, and with particular attention to outlier perspectives. Categories then were refined using subcategories until a model was constructed to capture all relevant ideas expressed in each questionnaire response. We conducted interrater reliability checks on categorization of themes, refining categories and processes until we reached at least 90% agreement. We used participant-elaborated illustrations of mentoring experiences to more fully delineate categories and to highlight phenomena. A follow-up check with participants confirmed that these categories reflected their conceptions.

To address the second research question, we analyzed case data on multiple levels, following Miles and Huberman (1994). The planning and reflecting conferences, along with the interviews, contain rich, detailed evidence of mentors' knowledge base in action. We audiotaped and transcribed these conferences and the interviews with novices and mentors. The first level of analysis involved preliminary coding generated from data review. This process was necessarily iterative, entailing ongoing revision. This first coding level summarized segments of data that referenced domains identified in the first part of the study about the mentor knowledge base. The second level of analysis involved generating pattern codes that identified emergent themes. This level produced nuanced views of mentoring that fostered attention to individual students' learning. Memos were drafted to help formulate key issues. Cross-case analysis was the third level of analysis. After writing up memos on each case, we used matrices and other displays to condense and compare. We then pulled illustrative examples from the cases to contextualize, confirm, and challenge the knowledge base derived from the data in part one. We report first on results of our questionnaire analyses. Then we report on the complexities of enacting mentor knowledge during mentoring conversations.

MENTOR KNOWLEDGE AND ABILITIES NEEDED TO FOCUS NEW TEACHERS ON INDIVIDUAL STUDENT LEARNING

Table 1 shows that teacher induction leaders' responses pointed to three domains of mentor knowledge and ability needed to foster a new teacher's focus on individual student learning. Because of its centrality in responses, assessment became the focus of follow-up case study analyses. We discuss this domain third to lay a foundation for its elaboration.

MENTOR KNOWLEDGE AND ABILITY TO ENGAGE AND SUPPORT LEARNERS

Student Learners in Their Individuality and Diversity

Table 1 shows that six participants identified knowledge of students in their individuality and diversity as essential to what mentors need to know to

Table 1. Teacher induction leaders' reports of mentor knowledge and abilities needed to focus new teachers on individual student learning and growth

Domain of mentor knowledge and ability	Number (and percentage) of respondents reporting (N = 37)
Knowledge and ability to engage and support learners	15 (40.5)
Student learners in their individuality and diversity	6 (16.2)
Teacher learners and their diverse needs	10 (27.0)
General pedagogical knowledge	23 (62.2)
Skills, strategies, and methods for teaching students	19 (51.4)
Skills, strategies, and methods for guiding teachers	8 (21.6)
Multiple domains of assessment	32 (86.5)
Basic knowledge of assessment of students	13 (35.1)
Knowledge of standards and how to gauge curricular alignment	9 (24.3)
Knowledge of formative assessment of the beginning teacher	24 (64.9)
How to observe and assess new teacher's focus on learners	16 (43.2)
How to prompt reflection on individual students	9 (24.3)
How to use assessment to guide new teacher growth toward student learning goals	14 (37.8)

focus new teachers on student learning. These respondents wrote of the mentor's need to know things about particular students in a new teacher's class, rather than being merely a drop-in visitor to a class unknown to him or her. One participant stated that the mentor needs to know the range of the school population and be familiar with groups represented there. Another reported that the mentor needs to know the "makeup of the students and families in the beginning teacher's class." In other words, the mentor can guide the new teacher to focus on individual students' learning when he or she has done the work also of investigating who the students are.

To learn about students in a class, one induction leader reported using, as a mentor, "data collection tools such as classroom observation and analysis of student work." This aided the mentor in talking "about student needs and what might move an underperforming student forward." Another spoke of how a new fourth grade teacher had shared concerns about an English language learner from Afghanistan who was not making progress as well as another boy from Peru. The induction leader as mentor researched both boys' backgrounds and learned that

> the Peruvian boy had experienced successful schooling in his country and was literate in his own language. The boy from Afghanistan had attended little school in his own country, escaped on foot to a relocation camp in Pakistan, was first taught in Pakistani and then in English when his family received permission to come to the United States.

The induction leader added, "Prior knowledge and experience are a leading indicator of success for our second language students." She was willing to do the homework necessary to provide the beginning teacher with knowledge of the students as a jumping off point for planning how to guide the students' learning. Another participant argued that this knowledge of student learners is very important, noting that mentors often fail to focus the new teacher on student learning because they, too, "are too focused on teacher performances, handling tardies, group work, lesson organization strategies. The mentor then forgets to check on student work or the beginning teacher forgets to bring it to the meeting." She argued that such a focus needed to be built into the mentoring process: "It becomes an organizational issue."

In addition to these issues, the induction leaders identified five areas of knowledge of learners that focused explicitly on mentoring for equity in the context of diverse youth (Achinstein & Athanases, 2003). First, they argued, mentors need to understand the local and broader social and structural contexts as they relate to teaching diverse youth. Second, mentors need an

understanding of what diverse learners bring to class as individuals and social groups. Third, mentors need a broad repertoire of instructional strategies they can tap to guide new teachers, as well as knowledge of strategies and tools specific to learners from diverse cultural and linguistic groups. Fourth, the mentor needs to develop knowledge of self related to diversity and equity. Finally, mentors need to know how to focus the new teacher on diversity and equity in mentoring conversations.

Teacher Learners and Their Diverse Needs

According to at least 10 members of the LNTI group (Table 1), guiding the new teacher to focus on students' learning also requires a basic knowledge of new teachers as learners and their diverse needs. This includes knowledge of general trends of teacher development, as well as knowledge of what the individual teacher brings to the classroom situation. Regarding the former, respondents noted two trends among new teachers. First is the nature of competing demands. One respondent noted, "Beginning teachers are fragmented by demands on many levels (how to fit into school culture, relate to parents, meet standards, have a life). That is hard for them to prioritize/keep students in the center." Another identified a particular persistent problem "that often beginning teachers see management/control and pedagogy as separate parts of practice rather than integral." In addition, however, respondents noted the need to know individual new teachers' degree of receptivity to guidance and critique or, as one called it "how ready and willing the beginning teacher is to ask/discuss these questions. If I bring them up not in the 'right way'—the beginning teacher thinks/feels they are a criticism, and it undermines confidence." This quote points to the dance the mentor needs to do. Another called it "flexibility"—knowing "when to change hats, e.g., moving from a consultant stance to a collaborative stance."

One respondent reported an example of this challenge of knowing "how to move the teachers' attention into inquiry about the students and their needs":

> A teacher today said the "exit ticket" from class was to come up with a question about material (having practiced several levels of question development in class that day). The Special Ed student had no question developed at any level. The beginning teacher made him stand to the side "until you have a question formulated." "I'm not cutting him any slack," she says.

Moving beyond blanket treatment of students to an understanding of the importance of responding to individual student needs "seems to require an

attitude/awareness shift on the part of the beginning teacher. How to do it as a coach without lecturing and/or pointing out that the beginning teacher's stance and values may be unexamined and limited?'' This respondent leaves us with the reminder of the need to have knowledge of student needs, as well as teacher needs (e.g., control and self-efficacy), to focus the new teacher on individual student learning.

THE MENTOR'S GENERAL PEDAGOGICAL KNOWLEDGE

Table 1 shows that 23 respondents (or nearly two thirds) identified things the mentor needs to know and be able to do to focus the new teacher on individual student learning that fell into the domain of general pedagogical knowledge. These things included skills, strategies, and methods for teaching students and for guiding teachers. One respondent articulated that knowledge of "effective instructional strategies" for the mentor has three parts: know strategies, know how to recognize them in a beginning teacher's work, and know how to coach to increase use of them. Knowing effective and varied strategies, according to respondents, provides the mentor with an essential repertoire for a range of challenges and problems that arise.

Diverse Skills, Strategies, and Methods for Teaching Students

New teachers appear to get locked into a narrow range of classroom practice, and to guide them, mentors can use knowledge of how to diversify instruction to improve education for all students. In particular, this includes knowing how to move from predominantly teacher-centered instruction to "how methodologies like cooperative learning are important to use for many students." One respondent discussed how "multiple intelligences research and experimentation with non teacher centered learning modes have shown that learning can broaden and deepen with diversified instructional modes. My own experience with project learning supports this." Respondents spoke of diverse learning styles or abilities, how visual learners might need graphic organizers, and some students might need group work. Teachers "who want to maximize their students' chances to learn will present material in such a way as to make best use of these personal strengths." In full classroom practice, this becomes what one respondent called how to "develop/implement a differentiated program/ classroom." Many students of vastly different needs, however, benefit from having a context for their learning. One respondent noted that "Often beginning teachers identify a big content goal, but need assistance in breaking it down into a series of smaller, shorter lessons." This induction

leader described helping a new teacher think through a lesson on migration and why people are "pushed" and "pulled" to move. This involved helping the teacher map a lesson with highly diverse components that linked core issues to students' lives and used the discussed association as groundwork for exploration of issues and concepts.

The lack of an instructional repertoire in the new teacher is not helped when a particular site is equally narrow in practice. One leader explained:

> I'm working with a site that has folks who still read a chapter in science, do questions at the end of the chapter, then after 2 chapters, take a test. No thought *yet* given to a backwards planning model, connection to students, or a variety of assessments. Kids aren't getting a thoughtful, varied, engaging set of lessons that connect or push them or use their skills/talents. As a mentor, if I don't know any differently, we can't move beyond the textbook guiding instruction and *not* the teacher.

In this sense, the mentor's diversified pedagogical knowledge provides a foundation for focusing the new teacher on student learning.

Diverse Strategies and Methods for Guiding Teachers

According to induction leaders, mentors also need a repertoire of diverse instructional practices for guiding teachers to attend to individual student learning. At times, the work calls for listening and guiding by "gradually pulling the conversation in a direction of positive growth" for individual students and for teacher. Other situations call for more explicit coaching to impact student learning and achievement, and still others for mentor modeling of instructional practices. Also, careful note taking during a mentor's classroom observation can yield data of student participation patterns in a lesson. One respondent noted that the mentor could draw attention to those occurrences when the teacher did have students actively participating in learning and "discuss the class dynamic during those times." The mentor also can use content and performance standards to think together with a new teacher about alignment of instructional goals with student learning, and as a way to foster increasing "a variety of instructional strategies to reach individual students with a variety of learning strengths." Finally, looking together at student work is key. One respondent noted:

> Many of my teachers will decide they covered a content/performance standard, and that the majority of students "got it" and it's time to

move on. By working closely to sort and discuss student work, the teacher can make meaningful choices on their next steps/next lessons toward student achievement for each child.

This process enables the new teacher to disaggregate the learning of a class that really is composed of individuals with diverse learning needs.

MULTIPLE DOMAINS OF ASSESSMENT IN THE MENTOR'S REPERTOIRE OF PRACTICE

As already indicated, assessment emerged as the most dominant domain of knowledge the mentor needs in order to focus the new teacher on individual student learning. Table 1 shows 32 of 37 (or 86.5%) teacher induction leaders cited assessment as essential to the mentor's knowledge base for this area of work. The domains of assessment that induction leaders identified as essential in the mentor's repertoire of practice for focusing on student learning suggest that the mentor needs assessment knowledge linked to instruction with students in classrooms, linked to broader frameworks, and linked to the process of interacting with new teachers in order to focus their instruction on individual students.

Knowledge of Assessment of Students

Just over a third of participants reported the importance of mentors having a command of knowledge of assessment of students. This included several areas. First, mentors need command a wide range of assessment tools and practices in order to help new teachers develop the same. Respondents noted repeatedly that mentors need to understand a wide range of assessment strategies, as well as the importance of multiple measures of student performance and achievement. One stated simply, "All students can learn—one type of assessment does not reveal all learnings." Respondents spoke of the need to know formal and informal assessment strategies, the ability to track growth over time, necessary evidence to collect, and how to assess student learning during instruction. Another key theme was one already mentioned—the ability to examine student work carefully. Respondents spoke of the mentor's need to know how to examine assessment results, how to analyze student data, how to use rubrics, and how to determine their pros and cons. One noted, "The mentor needs to know how to look at and analyze student work, so that she/he can facilitate this with the beginning teacher." Such work with new teachers can yield at least two distinct results. The first is "knowing how to accurately assess students' levels of development in relation to criteria, then articulate what

the student(s) know/don't know." The second involves the formative component of using this knowledge for "individualized and differentiated instruction."

Knowledge of Standards and How to Gauge Curricular Alignment

Table 1 shows that a quarter of the induction leaders reported the need for mentors to have a command of standards for student performance, and a knowledge of how to align standards with curriculum. Of particular note is that nearly all of these respondents reported that mentors need to know standards for particular content or subject matter, and tied to particular grade levels. Command of content standards can enable the mentor to work with the new teacher on aligning instruction and student performance with standards articulated at both state and district levels. Finally, one respondent noted the need for mentors to know the standards for teacher performance, as well, to know expectations for teacher performance that need to be met or worked toward.

Knowledge of Formative Assessment of the New Teacher

Nearly two thirds of respondents reported that essential to the mentor's knowledge base for focusing new teachers on individual student learning is knowledge of formative assessment of the new teacher. Table 1 shows that three themes emerged from these responses.

To observe and assess the new teacher's focus on learners, induction leaders reported several important focal areas. First, the mentor needs to gauge the new teacher's knowledge of her or his students. This knowledge includes academic information such as class performance and test scores; home and family life; personal learning styles and needs; and academic and social place in the larger group. A second area of assessment focus is the pattern of classroom interactions and particularly, one respondent stated, how the teacher "interacts with the class as a whole, and with individual students." Does the new teacher appear to support students' learning? How do groups of students and individual students appear to respond to the teacher's instruction, attention, and support? Does the teacher monitor learning activities? One respondent stated, "The mentor needs to know how the students are responding in terms of the task asked of them. Do the students understand the assignment? Are they on task? What are the students producing?" Another respondent stated, "How is the beginning teacher engaging the students? Does the mentor have enough information to help in this area? What strategies? Content knowledge?" The mentor also

needs to assess effectiveness of the new teacher's instructional strategies and assessment methods: how the teacher develops assessments, how student work aligns with expectations, what is done with results, how assessment is used to plan the next lesson. Finally, the mentor needs to collect data in order to prompt reflective conversation with the teacher, the next theme in formative assessment of the new teacher. Data can include scripting of classroom episodes, and observation notes on focal students. Of particular importance is the act of what one respondent called "framing evidence so that beginning teachers can analyze."

The second theme of formative assessment of new teachers in induction leaders' responses is the need for a mentor to structure an effective conversation with the new teacher focused on student learning. This conversation involves several processes: presenting evidence to a teacher, prompting reflective conversation about evidence, being able to listen to teacher thinking, and being able to move a teacher's attention into inquiry about students and their needs. A respondent summarized: "Be able to scaffold a reflective experience and use a variety of techniques such as video, observations, self-observations, and action research." Video can support the mentor's challenge of conveying observations about a teacher's need for better monitoring of student performance or better directions to students. One respondent noted, "Often, the video recording, viewed alone or collaboratively, says it all. The beginning teacher 'gets it' and the support provider can proceed to support the next steps."

The third theme in formative assessment of the new teacher is a proactive component: how to use assessment to guide new teacher growth toward student learning goals. This is the point at which the mentor's knowledge of assessment of students kicks in. The mentor may engage the new teacher in focused conversation about two target students at each meeting and what the teacher knows about them. The mentor may work with the teacher to "determine the performance level of students by analyzing student work." According to participants, mentoring to focus new teachers on student learning includes a proactive, guiding, tutoring function.

One process of this work is guiding the new teacher in how to examine student work. A respondent described handling this with a small group of new middle school teachers. They used a teacher-created grade level writing rubric to evaluate student work. The respondent noted, "Sharing results, group readings, strengthens everyone's skills." Several induction leaders reported that the second process of this guidance, however, involves using the results of a review of student work to guide next-steps instruction. With a careful review of all students' work, assessment potentially can guide instruction that meets the needs of all students. Induction leaders recalled several strategies they had used to help new teachers apply assessment

results in this way. One reported encouraging a teacher to ask students to say in writing what they have learned after each lesson and to use the results to guide instruction in the future. A second described looking at student work with a new teacher: "We found that several students did not reach her goal of expectation, but many did. We worked on a plan together for intervention strategies using different tools to work with the small group. Also, how to set up cooperative learning—what to do with other kids that would be meaningful and not just busy work."

Respondents also identified that novices needed support to recognize how assessment could be more than summative for final grades—informing an understanding of ongoing student learning that can shape teaching practice. Mentors can help new teachers see assessment in a different light. One induction leader recalled a scenario where examination of student data allowed for this shift in thinking about assessment:

> Beginning teachers need to move from using assessments as only grade products for future report cards and start crafting assessments that are focused on pre-determined outcomes. They should also use assessment data to analyze students' learning and drive practice and planning. A high school math beginning teacher had most of her students failing algebra "quizzes." She continued with her predetermined lesson plan despite the fact that 82% of her students did not understand concepts necessary for further understanding. Analyzing the data changed her approach and lesson plans.

In this sense, using student data enables an intervention to occur because evidence is perceived as more objective and more open to review and scrutiny than if merely stated by the mentor.

Respondents consistently reported the need for a mentor to know relevant student performance standards as benchmarks for work with new teachers. One described it this way: "In analyzing student work, I have walked beginning teachers through content standards for language arts. We have looked at student essays in relation to pre-selected standards and discussed next steps." One participant, however, also reported the need to guide new teachers to develop their own understandings of student needs beyond published standards. This included asking a new teacher, "Now that you know that your students' needs are what they are, what do you do next so that they continue to grow, even though what they need is not addressed in the 'standard' grade level curriculum?" All of these features of formative assessment of the beginning teacher comprise a portion of what induction leaders identified as the centrality of assessment in the mentor's repertoire of practice for focusing new teachers on individual student learning.

ASSESSMENT TO FOCUS NEW TEACHERS ON STUDENT LEARNING IN CASES OF MENTORING

The cases demonstrated evidence of all three broad domains of mentor knowledge and ability. Most important, they illustrated the power and complexity of a mentor's knowledge of the multiple domains of assessment. Not all of the cases in the larger study of 20 mentor-teacher pairs illustrated a mentor's skilled capacity in assessment. Nor are the two cases we selected for closer analysis examples of consistently exemplary work. The two cases, however, showed mentors using their knowledge to prompt reflection on individual students and to guide new teacher growth toward student learning goals. While highlighting a knowledge base in action, these cases also exposed the challenges and conflicting demands of mentoring in process.

USING THE MENTORING CONVERSATION TO FOCUS ON INDIVIDUAL STUDENTS AND THEIR LEARNING

New teachers often need help in viewing their classrooms and in focusing on individual students' needs. In mentoring conversations, mentors can provide lenses for novices to view their students as individuals with different learning needs, and can shine a light on low performing students. The following excerpts include planning conferences where the new teacher shared ideas for a lesson and the mentor prompted thinking and provided feedback. These conferences were held the day before a lesson would be taught, so there was a sense of urgency to design a workable and complete plan. The excerpts also include reflecting conferences held after the planned lesson was conducted and observed by the mentor. These sessions offered an opportunity to examine observational data and student work, reflect on successes and challenges, and make plans for next steps. While these conversations could have focused solely on the teacher's moves, these examples highlight how the mentor turned the teacher's attention to the students, and particularly to low performers.

In this first excerpt from a lesson planning conference, the mentor Meg focused the novice, Joshua, on individual student learning (M = Mentor; T = Teacher).

> M: What about kids like your English language learners like Jésus, and kids that have some special needs? How are you going to make sure that they have gotten it, that they have success? What kind of thinking can you do around that?
>
> T: Um…checking in with them…after they've started the assignment, checking their progress to see that they understand it. With

some of the students they actually will be working on it with the resource teacher in addition to myself, they go to the resource every day, and it helps get them some individual attention there. Just kind of periodically before the day that it's due, just kind of looking at their work and seeing what they've done, just so you can get a sense of if they understand it. You can…ask some questions to see if they understand what's expected. If there is some disconnect with them, you need to work with them.

M: I know your groups are six or seven. Have you had times when you've had the students work in a partnership when they've gone away to do something like this? To where it could be that they do their own work and have their own product, but they work through the text together…. Is that a possibility? What might that look like? Could that give students like Jésus some support?

Joshua then identified partnering practices he had used in the past and articulated the importance of peer scaffolding. Meg used questions to promote further thinking about assessing students' levels and appropriate partnering strategies. The exchange on grouping practices based on student needs helped Joshua see how students with different language and learning needs require different levels and kinds of scaffolding, and that peer grouping practices matter. Meg ended the exchange by bringing the discussion back to the target student, Jésus, identifying how such approaches would support him and other English language learners.

In the reflecting conference that followed the lesson, Meg shared a student participation chart and script of teacher-student exchanges. Joshua used these to describe variance in his students' levels of participation in class discussion. Meg then focused him on those students who were not involved. She asked:

Have you thought about having some type of way that kind of levels the playing field so that everyone has equal participation in the group? So that Esme and Jesse aren't dominating? Perhaps you've got these kids who aren't quite as strong who are a little bit intimidated.

The two then explored some strategies that would increase equity of student participation with a focus on those students who are not usually involved. Among these was the use of a ticket system that Meg proposed, in which groups and individual students are assigned a specific number of tickets, and they must spend those and only those tickets during an activity; reticent speakers must contribute, and those who normally dominate must make contributions wisely.

    In these exchanges Meg directly asked, "How are you going to make sure that they have success?" thereby focusing Joshua's attention on his responsibility to address his lower performing or special needs students. By asking what kind of thinking the teacher could do, Meg foregrounded the habit of reflection and inquiry for the novice without resolving the issue with her own immediate solution. Further, she solicited what Joshua already did and knew about the students that might work best in his context. By exploring student partnering and grouping strategies, the two examined ways to support ELLs such as Jésus. They also uncovered the complexity of different students' abilities and needs that require varied grouping strategies, sometimes more heterogeneous, sometimes more homogeneous. In the reflecting conference, the observation data and participation charts pointed out students who were not engaged, directing the mentoring conversation to explore this challenge. Meg used reflective questions and indirect suggestions to explore alternatives, always keeping in mind Joshua's decision-making authority or agency, respecting that he knew his classroom context best.

    In a second case, Nan's mentor, Lisette, also explicitly focused the new teacher's attention on the needs of low performers in her third-grade class of 20 students with predominantly ELLs and students with emotional or learning disabilities. Nan identified Miguel as "the most limited English in proficiency out of all my students" and Julie who had a learning disability. Lisette suggested:

> M: I'm wondering when I looked at your poems last week, I'm wondering if maybe for at least these two students that we don't find something a little shorter?
>
> T: You're suggesting that I do maybe a shorter poem for their actual performance?
>
> M: If, if that's what they need. …I'm just thinking that maybe for them they might be more successful if they had a poem that was a little bit shorter.
>
> T: That's a good idea. I hadn't thought about that.
>
> M: More like a K or 1 level.

The mentor's focus was cursory, and she quickly transitioned from the student issues to a concern that the teacher had identified, what to do with students who finish early.

    After the lesson, the two target students were briefly addressed again:

> M: Well how successful did you feel your students were with reading because we had talked a little bit before hand…some of your goals

were that they really worked on fluency, and one of your concerns I remember was would they be, would the poems be at the appropriate level? And be able, would you be able to reach to all the students and give them good opportunities? So how did you feel about that?

T: For the most part I felt that the selection and the material that I had was appropriate for them. The only person that I would make an exception would be Julie, who…could have a learning disability. So, and that was challenging. I noticed that during, during the lesson that she was having a hard time, um, grasping the…material that I had selected.

M: Mhmm. But for the most part, you felt like everyone was at least making attempts and able to, to, to read their material.

Lisette has quickly moved past a focus on Julie's needs to an assessment of Nan's feelings about the group as a whole. Soon they moved on to analyze the observation data that the mentor had scripted. This led to a brief conversation about Miguel. The teacher noted, "As I looked at the data I see how Miguel takes a lot of my attention and time consistently." Lisette responded,

M: And we had talked about Miguel a little bit before this, so it's. …I would think that it might be affirming for you to, um, see this much data that maybe it's time to put Miguel on a contract as we had discussed a little bit before. How are you feeling about that now? Is that something you think you want to do?

T: Definitely.

M: Yeah, yeah. So, okay. That's something that we already talked about, so we'll go ahead and put Miguel on a contract. I'll get you some, some different samples, and you can select which one you'd like to do.

The new teacher has identified Miguel, a second language learner, and Julie, a learning disabled student, as particular challenges she wanted to discuss with Lisette. In the planning conference the mentor briefly explored the challenge and gave a suggestion to adjust the materials and assignment to meet their needs and then quickly moved on to the next concern of the teacher's. In the reflecting conference, Lisette asked Nan about her students' success in reading and if she was able to reach all the students. She solicited Nan's perception of how that felt. Nan still identified Julie as a challenge. Yet Lisette jumped past that comment with a feelings oriented focus on the full class rather than on strategies focused on meeting

individual students' needs. The mentor could have deeply engaged these moments to examine the different needs of ELLs and learning disabled students, or addressed the unique needs of the two separate individuals, or raised questions for the new teacher about her ideas for how to address their needs. Instead, she provided rapid solutions of shortening poems that they would read and of placing Miguel on a contract, while never exploring how to meet the needs of the learning disabled student. While this is understandable given the context of conferences meant to meet the immediate (as well as long term) needs of the novice, an opportunity for a mentorable moment focused on individual students was missed.

When interviewed about her work with Nan, Lisette explained there were moments she was careful about timing and not pushing too much at once, and respectful of the needs and receptivity of the teacher. Lisette explains her tailored support for Nan:

> My approach depended on if [Nan] was open at that time. She will say right up front, she will tell you what her needs are. "Let's save that for next time," she would say. She will always bring up that conversation again. She will say I'm ready to talk about it now. It's more about timing. I'm conscious of not wanting to overwhelm her. Is she really ready to absorb this? Am I giving too many ideas?

Lisette's own observations about her role in the conferences point to a mentor's challenge of reading the new teacher's readiness and deciding when to focus on individual learners and when to move to structure an entire lesson; when to give solutions to easily solved problems, and when to push reflective thinking to extend the novice's conceptions of learners and strategies for meeting their needs. Regardless of reasons, despite the use of a scripted observation as an assessment tool, a meaningful focus on individual learners and their needs was not sustained.

GUIDING GROWTH TOWARD STUDENT LEARNING GOALS THROUGH EXAMINATION OF STUDENT WORK

As LNTI respondents noted and the cases support, the process of engaging in collaborative analysis of student work provides a rich opportunity to use assessment to guide new teacher growth toward student learning goals. Meg, the mentor in case one, explained, "We so often hear that phrase of let your assessment inform your instruction and no one has ever really said what that looks like. When we do this analysis of student work it is made very clear." Yet, in practice, analysis of student work is a multi-layered endeavor that requires much support. The mentor may take the new teacher through a process of looking at each student's work to understand

the student's strengths and challenges in relation to a standard of practice. At this first stage, this is an opportunity to assess student learning of specific skills and to know where students are in terms of meeting standards. Lisette guided Nan through this assessment process:

M: This is Andrea. …where do you think she falls with content of her piece?

T: I feel that she's below, and reaching towards approaching the standard.

M: Do you see any areas that she really excels in besides the editing pieces?

T: I feel like she has voice down.

M: So this is a person that can really elaborate on what she's feeling, what she's thinking, but now we really need to focus in on helping her with the revision. …What would be the first few things you might pick out to work on with her?

T: Sentence structure.

They worked through the rubric, assessing whether each student addressed each part. Lisette then asked, "Well, let's go ahead now and just think about how might you support each of these students to move forward?" This scene of dissecting student work highlights the complexity of the endeavor as the mentor guided a teacher to: a) identify standards; b) assess student performance using a rubric and group student work in categories in relation to the standard; c) assess strengths and weaknesses in the writing; and d) identify how she will support each student to learn. Beyond understanding student learning needs, analysis of student work can provide a mechanism to plan differentiated instruction. In this way analysis of student work moves well beyond summative assessment to a mechanism to drive teaching tailored to individuals' needs.

The following excerpt from Joshua and Meg's case illustrates this complex process particularly well. Joshua and Meg were discussing student samples of descriptive writing. It illustrates how Meg probed deeper and deeper to help Joshua understand ways to differentiate instruction, given different learning needs of students.

M: We were able to separate the kids out a little, look at what the performance of each was, and what we might do to move the kids forward. What would be the next steps in your planning? How does our assessment guide the instruction that comes next?

T: Well we talked about taking a student sample that has been exceeding and have them identify components of it that make it exceeding description.

M: OK, so identify qualities that make it exceeding. What might be something else?

T: Give them another opportunity to write descriptively upon doing that, then also applying it to other things like the life-lab.

M: So once they identify the qualities, would you be giving them some of their work back and asking them where they think they are?

T: Yeah, we could do self-assessment. Have them look at their progression since the analysis that they've done since the identifying descriptive components. That would be good for them, they can see their own growth.

M: Now is there anything you might do differently with your groups? As far as what you might be teaching, you know, might you need to work with each group in a different manner? So as far as the content or the approach, might that be different? Um, as far as let's say if you want them all to be looking at descriptive language, might you be teaching it differently to each group?

T: Yeah. …I would have to vary the instruction based on what they need.

M: I'm kind of wondering, too, if we know that you might be talking to them about how they're writing about their literature and responding, this gives us a sense of who's where. This kind of analysis of student work, this could also give you a sense of how to approach the groups, and at some point in time it could give you a sense of how to group. So if you think you need to make some shifts.

Meg has taken Joshua through a process of connecting student assessment with next step planning that focuses on individual learners' needs. The discussion traversed many topics of assessment and instructional scaffolding. The next steps involved further levels of assessment, including student generated criteria for effective writing, student self assessment, assessing and planning for different level groups of students, and ultimately using assessments to regroup students in more effective learning settings. While Joshua articulated the need for differentiated instruction, his mentor identified in an interview a concern about his grouping practices: "The challenge is he hasn't thought a lot about assessing them and moving them around or changing groups." At the end of the excerpt she planted seeds to

address this final level of how assessment could inform how Joshua might rearrange groups to best meet students' needs.

Both of the teachers and the mentors reported novice teacher growth in focusing on individual students' learning that resulted from the mentoring process. Lisette reported:

> Analysis of student work was really effective for [Nan]. From the analysis, she realized the writing needs of her students. She developed her writing program based on this and realized she needed to do more small groups. She also began doing one on one work within the small groups—individualized instruction. She is really learning to differentiate instruction. …[Nan] as a first year teacher is further along than most second year teachers. She is thinking about and practicing differentiating instruction, scaffolding students, and more.

Nan reported at the end of the year, "My greatest area of improvement was in working with my English language development students."

Meg and Joshua continued to work together in Joshua's second year of teaching. At an end of the year interview, Meg identified tremendous growth in Joshua's teaching and focus on diverse learners over the past 2 years of work together:

> I see [Joshua] as moving forward as a leader. An instructional role model for his peers at his site. …He has an educational philosophy and can make decisions based on that. …His philosophy is "what approaches can I do to best meet my students? What's the most effective way to teach students and meet their diverse needs?"

Joshua identified that the "greatest area of professional growth for me…is in differentiating instruction for my students in literacy. One of the most helpful strategies was sorting and assessing student work with my mentor. …I plan to continue to work more on differentiating instruction in reading and writing for English language learners." While Meg and Joshua acknowledged growth, there were still areas for further development. Meg reported, "the challenge remains that he is not assessing his students as much as he should. …The students in groups didn't often change. He is not yet in the habit of assessing on a regular basis."

SUMMARY OF THE CASES

These mentors revealed their knowledge of assessment through a focused collaborative analysis of classroom data. When they worked in conjunction with mentors, new teachers at times developed frames for next-steps

instruction for the full class, and adapted and tailored work for individual learners, particularly those identified as low performers. Beginning teachers began to understand how assessment could inform instruction to meet the needs of diverse learners. As Joshua articulated, "It's really beneficial having more than one perspective on student work and having someone else who has been in the teaching profession. You can get a better idea of what individual students' needs are, the specifics, and where you need to go next."

The cases also highlight intricacies and challenges of enacting multiple domains of assessment in the context of classrooms. The mentors drew from a deep knowledge base and had an excellent ability to read what was needed in the moment and specific context. The cases revealed how mentors and novices traversed among student self-assessment practices, assessment of individual student learning, assessment of novices' focus on learners, and assessment of novices' needs. The multidimensional processes of assessment at the level of student, teacher, and mentor created a complex task for mentor and novice alike. Mentors were also challenged to respond to the pressing concerns of beginning teachers while staying focused on individual student learners. Mentors further had to decide when to offer solutions and when to promote novice reflection. Thus while enacting such a knowledge base prompted the novice's focus on student learning and low performers, this work occurred with varying degrees of depth and complexity, due to a mentor's preparedness, disposition, and decisions in the moment.

DISCUSSION

This study suggests that in order to focus a new teacher's attention on individual student learning, mentors may benefit from knowledge, skills, and dispositions in several areas. The first is knowledge of learners in two areas. They need ways to learn about students in classes where they observe. Mentors cannot be merely drop-in visitors who pay lip service to student learning. Without knowing who is in the new teachers' classes, mentors may be unequipped to help the new teacher shift attention to particular students and their specific needs. Our study suggests that mentors can use several tools to gain that knowledge, including observation techniques, collecting student informational data, review of student work, and talking with students. In addition, however, the mentor may use knowledge of new teachers as learners. This includes an understanding of competing demands on new teachers' time and energy, and the ability to "read the mentoring situation" (Orland, 2001) to respond appropriately to the new teacher's readiness and willingness to take on new challenges in

teaching. Second, the mentor may need to know a range of instructional strategies, know how to recognize the presence or absence of them in a new teacher's work, and know how to coach to increase use of them as relevant.

Most important, our study suggests that mentors use multi-layered and complex knowledge and abilities related to several domains of assessment: assessment of students, alignment of curriculum with standards, and formative assessment of the new teacher. This is a tall order, and it suggests several problems that need to be addressed for mentoring to proceed effectively. First, most of our study respondents from LNTI who identified knowledge of standards and appropriate alignment as essential to the mentor's knowledge base for focusing new teachers on individual student learning identified the need for mentors to know content standards for relevant grade levels. In order not just to identify these standards but to have a working knowledge of them and what they mean and how to recognize evidence that these standards have been met, mentors need time to digest these standards, unless they are drawn from relevant subject matter familiar to the mentor. However, given the lack of subject matter fit and often grade level fit, as well, between mentors and new teachers (e.g., Porter, Youngs, & Odden, 2001), it seems likely that mentors may have significant preparation to do in knowing what particular content and grade level standards look like in practice.

A second prominent assessment theme was that mentors need a strong knowledge of assessment of students to guide new teachers to focus on individual student learning. This includes a repertoire of assessment strategies and tools, skills in reviewing student work and aligning performance levels with rubric levels and standards, and knowing how to use student performance levels as prompt for formative evaluation, guiding instruction. This argument poses at least two problems for the field. First, new teachers and veterans alike have reported lack of university preparation and professional development work in innovative classroom assessment practices (Stiggins, 1995). This dearth of attention to such an essential component of the knowledge base for both teaching and mentoring suggests that teacher induction programs may need to pay particular attention to developing the mentor's assessment knowledge and skills.

A second problem is that beyond basic assessment knowledge that cuts across subject areas and grade levels, much assessment knowledge is subsumed under the broad domain of pedagogical content knowledge. Methods for assessing persuasive writing at grade 10 differ strongly from those for assessing mathematical computation at Grade 6. Our participants were surprisingly silent on the ways in which student assessment is specific to subject matter and grade level. It will become important to articulate both generalized assessment knowledge (including guiding principles,

strategies, and tools), and principles and practices for student assessment tied strongly to subject matter and grade level. The first set of principles may include notions of embedding assessment in a learning culture of a classroom that foregrounds formative evaluation and fosters analysis of a rich array of student performances to guide next-steps instruction (Shepard, 2000). It likely also would include ways to articulate achievement targets for students and how to map appropriate assessment methods to track growth towards hitting those targets (Stiggins, 1994). Assessment principles for particular subjects and grade levels, however, would need to be articulated and explored.

The cases we analyzed confirmed the centrality of assessment in the mentor's repertoire of practice in focusing the new teacher on student learners. Our case analyses showed mentors equipped with a fairly rich knowledge base in multiple domains of assessment and able to use this knowledge base to focus new teachers on learners. The mentors asked questions and follow-up probes; at other times, they engaged as collaborators, marking this role with the use of "we" ("what we might do"). These mentors demonstrated the complex nature of using observational data and working together with new teachers on assessing individual students' work, to plan relevant and tailored next-steps instruction to meet individual student needs. In some instances, these acts moved far beyond what Little (1990) characterized as the conservative mentoring functions of situational adjustment, technical advice, and emotional support.

Beyond knowledge and skills, however, dispositions of teachers (and, by extension, mentors) play an important role in how a professional enacts a knowledge base (Feiman-Nemser & Remillard, 1996). The mentors in the examples we chose read the mentoring moments to gauge how inquiring to be and how guiding and intervening to be with their mentees. At times, a focus on how the new teacher felt about instruction overrode careful discussion of strategies that might better meet student needs. This may be attributable to mentors' wisdom of practice—the skill of balancing competing demands and attending to the new teacher's pressing concerns. It also may be due to the lack of a clear conception in the field of how a mentor can tutor a new teacher in attending to individual student learning, and how a persistent stance in that area may be necessary and appropriate. Too often mentoring assumes little more than a buddy function that falls far short of what the mentors and teacher induction leaders in our study perceived and often exhibited as essential to the work of focusing new teachers on individual student learning.

The cases also highlight the complexity of putting the knowledge base into practice in mentoring conversations that occur in the busy world of schools. The induction leaders and program mentors we studied explored collaboratively their mentoring moves and knowledge base in action. Most

had developed understanding of their practice, with a fairly rich repertoire of approaches to guide new teachers toward a focus on student learners. Certainly the experience base was extensive for participants in ways we have indicated; participants had held many roles in various contexts related to teacher induction. However, social contexts supported their development of this wisdom of practice. The mentor/new teacher pairs participated in the structured, ongoing, inquiry-rich program we described, and the LNTI participants engaged in ongoing action inquiry and collaborative reflection through the network that supported their developing understanding. Such challenging and knowledge-producing contexts, along with clear conceptions of ways to meet student learning needs, may support the challenging work of mentors and induction leaders, providing implications for policy and practice.

Participants in our study work in California, in many cases in culturally and linguistically diverse settings not unlike those in many particularly urban and rural areas in the US. More than ever, mentoring must involve the close attention to guiding new teachers to attend to the learning needs of their diverse students. Even if teachers have received effective preservice education in addressing needs of diverse learners, schooling cultures can constrain new teachers' efforts to address the needs of all of their diverse students (Causey, Thomas, & Armento, 2000). Our study provides limited evidence that mentoring new teachers to attend to the learning of their students in their individuality and their diversity can take hold. More longitudinal work is needed to understand ways in which mentoring can help such learning become central to a new teacher's concerns. Our study provides clearer evidence, however, that such mentoring is grounded in knowledge of student and adult learners, of pedagogy, and of assessment, and that skillful use of that knowledge can bring individual student learning into focus and provide new teachers with instantiation of methods for shaping instruction to meet students' varied learning needs.

Conclusion

We began by highlighting developmental models of teaching that have described how new teachers tend to begin their careers with a focus on materials and lessons of instruction, on management issues, and on performance of self as teacher. Attention to individual student learning typically has followed, often several years later. A participant in our study likewise identified this model:

> First year beginning teachers have a tough time with assessment; they are so focused on themselves and what they are doing each day that

> they can't get much beyond that. They are in "survival mode." By the second year they are more able to look at assessment.

While we believe this describes what probably will occur if new teachers are left unguided, we object to the assumption that this must occur. Intervention is possible and potentially effective in interrupting predictable development and in focusing the new teacher's attention early in a career on individual student learning. Because mentoring is so widely encouraged and praised as a source of professional development for novices to meet the needs of individual learners, educators may benefit from a stronger conceptual understanding of mentoring. Through a framework derived from practitioners' wisdom and practice, this study helps to build the knowledge base for mentors to focus novices on individual student learning, shedding particular light on the centrality and complexity of assessment in the mentor's repertoire of practice.

Notes

    1   Learning to teach to individual students may not be unique to novices. For example, Stephens et al. (2000) reported how through reflecting on observational techniques in their classes and on inquiry using student performance data, two veteran teachers involved in a Reading Recovery program profoundly altered their focus from teaching sets of skills with groups of students, to teaching skills and strategies and responding to needs of particular children.

    2   Because the program of support is aligned with the CSTP, it guides new teachers to do the following: engage and support all students in learning; create and maintain effective environments for student learning; understand and organize subject matter for student learning; plan instruction and design learning experiences for all students; assess student learning; and develop as a professional educator.

    3   All individual, school, and district names are pseudonyms to maintain confidentiality of participants.

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