

## Teacher Reflection: Supports, Barriers, and Results

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### Schon and the Reflective Practitioner

The work of philosopher Donald Schon, particularly his emphasis on reflection-in-action, is highly relevant to teacher practice. Schon (1983, 1987) wrote two books on reflective practice, in which he provided a close examination of the reflective activity of a variety of professionals, with a particular focus on architectural design. Although Schon said very little about the implications of his work for teachers and teacher educators, his ideas have been enthusiastically taken up by the educational community (Edwards, 2010; Wieringa, 2011). According to Schon, a reflective practitioner is one who not only plans before taking action and looks back over events to consider alternative choices but also is capable of reconsidering a course of action midstream.

Schon (1983) suggests that the reflective teacher brings to his or her practice both tacit and strategic knowledge. He refers to the former as *knowing-in-action*, which is knowledge that leads to spontaneous action for which the teacher is hard pressed to provide an explicit rationale. In addition to bringing a bank of tacit knowledge, the teacher brings a repertoire of teaching strategies to his or her instruction. In this regard, a given lesson is not unique; it shares certain elements with previously

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taught lessons. It is the ability to recognize the ways in which a given teaching event is similar to and different from other such events that allows the teacher to plan effectively and respond appropriately as the lesson progresses.

How might this play out in a typical instructional sequence? Over the course of the lesson, a teacher may, for example, react intuitively and negatively to a particular event, e.g., two students' talking as he teaches. A full understanding of these students, however, may present a different picture, which calls for a different response. For example, these particular students may be known for carefully attending to teaching. The teacher is then confronted with two aspects of the situation that seem incompatible: talking in class and a history of attentiveness. This awareness causes the reflective teacher to reframe the situation; for the students, this may be a matter of confusion rather than disrespect. Often, this shift in perspective comes on suddenly and unexpectedly and seems to occur outside our conscious control (Munby & Russell, 1990). In an effort to resolve this dichotomy, the teacher observes further. (S)he notes the serious demeanor of the two students, determines that they have misunderstood the information that (s)he has provided, realizes that this may signal a lack of understanding on the part of the class as a whole, and decides to explain the concept in a different way.

The process described above is what Schon (1987) calls *reflection-in-action*, which is the kind of reflection that occurs in the moment and produces change within that moment. Schon values reflection-on-action, in which the practitioner considers action retrospectively in preparation for an adjustment to be applied in the next similar situation. However, this reflection after-the-fact carries with it the potential for unreliability; the teacher may become an "historical revisionist, restructuring the past to fit his present beliefs" (p. 299). It is reflection-in-action that most deeply shapes professional behavior because it best approximates the day-to-day activity of the practitioner.

### Exploring Reflection Post-Schon

When we consider Schon's (1987) argument for reflection-in-action, several key questions emerge: (a) To what degree are common practices, whose intent is the cultivation of reflection, effective, particularly with respect to reflection-in-action? (b) What barriers to reflection are evident in contemporary classrooms? and (c) Are teachers who demonstrate reflective abilities "better" teachers?

## Cultivating Teacher Reflection: The Role of Teacher Education

Whereas some teachers seem naturally inclined toward reflection, most researchers argue that generative activities are necessary to cultivate this ability. In this regard, traditional components of teacher preparation, such as field experience and supervision, can be adjusted to encourage reflection.

**Reflection-generating activities.** Reflection-generating activities have been shown to be valuable in cultivating teacher reflection. These activities can include reading case studies, writing journal entries, conducting self-studies, and audio- or video-recording and analyzing of lessons.

**Case studies.** Case studies of contextualized teaching dilemmas (Richards & Barksdale-Ladd, 1997; Sparks-Langer & Bernstein-Colton, 1991) help stimulate reflection. The elements of case study analysis include noting difficult moments in the classroom event (Romano, 2004), highlighting contextualized information, determining the potential positive and negative consequences of the action taken, taking the perspective of all actors, and offering other potential approaches and possible results (Noordhoff & Kleinfeld, 1990). This analysis focuses on decisions made in the moment and can lead teachers to more proficient reflection-in-action. There is some evidence that those who discuss case studies with others offer clearer and more elaborate reflections about the cases and that they more frequently display changes in thinking than do those who analyze cases independently (Levin, 1995). Paulus and Roberts (2006), however, found that, while group members who discussed cases were supportive of each other, they rarely challenged each other's thinking, a key requirement for encouraging contemporaneous reflection.

**Journals entries.** Journals are the most frequently used means of professional reflection in teacher education. Some writers advocate for journal entries that use a relatively unstructured storytelling approach (Schon, 1988) or a "free write," in which the author records thoughts in a stream-of-conscious style (Tremmel, 1993). However, most teacher educators recommend a more structured approach in which teachers are taught techniques such as what questions to ask themselves as they reflect (Ross, 1990). Reiman (1999) reviewed seven studies that focused on facilitating conceptual and ethical growth among pre-service and in-service teachers via guided reflection in dialogue journals. Overall, growth in conceptual complexity was modest compared to that of moral judgment, and teachers also showed gains in their responsiveness to student needs.

Not all researchers agree, however, that journal writing encourages teacher growth. Wade, Fauske, and Thompson (2008) have expressed concern that journal entries are rife with entries that reflect deficit-based

theories, stereotypes, and a lack of awareness of the ways in which school problems are essentially manifestations of societal issues. Fendler (2003) insists that such entries are too confessional in tone and content and tend to reinforce stereotypical categories of race, age, and gender rather than address what the teacher actually does. If journal entries do focus specifically on teaching behaviors and decision-making, however, they can support reflection-in-action.

*Self-study.* This mode of inquiry, in practice since at least the 1960s (McClain, 1970) has grown in popularity in the last decade (Samaras & Freese, 2006). In self-study, the cycle of inquiry is key and includes systematic collection and analysis of data. Self-study focuses on understanding the self as well as the classroom environment, involves seeking personal as well as professional improvement, and makes use of narrative and autobiography in addition to traditional action research methods (Richards & Barksdale-Ladd, 1997; Samaras & Freese, 2006).

Ojanen (1996) sees the initial challenge of self-study as understanding the development of one's theory of practice and its relationship to one's pedagogical and social goals; this includes the ability to distinguish what Argyris and Schon (1974) call espoused theories vs. theories-in-use. Pugach (1990) followed 18 student teachers who participated in self-study activities. They identified problems with their practice, selected means to address these problems, implemented changes, and monitored their progress. Pugach concluded that self-study practices demonstrated the potential for cultivating reflection but did not address whether it had an impact on teacher practice. Romano (2004) undertook a self-study, during her time as a first grade teacher, by audio-recording her teaching for a month. She chose to examine what she termed "bumpy moments" in her practice. To analyze the data, Romano stopped the tape when she noted a problem and attempted to reconstruct the thoughts and feelings that were going through her mind at the time the problem occurred; then she listened to the remainder of the incident. Later, Romano looked for patterns among the incidents and during those days in which there were no difficulties. Finally, she wrote a narrative about each problematic moment, grouped them by type (e.g., related to management, lack of preparation), and thought about the decision-making process that she employed at the time. In short, Romano attended to and learned from her own reflection-in-action. She noted that, as a result, over time, she had fewer "bumpy moments" in her practice.

*Audio- and video-recording.* While audio- and video-recording were originally employed to capture the utilization of specific instructional techniques, they are now more frequently used to facilitate reflection (Clarke, 1995; Loughran, 1996; Sparks-Langer & Bernstein-Colton, 1991;

Westerman & Smith, 1993). In MacKinnon's (1987) research, student teachers and supervisors viewed video-recordings of lessons. They then worked together to determine the nature of the problem observed in the scene, reframe the problem more appropriately as needed, and decide on a potential solution. In a similar study, four pre-service teachers in a science credential program watched video-tapes of their lessons with their mentor teachers and frequently noted a dissonance between their stated beliefs and their teaching practices. The next step was to resolve this dissonance by revising the ways in which they designed and taught lessons (Clarke, 1995). Over the course of both studies (a period of two to three months) student teachers evidenced a greater ability to reframe problems and to consider alternative solutions. Several studies considered the impact of video-viewing on teaching practice (Harford & MacRuaire, 2008; Sherin & van Es, 2005; Yerrick, Ross, & Molebash, 2005). These researchers found that, as a result of video-viewing and discussion with peers and supervisors, teachers came to focus less on their own behavior and more on student thinking. Further, they were better able to delineate more- from less-important instructional events and to offer evidence for their evaluative statements. Finally, they were more likely to adjust their planning and instruction to better serve their students.

Recordings of experienced teachers also can be used to encourage reflection. In a program described by Rowley and Hart (1996), pre-service teachers watched a video of an effective teacher. The facilitator stopped the video at key points and asked student teachers to reflect and predict what might happen next. This should be particularly fruitful in the effort to cultivate reflection-in-action because it closely replicates how the process works in mid-lesson.

***Teacher preparation structures.*** Too often, field placements for credential candidates, as well as the supervision that occurs within these placements, is overly focused on what the candidate should be doing, in a general sense, rather than on considering questions such as: For which students? Under what circumstances? and For what reasons? These types of questions require prospective teachers to reflect on the "whys" of teaching as well as the "what."

***Field experience.*** The quality of a student teacher's field experience may be the single most significant factor in determining that teacher's level of effectiveness. In Schon's view (as cited in MacKinnon & Erickson, 1988), the practicum experience ideally occurs in a virtual world that allows for experimentation with little risk. This world is an approximate but simplified version of real life that allows for the cultivation of reflection (Wilson & I'anson, 2006). As Perry and Power (2004) noted, however,

the traditional teacher education field experience does not conform to this ideal. It is focused on observable behavior rather than on offering a balance between behavior and the thinking processes.

Simmons and Sparks (1987) suggested that student teachers move along a continuum from naïve over-confidence in their teaching abilities to a frustrating awareness of their personal limitations to imitation of successful teachers and, at best, to thinking in complex ways about theory and practice. Those in charge of field experiences need to acknowledge that pre-service teachers begin at a variety of places on this continuum and to meet them wherever they fall. They should include both structured and unstructured periods of observation to help student teachers differentiate between description and interpretation (Rodgers, 2002) and to cultivate both analytical and intuitive awareness of classroom life. This would be followed by simulated teaching in which student teachers instruct small groups of children while being filmed by a peer, followed by discussion of the lesson. Initially, these could be single lessons with changing groups of children, but, ultimately, they would involve multiple related lessons with a single group. Ideally, the student teacher might be wired in such a way that, when thinking aloud as he or she taught, these thoughts could be recorded for later analysis of his or her ongoing reflection-in-action. He or she also could discuss his or her intra-lesson decisions with students as they occur, what might be termed transparent teaching. When students ask an unanticipated question (e.g., Can we use our notes for the test?) and a decision is made to follow the students' lead, subsequently revisiting that decision with the students (e.g., Did the notes help you?) can be illuminating for all involved (Freese, 1999).

Allen and Casbergue (1997) recommend that, in contrast to typical practice, student teachers be placed with mentor teachers who are at an intermediate level of experience. They base this recommendation on their study in which novice, intermediate, and veteran teachers were observed and audio-taped and then interviewed. Novice teachers were strikingly inaccurate in their recall of events. Both intermediate and veteran teachers had accurate recall, but intermediate teachers included more detail. The implication is that veteran teachers have reached such a high level of automaticity that they are less able to assist student teachers, whereas intermediate teachers are likely to be more metacognitive. Loughran (1996) believes that it benefits student teachers to see their mentors struggle with classroom dilemmas and to witness their using reflection-in-action to solve problems. Roth, Masciotra, and Boyd (1999) posit that co-teaching helps student teachers slip into the role of primary teacher but with regular opportunities to step out and reflect before rejoining the lesson, a practice that most closely approximates Schon's (1983,1987) reflection-in-action.

*Supervision.* Supervisors can play a key role in stimulating reflection among student teachers. Zeichner and Liston (1987) stated that the supervisory process can facilitate reflective behavior when it includes an analysis of the beliefs of student teachers, an interrogation of educational institutions and social contexts, a critique of content as well as teaching techniques, and a confrontation of unintended as well as intended outcomes of instruction. Smyth (1986) noted that the goal of supervision is to help teachers get to the point where the teaching act itself becomes a primary source of knowledge (Schon's knowing-in-action). He also argues that, when colleagues collaborate in the supervision process, they are more inclined to take a systems view. Nolan and Huber (1989) proposed that it is the primary function of the supervisor to enrich the range of experiences and knowledge (Schon's repertoire of strategies) that the teacher brings to bear in the classroom.

Costa and Garmston (1994) developed a variation on supervision that they call cognitive coaching. They believe that overt teaching behaviors are significant only to the extent that they reflect inner thought processes and that changing instruction depends on changing thinking. In their model of cognitive coaching, the planning conference is intended to support teachers in anticipating the decisions that they will need to make during the lesson (reflection-for-action) as well as in coming to agreement on the coach's point of focus and related observation procedures. During the observation, the coach looks for evidence of the teacher's strategic decisions (reflection-in-action). This is followed by a reflective conference in which the teacher not only summarizes the lesson but also provides data that support that summary (reflection-on-action). In the application stage, the teacher and coach synthesize what the teacher has learned, plan for change, and reflect on and refine the coaching process.

Support for the claim that these supervisory processes produce more reflective teachers is limited to a single study. Westerman and Smith (1993) followed four graduate students enrolled in a credential program that employed clinical supervision. They found that, over time, the students internalized the pre-conference reflection questions and shifted their focus from content to teaching process. They also were able to adapt lessons in response to student need.

***How much do these activities and structural changes help?*** As promising as these practices appear, we cannot be certain that they will result in reflective behavior. In his review of the literature on instructional strategies used to promote reflective teaching, Zeichner (1986) found only meager effects for the conducting of action research and ethnography, reflective writing, and curriculum development. Only supervision

demonstrated a limited effect. Nearly a decade later, in the most current comprehensive review of teacher reflection research, Hatton and Smith (1995) again found little evidence that strategies such as engaging in action research, case studies, curriculum tasks, video-recording, and supervised practicum experiences resulted in increased teacher reflection.

If we agree with Schon (1983, 1987) that the ability to reflect-in-action is the mark of a professional, then this is the type of reflection that should be our ultimate goal in teacher education. Yet the vast majority of techniques (e.g., conferencing with supervisors, writing journals, reading case studies) are typically aimed at cultivating reflection-on-action. The assumption is made, yet never tested, that encouraging teachers to reflect has a positive impact on their ability to think on their feet and to adjust instruction as needed during a lesson. It seems that there might be ways to better structure both coursework and field experiences for pre-service teachers so as to offer experiences of reflection-in-action. Because, as Hatton and Smith (1995) noted, student teachers struggle with reflection, especially at the level of professional critique, it is important that a program designed to facilitate reflection is developmental in nature. Further, Zeichner's (1986) finding that reflective behavior cultivated in the pre-service setting rarely transfers to the in-service context alerts us to the need to continue these activities, with some adjustment, once student teachers gain employment.

### Barriers to Reflection

As Bishop, Brownell, Klingner, Leko, and Galman (2010) noted, there are many barriers to teacher reflection, including "time constraints [and] fear of being judged" (p. 76). Within teacher practice (particularly among novice teachers), major hindrances to reflection also include lack of skills and experience, certain personal characteristics of individual teachers, limitations of the profession, and school and district structures that undermine reflective behavior. Each of these barriers can pose significant obstacles.

***Lack of skills and experience.*** Many inexperienced teachers lack the skills that they need to engage in reflection. They may not have the practical competence required to allow them to take a step back from their teaching because they are, necessarily, so focused on keeping order and delivering content (Calderhead, 1989). They also may lack analytical skills, for example, the ability to understand the relationship between general principles and seemingly unique individual incidents (Ojanen, 1996).

***Personal characteristics.*** Personal limitations also may stand in the way of reflection. Calderhead (1989) noted that, even within

so-called reflective teacher education programs, student teachers tend to be heavily ego-involved, with a corresponding inability to distance themselves far enough from teaching events to reflect on them with any level of objectivity. Schon (1988) himself noted that reflective teaching can cause great strain, particularly for a novice, as it “opens a teacher to confusion, to not-knowing, hence to vulnerability, to anxiety provoked by vulnerability, and to defensive strategies (often automatically) to protect against vulnerability” (p. 23). Hatton and Smith (1995) also emphasized the anxiety that can undermine reflection.

***Limitations of the profession.*** There are a number of characteristics inherent in the teaching profession that can interfere with reflective thinking. Classrooms are such busy places that teachers can only selectively attend to what is going on, and what they observe may serve to reinforce whatever views they currently hold, rather than to challenge those views in ways that foster change (Smyth, 1986). Zeichner (1986) and Loughran (1996) believe that, once teachers leave the structured experience of student teaching, they may be less motivated to continue reflective activities, overwhelmed as they typically are by the day-to-day demands on their time. Further, schools do not typically encourage new teachers to continue these practices. In fact, in schools where reflective activity is not a norm of professional culture, teachers who tend to think and talk the language of reflection may be alienated by peers (Brookfield, 1995). The traditional emphasis on “doing” rather than “thinking” reinforces such behavior (Calderhead, 1989; Hatton & Smith, 1995; Laboskey, 1993).

***School and district structures.*** What Hogarth (2001) terms “wicked” structures serve to further undermine teacher reflection. Structural problems begin during student teacher supervision, as university supervisors are plagued with heavy workloads and, as graduate students, are not likely to remain long in their jobs. Reflective supervision requires more time than they may be able to provide (Laboskey, 1993). Once the novice teacher finds employment, he or she is unlikely to find the time or opportunity for reflection, much less school structures that actively support it (Hatton & Smith, 1995). There may be little or no pay for committee work and low regard for innovation (Noffke & Brennan, 1988). As Smyth (1986) stated, the very educational reforms that propose to increase student achievement serve as barriers to reflection, as teachers’ primary responsibility is to turn out future employees rather than to cultivate reflective thinking in their students. Curricular materials often reinforce this view, as noted by Schon (1992):

These packages of knowledge tend to conform to the bureaucratically-based epistemology of the schools—a molecular approach to knowledge,

progressively arranged from “basic” to “advanced” skills. According to this view, teaching tends to be seen as a process of delivering information and testing students for its reception and retention. (pp. 120-121)

### Reflective Teacher = Better Teacher?

There is almost universal agreement that effective teachers reflect regularly and deeply on their practice. Laboskey (1993) and Ward and McCotter (2004) suggested that reflection is a laudable goal in and of itself. However, in keeping with Liston and Zeichner (1990), I question whether teaching decisions are appropriate simply because they are the result of systematic thought. What a teacher thinks about is at least as important as participation in the act of reflection itself, and the tendency of researchers to separate reflection from student learning (particularly privileging the former over the latter) is problematic (Noordhoff & Kleinfeld, 1990; Reiman, 1999; Sergiovanni, 1986). Korthagen and Wubbels (1991) insist that an emphasis on teacher reflection is productive only to the extent that it produces better teaching.

***Does teacher reflection increase the use of “best practices” for instruction?*** There is some evidence that reflection does improve instruction. Peterson and Clark (1978) studied 12 junior high teachers in the process of teaching social studies lessons. In most cases, the teachers observed the students’ reactions, judged them to be satisfactory, and continued teaching. However, those teachers who demonstrated concern for the instructional process during planning (what might be likened to Schon’s reflection-for-action) were more likely to adjust lessons based on student feedback. Students of teachers who modified lessons did not do as well on multiple-choice questions but performed better when considering abstract themes on an essay test.

Fogarty, Wang, and Creek (1983) found that experienced teachers were more likely to respond in the moment to student cues and to better use their prior knowledge about students and pedagogy as they did so, which is an example of Schon’s reflection-in-action. Rodgers (2002) noted that effective teaching “can best happen if teachers are ‘present’ to students’ learning and able to respond with the best possible next instructional move” (p. 234). Freiberg and Waxman (1990) compared graduates of a teacher education program with a reflective orientation with those who graduated prior to the reflective focus. They found that the more recent graduates spent less time on management and made more academically-oriented statements and that their students also were less likely to be off-task.

In their study of pre-service teachers in an early field experience, Gipe and Richards (1992) found that student teachers whose instruction

improved the most (as measured via classroom observations by supervisors and mentor teachers) also had the most reflective statements in their journals. A limitation of this study is that teaching proficiency was measured on a single criterion (prepares and presents appropriate lessons). Korthagen and Wubbels (1991) employed questionnaires, interviews, and videos of supervisory conferences to determine which teachers had internal (reflective) versus external orientations. They found that reflective teachers had stronger relationships with students, focused more on student needs, and emphasized discovery learning methods in their teaching. Noordhoff and Kleinfeld (1990) asked pre-service teachers to video-tape a short lesson near the beginning and at the end of their teacher education program. Supervisors coded the observed lessons, looking for gains in active student learning, use of prior knowledge, and sensitivity to communication style. By the final lesson, student teachers had improved from 12% to 92% in regard to gains in active student learning, 28% to 83% on use of prior knowledge, and 4% to 63% on sensitivity to communication.

Unfortunately, none of the studies described above presents clear evidence of a connection between teacher reflection, particularly Schon's reflection-in-action, and detailed or robust measures of teaching proficiency. Zeichner and Liston (1996) expressed concern about the potential of reflective activity, as it is most frequently structured, to serve as the foundation for strong instructional practice. They noted that reflective activities are often employed in an effort to produce conformity among teachers (e.g., to get them to replicate research-based practices) and to encourage reflection as a solitary practice rather than a collaborative one. They also expressed concern that the focus of reflection is typically individual teaching within a particular classroom rather than the moral and political context of schooling as a whole. They believe that, unless adjustments are made in the way in which reflection occurs and in the questions it addresses, it will never have the desired impact and, in fact, may serve to constrain, rather than enhance, teaching and learning.

***Does teacher reflection have a positive impact on student learning?*** Of the dozens of studies reviewed, not a single one addressed this question. As Vaughan (1988) noted, "Perhaps the most glaring omission from the writing [on teacher reflection] is adequate and explicit attention to the ultimate end of reflective practice: maximum learning and development by students in our schools" (p. 48). More than 20 years later, this complaint still holds. It seems very likely that teachers who prepare for lessons in a predictive and anticipatory way, who are attuned to the subtleties of student response and adjust lessons accordingly, and

who make the effort to consider the ethical and political implications of what they do will be better teachers. Nevertheless, with many, if not most, teacher education programs' holding the cultivation of teacher reflection as a primary goal, it is a tremendous oversight that research on the connection between reflection and achievement is completely absent from the literature. As noted by Zeichner (1986) and Hatton and Smith (1995), this will come only via longitudinal studies that follow student teachers into their first few years of teaching and that include observational as well as self-report data. Knowing that teachers are constantly torn between taking time for reflection and attending to the very real and immediate needs of the students they serve (Wildman & Niles, 1987), we need to offer some evidence that time spent in reflection actually helps address student needs.

Gaps in the research make it difficult to claim that reflection is a transferable skill, that it can be carried out effectively in the complex world of the contemporary classroom, and that it will produce the desired result of improved student learning. While there is the potential for this within each of the practices designed to support reflection, it has been my experience that this potential is rarely realized. For example, credential candidates reflect after-the-fact in their teaching journals but typically are not asked to think about ways in which they adjusted their lessons mid-course and why. If there is no clear connection between reflective behavior and improved teaching and learning, it may be due, at least in part, to a failure to focus on ways that experienced teachers reflect-in-action.

How might we undertake the necessary research? While theorists have suggested a variety of ways to measure teacher reflection (Hatton & Smith, 1995; Ross, 1989), a key first step is to develop a tool that focuses on reflection-in-action. In addition, we need more thorough and subtle measurements of teaching effectiveness than those employed in the studies presented above. At this point, a large sample of teachers could be assessed on both scales (in-process reflective behavior and instructional quality), and student achievement data collected. Controlling for a range of factors (particularly socioeconomic status), we could look for a correlation between teacher reflection, effective instruction, and student performance. Ideally, a longitudinal study might focus on change in reflective behavior over time and its impact on achievement.

## Conclusion

On the rare occasion that Schon (1988) directed his remarks specifically to the field of education, he had this to say about reflection in the classroom:

By reflective teaching, I mean what some teachers have called “giving the kids reason”: listening to kids and responding to them, inventing and testing responses likely to help them get over their particular difficulties in understanding something, helping them build on what they already know, helping them discover what they already know but cannot say, helping them coordinate their own spontaneous knowing-in-action with the privileged knowledge of school. (p. 19)

We know a good deal about what teacher education programs offer in terms of activities designed to support reflection and about the barriers that await new teachers as they enter the workforce. What we are less sure of is whether the barriers can be mitigated by the support and whether reflective teachers can provide more effective instruction that leads to better educational outcomes. There remains a significant and worrisome gap between the knowledge that we have and the knowledge that we need.

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