suggest that more effort and research are needed to figure out how to make these kinds of experiences even more effective and more common.

Challenges to creating effective professional development for teachers

Four challenges face Jewish and general education as we aim to create effective professional development for teachers. The first two relate to teachers and teaching; the second two relate to professional development and professional developers.

1. Teachers Often Lack Solid Preparation in Their Subject Matters for Teaching

While many of the challenges of professional development arise both in general and Jewish education, the issue of teacher preparation appears in a unique form in Jewish educational contexts. In a study of Jewish education in three diverse American Jewish communities, researchers found that only 19% of teachers, across Jewish school settings—this includes day, pre and congregational schools—have professional preparation in both Jewish Studies and Education (Gamoran et al. 1998). The situation does not seem to have changed dramatically over the course of the last decade. When we look only at Jewish studies knowledge, the lack of subject matter knowledge is the most extreme in congregational and early childhood settings and least extreme in day school high schools, where generally teachers have subject matter knowledge. Additionally, teachers affiliated with the Orthodox movement have more Jewish studies background (Gamoran et al. 1998). In a more recent study of day and congregational schoolteachers (Ben-Avie and Kress 2008), a somewhat different set of questions was asked to learn about professional-level teacher education in supplementary and day school settings. On the Jewish studies dimension, findings indicate that in day schools 53% of teachers had

received some Jewish studies courses in college; 22% were Jewish studies majors; 8% were rabbis.   Among congregational schoolteachers, 4% were rabbis; 19% were Jewish studies majors; 60% had taken Jewish studies courses in college. While the majority of teachers had degrees beyond a BA, 44% of day school teachers and 68% of congregational schoolteachers did not have teaching certificates.

This lack of subject-matter expertise poses real challenges for the curriculum of professional development in education in general and in Jewish education in particular. In general education, the claim is often made that teachers are unprepared to teach their subjects (Ma 1999; Stodolsky 1988); however, there is probably no one teaching a math class who has not studied math at least through high school. Yet, it is common for teachers of Hebrew in many Jewish schools to have weak knowledge of Hebrew[3] (Gamoran et al. 1998) and for teachers of Bible to have no experience studying the Bible either as children or as adults.

So, unlike other contexts, where one might rely on teachers' content knowledge (sometimes solid; sometimes not) and work on developing pedagogical content knowledge (Shulman 1986), professional development in Jewish schools needs centrally to attend to content knowledge. What would it take for teachers to "get up to speed" in Hebrew or Bible as they teach those subjects? In order for professional development to be effective in the sphere of Jewish education, it needs to grapple with the fact that teachers may be both novice instructors and also novice students of the subjects they are teaching.

2. *Teachers Often Have a Mimetic View of Teaching and Learning*

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[3] When ascertaining the knowledge base of teachers in Jewish schools, researchers ask participants to rate their fluency in reading Hebrew, translating Hebrew, and speaking Hebrew.

The dominant instructional mode in both Jewish and general education over the past generation fits what Jackson (1986) refers to as the "mimetic tradition." In this tradition, instruction has been widely designed as though people learn through transmission—by listening carefully and then remembering or practicing what they have heard. Considerable research, however, has shown that learning involves not imitation and replication, but change and transformation (Jackson 1986; Kegan 1982; Bransford et al. 1999). Often referred to as transformative or constructivist, this paradigm suggests that learning is not additive, but requires internal change. Further, this research demonstrates that learning -- of skills and facts along with big ideas -- is more effective when it is experiential and interactive. This vision of teaching and learning emphasizes conceptual understanding and the social construction of knowledge. Following Dewey (1938), it claims that learning generally does not take place in isolation, but most often occurs in social situations where teachers and students (and students among themselves) discover and make meaning through their interactions with the subject and with each other. Since most teachers have learned within the "mimetic" paradigm, their years of experience as students are unlikely to support them in teaching in the constructivist/transformative paradigm that we currently understand as most effective. This suggests that effective professional development, rather than just adding to teachers' repertoire of skills, will also help teachers

focuses on generic teaching skills, the "make and take" workshop that focuses, for

example, on teaching a Jewish holiday, in the one-size-fits-all community learning day.

Typically, all of these are more aligned with the mimetic model of learning. They tend to

focus on generic pedagogical skills, rather than on specific pedagogical approaches that

align to the uniqueness of the various subject matters. Typically, these experiences do not

build images of transformative teaching and learning and do not help teachers reconsider

their modes of teaching, so the possibility of their having lasting value on improving

practice is limited.

There is a double challenge, then, in supporting teachers to adopt a transformative

model of teaching: teachers have had an "apprenticeship" of learning throughout their

youth that suggests to them that learning is about transmission. Further, teachers'

experiences of professional development reinforce this point of view. It makes sense that

the modes of professional development be aligned with the modes of teaching that we are

trying to promote; therefore, we need professional development to be not just

informative, but transformative. Both the curriculum and pedagogy of professional

development for teachers need to be redesigned in order to meet this double challenge.

4. *Most Professional Developers Have Not Been Prepared to Create Learning Experiences that Reflect this New Model of Teaching and Learning*

The first three challenges suggest the fourth challenge: how to support the "new"

professional developer (Ball and Cohen 1999; Stein et al. 1999). They too "suffer" from

the same maladies, i.e., they were educated in a mimetic fashion and they have

experienced mimetically inspired professional development. Our current understanding

about teaching and learning demands that professional developers create and implement

transformative professional development for teachers. The challenge we (in Jewish and

general education) face is formidable. We need to simultaneously change the nature of

learning experiences for children, for teachers, and for professional developers.

Professional Development—Curriculum and Principles

In the last decades, a consensus has emerged about the critical principles of

effective professional development for teachers that takes into account this transformative

vision of teaching and learning (Darling-Hammond et al. 2009; Little 1993; Knapp 2003;

Porter et al. 2000; Sparks 1990). These principles suggest designing learning

opportunities that change teachers' thinking about teaching and learning and also affect

their teaching practices Not surprisingly, these principles are aligned with more general

constructivist vision of teaching and learning.

Curriculum of Effective Professional Development

In the teaching and learning model proposed here, there are three elements that

surprt

Figure 1: Student Instructional Learning Triangle

This interactive triangle (Cohen et al. 2003; Hawkins 1967; McDonald 1992;

Sizer 1984/92) is an attempt to describe enacted teaching. It indicates that opportunities

for student learning reside in interactions of students with each other, with their teachers

and with the subject(s) they are studying.

> Nearly all formal learning in schools involves the
> interactions of three actors: the student, the teacher, and the
> subject of their mutual attention. The character of

Figure 2: Teacher Instructional Learning Triangle

In studying this triangle, we see that opportunities for teachers' professional

specific learners in specific contexts—what Shulman (1986) called pedagogic content

knowledge. As Dewey (1902/1964) said, teachers must be able "to psychologize" the

subject matter (p. 352). This means that a teacher must be able to "view the subject

matter through the eyes of the learner, as well as interpret[ing] the learner's comments,

questions, and activities through the lenses of the subject matter" (McDiarmid et al. 1989,

p. 194). Integrating the study of subject matter with issues of teaching and learning

provides a path towards addressing the first challenge raised in this paper—that

features, I will situate them in the contexts of Jewish education

five sessions. Just 12% of programs met for six or more sessions: even those programs included only eighteen or fewer hours of learning time. Thus, none of the programs were sustained enough to have a reliable impact on teachers' thinking or practice.[7]

Model active learning

 If teachers are to create "transformational" learning environments where students learn to challenge each other, question ideas, and build new knowledge, it makes sense that professional development for teachers model these features (Lieberman 1996). Active learning is often mistakenly conflated with interactive techniques, like using manipulatives in mathematics or learning centers when studying Israel. Creating active learning environments is not the opposite of learning from frontal teaching. Aiming for understanding and using one's knowledge is the hallmark of this kind of learning.

 What might it look like to apply the principles of active learning to professional development settings? This paradigm suggests that we think about teachers as learners who would benefit from learning opportunities that encourage curiosity, inquiry, analysis, and reflection. Professional development that models active learning supports teachers by creating opportunities for them to work with their colleagues on real problems, to share their own work and give and receive feedback and build new professional knowledge.

Locate professional learning in a collegial, collaborative environment

 In an intensive study of the norms of ten Jewish schools in one community, Stodolsky and her colleagues (2006) found that teachers report a congenial atmosphere in

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[7] A recent JESNA (Jewish Educational Services of North America) study (2008) suggests that professional development opportunities attended by teachers in day school and after school programs, still are mostly in programs of one day. Only 13% of teachers in complementary (after school) schools and 16% of teachers in day schools have participated in programs of 4 – 6 sessions.

which they were generally helpful to one another and could count on one another. Yet

there was little indication that this congeniality translated into meaningful professional

discourse among teachers.

must be willing "to serve as commentators and critics of their own and other teachers' practices" (p. 185). This challenge suggests a question. How can we create professional development opportunities in which the unfamiliar norms of crucial colleagueship are valued, and explicit experience, practice and support for engaging in these kinds of behaviors are provided?

Focus on pedagogic content knowledge

In research on programs of professional development in five American Jewish communities, only 13% focused on Jewish content per se, and another 18% focused on methods for teaching a particular Jewish content. The remaining programs (69%) centered on issues of pedagogy, leadership, or other topics without articulating a concrete connection to Jewish subject matter (Holtz et al. 2000). Given most teachers' lack of Jewish subject matter knowledge, creating professional development opportunities that deal both with Jewish subject matter and also with issues of teaching and learning those subjects is of critical importance.

The goals, challenges, pedagogic strategies of subject matters are different one from another (Stodolsky 1988). Teaching Hebrew is different from teaching Bible, Values, Rabbinics, or Jewish Customs and Practices. Articulating this point, Shulman described pedagogic content knowledge as follows:

> [Pedagogical content knowledge consists of knowing]…for the most regularly taught topics in one's subject area, the most useful forms of representation of those ideas, the most powerful analogies, illustrations, examples, explanations, and demonstrations—in a word, the ways of representing and formulating the subject that make it comprehensible to others….[also,] an understanding of what makes the learning of specific topics easy or difficult; the conceptions and preconceptions that students of different ages and

backgrounds bring with them to the learning of those most
frequently taught topics (Shulman, 1986, p. 9).

If Shulman is right, we need to think about how to provide forums to help teachers in the

varied settings of Jewish education develop appropriate pedagogic content knowledge.

Jewish education calls for yet another kind of knowledge related to content. It is

the knowledge related to the theological and ideological issues inherent in the subjects we

teach as well as the demands of each particular setting. For example, we know that

students are troubled with such issues as: Who wrote the Bible? Does God answer

prayer? How can one believe in God after the Holocaust? How can I support Israel when

I don't support its policies toward the Palestinian people?

settings of reduced complexity… approximations of practice" (Grossman and McDonald

2008). Examples of the latter include planning lessons or units, role-playing explanations

or responding to questions, simulating various lesson openings. All of these practices

have the potential to provide the support necessary for teachers to learn from their

experience of teaching.

How do these characteristics take shape in the context of real professional development in Jewish educational settings?

initiatives that are consonant with the principles discussed above (Dorph et al. 2002;

Stodolsky et al. 2004; Stodolsky et al. 2006; Stodolsky et al. 2008; Stodolsky 2009).

The program

and general studies in Jewish day schools and the disciplinary divide among departments in most high schools, this was a bold move in and of itself. Between sixteen and twenty-two teachers, out of a possible thirty-six, participated regularly. They met once a month during a forty-two minute lunch-break for an entire school year. None of the teachers were compensated for their time, although Aaron and Tamar did receive very modest remuneration for playing a coordinating role.

Tamar and Aaron had two goals:

!   To get teachers talking about their practice in a way that opened up a sense of curiosity about teaching strategies and teaching decisions

!   To create a professional learning environment for teachers

There were two aspects to their program: 1) a study group in which teachers studied videos of classes in order to practice observing and discussing teaching and learning in a safe context, and 2) classroom observations in which group members would visit each other's classes and then discuss teaching and learning in their "real lives."

The group began by examining a video of a teacher who did not teach in their high school, before moving on to study videos of Tamar and Aaron and one other faculty volunteer. In order to make these videos both practical and engaging, Tamar and Aaron edited a forty-two minute class length video into fifteen-minute clips, carefully selecting some moments they thought represented their best teaching and some representing "problematic" moments. During each of the sessions, the group discussed what they had noticed, working as partners (hevruta-style)[9] to talk about particular topics raised

in any substantive way. Although not paid for the time, teachers were contractually obligated to annually attend about eighteen hours of professional development. The 18 hours often included the orientation at the beginning of the year, a community professional learning day, and several discrete sessions during the year.

After participating in a yearlong professional development program led by an MTEI graduate, Lucy began to facilitate her faculty's professional development and work with her teachers in a more sustained fashion. Her goals were similar to those of Aaron and Tamar; she wanted to support teachers talking about their practice in ways that opened up a sense of curiosity about teaching and learning and to create a professional learning environment for teachers. There was one big difference—Lucy's starting point. Lucy was concerned that when she spoke with her teachers after observing them teach, they did not seem to focus on what children were learning. This focus was of critical importance to her. In order to work on all these goals, she decided to study videos from the MTEI video-bank[10] with her teachers.

After two years, Lucy decided she wanted to move teachers' attention to student learning in the "real life" of their congregational school, and she introduced a methodology called Japanese "Lesson Study" (Lewis and Tsuchida, 1998). This strategy involves several deliberate steps: teachers design a single lesson collaboratively; one member of the group teaches the lesson, while others, including the co-planners, observe it; the lesson is filmed and is analyzed by the group which has watched it; and then the

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[10] The MTEI videobank (2000): Reading the classroom as text: a videobank and resource guide for investigations of teaching and learning, is a project of the Mandel Foundation. It incl

teachers were becoming more reflective and were focusing on teaching in ways that would enhance student learning. In an interview study done after the first two years of the program, teachers' comments support Lucy's assessment. The following comments give some sense of their experience and their learning midway through the experience just described:

> [I am] trying to have a big idea when I am teaching… critically looking at myself.… Okay these were my goals, did I get there? If I didn't get there, where did we go? How can I start this again next week? (Lisa)
>
> When we have a chance to meet professionally like this, this is a whole different story. It is so wonderful to be able share ideas and share thoughts and share methods with colleagues in this way that wasn't really afforded to us before, when it was like meeting style or you know, somebody else coming here. (Rivka)
>
> I think it put teachers on the same wave length…Where are we as a group of teachers? My kids are going on to other teachers. We are all teaching the same kids. If we have different ideas, having a team philosophy. We do it differently, but have the same goals. (Mimi) (Stodolsky et al. 2008)

Case 3: Central Agency Sponsored Initiative —Increasing pedagogical content knowledge

This central agency sponsored program was a year long professional learning experience, including a trip to Israel, focused on teaching about Israel. In contradistinction to the two other programs, this one was highly subsidized. Participants paid only $750 for the 10 day Israel trip that was core to their learning experience. In addition, among the thirty educators who participated, there were both novices and veterans. The participants delivered services to children and youth from fifth grade

through high school in both formal and informal settings. The group met monthly during the academic year.

Two central agency consultants, Susie and Sarah, directed this initiative, which had two distinct goals: (1) increasing participating educators' knowledge and connection to Israel, and (2) engaging these educators in a collaborative and interactive learning experience that they could use as a model for creating active learning for their students. Susie and Sarah designed an intervention using the principles of problem based learning (PBL), which is a strategy that challenges students to find and use appropriate resources and work cooperatively in groups to better understand and seek solutions to real world problems.

Sarah and Susie wanted to connect participants to Israel via interests and passions that they trusted would be shared by their participants and which could connect them to Israel's land and people. They chose to focus on environmental issues in Israel and asked group members to choose among six different aspects of Israel and the environment. Participants formed teams to investigate issues, such as water, sustainable communities, air, animals, plants, and land.

Susie and Sarah framed problems on which team members did research over the course of the months prior to the ten-day Israel trip. For the group studying sustainable communities, Susie and Sarah framed their problem as follows:

> Israel has not developed a strong carbon free energy strategy. As Israel's energy demand grows, Israel continues to invest in natural gas, a carbon-based energy source that is imported from Africa, rather than develop solar energy that is local and more sustainable….
>
> What does Israel need to do to develop more carbon-free/solar alternative energy for use inside Israel? What

barriers exist and how can Israel get past them?

Given the relatively short time line and the ambitious goals of the project, Sarah and Susie were able to see that educators were indeed working with their students on PBL learning experiences. They wished that funding for the program had been longer than twelve or thirteen months so that they could monitor and assist participants in the program develop PBL learning experiences related to Israel and other curriculum-based projects, but worried that inviting participants to join an eighteen-month initiative would have put them off.

Analysis of Cases

When we examine these three cases, we see the enactment of the principles of effective professional development (see Table 1). Each case was embedded in a different context, each was at least a year in length and involved multiple sessions that were linked and each involved serious, collaborative work on the part of participants. Facilitators carefully chose goals for teachers' learning and provided learning opportunities, which encouraged teachers to engage in inquiry into the practices of teaching and learning. The facilitators created active learning environments through developing records of practice (videos in the case of Aaron and Tamar; problem based learning challenges in the case of the Susie and Sarah consultants) and also "approximations of practice" (co-planning, evaluating and re-planning a lesson in the case of Lucy; the learning fair in the case of Sarah and Susie).

Principles of Effective PD

Learn in and from practice	X	X	X

Table 1̃: A Comparison of the Three PD Cases

These cases give us a sense of what is possible, even within the significant constraints of the real world of Jewish education. Yet each of these cases seems a bit precarious, for each relied upon energetic leadership and groups of teachers that were willing to go beyond the call of duty and beyond their paid hours to work together on improving their teaching craft. The third also relied on a generous grant to support educators' trips to Israel. For these kinds of programs to be sustainable over the long term, they would need to be built into the system more fully. This kind of ongoing learning would need to become part of a teacher's job description, part of the regular school day and school year, and part of the educational budget. In the meantime, the cases are inspiring stories of what is possible when teachers find ways to learn together, investigating their practice, in a context of curiosity and trust.

Conclusion

From the perspective of scholarship and developce meantime, t

changes "make them" more effective pedagogues. Do any of the PD practices change the nature of communication in the classroom; help teachers become more powerful designers of active learning experiences; encourage the development of powerful pedagogic content knowledge?

With regard to student outcomes, the gold standard for assessing effective PD in general education is the connection between professional development for the teacher and students' achievement. Although there is insufficient research[11] on this relationship in general education, there is even less in Jewish education.[12] Moreover, in Jewish education outcomes for student learning are underspecified even when goals are stated. In order to track the impact of PD on student learning, we would have to take the arena of learning in Jewish subject areas more seriously and be willing to invest in substantive work on developing clear and worthwhile outcomes for Jewish learning in the variety of settings in which it takes place.[13] Assessments of student learning that can produce data about changes in students' knowledge and understanding will also need to be developed.

Other avenues of inquiry relate to professional developers and their education and practice. We can ask questions about professional developers that are similar to those asked about teachers and students. Starting with the notion of outcomes, if the gold standard of evaluating the effectiveness of teacher professional development is change in student outcomes, does it not make sense that the gold standard for professional

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[11] Porter et al. 2000; Darling-Hammond et al. 2009; Wayne et al. 2008.

[12] The Jewish Educational Services of North America (JESNA) evaluation (2006) of the Nurturing Excellence in Synagogue Schools (NESS) project used student attitude toward education and continuing beyond Bar Mitzvah as measures of outcomes. Although they are both very important, neither is the kind

developers is "teacher outcomes?" Does the PD offered using the new paradigm

suggested in this paper help teachers develop more effective teaching practices? We have

little research in general or Jewish education that provides a window on this question

(Wayne et. al 2008; Stodolsky et. al 2008). Based on research in general education (Ball

and Cohen 1999; Knapp 2003), this paper has suggested that there is an isometric

work of teachers and improving the learning experiences of students. For academicians

and professional developers, the implications are obvious:

> Professional Developers: provide principle-based PD; develop rich cases
> of principle-based professional development to augment those offered in
> this paper; develop records of practice that could be used in the learning
> opportunities for teachers and professional developers.

> Academicians and Educational Researchers: prepare personnel to lead PD
> efforts; evaluate PD programs[14] and their impact; investigate the impact of
> PD on teachers' ideas and practices; study the impact of PD on teachers'
> practice and student achievement.

Other stakeholders also need to step up to the plate in order to create the necessary

climate and infrastructure supports for the implementation of professional development

as a leverage strategy to improve the field of Jewish education. For example:

> Parents: let the principal know that you value both professional
> development for teachers and those who are skilled in providing it; use
> parent education committees to help finance and structure in the time for
> this work.

> Teachers: demand that ongoing professional learning opportunities be
> built into your contracts.

> School Leaders: support ongoing professional development for your
> teachers by building in time and opportunities for PD; create formal
> positions (part-time or full-time depending on size and complexity of your
> institution) for professional developers; support the ongoing
> professionalization of those who will plan and lead these initiatives in
> your institutions.

> Central Agency Personnel: develop personnel and programs that offer PD
> and/or consult and support school based personnel in planning and
> facilitating principle-based PD.

> Foundation Supporters and Personnel: encourage the development of and support
> for grants (and the development of grants) for PD that embody these principles.

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[14] Sales et al. (2007) and JESNA updates in

This call to many stakeholders draws attention to an issue that goes beyond the educational challenges that this article addressed. It is clear from the cases presented in this paper that even very experienced, knowledgeable teachers value substantive, collaborative professional learning opportunities. It is also clear that leaders can be prepared and supported to head up such ambitious initiatives. What remains unclear is the extent of Jewish communal commitment. How committed are we to student learning and, by extension, to teacher learning?

wÈÉÓ ÉÓ ÁÎ dÃÃÅÐÔÅÄ pÁÎÕÓÃÒÉÐÔ ÏÆ ÁÎ ÁÒÔÉÃ
lÎÔÅÒÎÁÔÉÏÎÁÌ kÁÎÄÂÏÏË ÏÆ mÅ×ÉÓÈ hÄÕÃÁÔÉÏ yÏÌ
ÅÄÉÔÅÄ ÂÙ kÁÌÁÎ pÉÌÌÅÒÒ oÉÓÁ gN jÒÁÎÔ dÌÅ¢
ÁÖÁÉÌÁÂÌÅ ÏÎÌÉÎÅ ÈÔÔÐ••××NÓÐÒÉÎÇÅÒÃÏÍKÏÃÉÅÁÌ–ÓÃÉÅÎÃ

Appendix 1[15]

Figure 3: Professional Developer Learning Triangle

In the same way that teachers need to think about the student as learner, the professional developer must think about the teacher as learner. The subject matter of the curriculum for professional developers is the learner instructional triangle as well as the teacher instructional triangle. It includes engaging with fellow professional developers and together "getting smarter" about how to help teachers learn to teach their students become active learners of "X". This process also assumes a teacher, the professional developer of professional developers.

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[15] Deborah Ball introduced this graphic into the design and curriculum work of MTEI in 1996.

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