

Bringing Expert Teachers into the Educational Psychology

Classroom: Using Video-Captured Insights in Case Study Analysis

Latika Nirula and Joan Peskin

This study evaluates the effects of teacher candidates' having access to expert teachers' modeling analytic thinking as the experts read case studies used in teaching educational psychology. Videos which consisted of selected segments of multiple expert teachers thinking aloud were developed. In the first experiment, one of these videos was viewed by elementary-level teacher candidates participating in online database discussions using Knowledge Forum® 4.5. In Experiment 2, secondary-level teacher candidates who viewed one of the videos provided longer and more conceptually-rich case study analyses than a control group which engaged only in small group discussion. Results from both experiments suggest that the composite video of experts' insights served as an engaging pedagogical tool for instructors to use in case study analysis. Implications for instruction are discussed.

Bridging theory and practice by means of case studies is increasingly becoming an important component in teaching educational psychology. Theoreticians postulate that engaging in the dialectic interplay of theory and practice is part and parcel of becoming a reflective practitioner (Schön 1983). Similarly, Bereiter (2002) described the development of deep understanding through students engaging with real-world phenomena that give rise to a theoretical problem.

In case study analysis, students, guided by the course instructor, provide their own perspectives on classroom situations that illustrate theoretical concepts and gain an appreciation of the perspectives of their peers (Levin, 1999). In recent research on the case study method, students were shown to particularly value hearing multiple perspectives on a case, especially those they would not have thought of themselves (Smith, Malkani, & Dai, 2005). However, with a few exceptions, teacher candidates are novices and Sabers, Cushing, and Berliner (1991) found important differences between expert and novice teachers. Using television monitors displaying differing views of an actual class, Sabers et al. noted that experts were better able than novices to monitor and comprehend the events presented, interpret the instructional strategies used, hypothesize reasons for behaviors seen, and offer solution strategies for problems identified. Erickson (1984) reported similar findings, also noting that teacher education students, in contrast to experienced teachers, appeared to be more concerned with classroom management than with instructional strategies or student learning.

At times, course instructors may also lack sufficient classroom experience to make the best use of case studies, since many faculty teaching educational psychology were never K-12 classroom teachers, coming instead from a background in academic psychology. Indeed, in a recent study, educational psychology instructors identified the necessity of bridging theory with practical implications for the classroom as a crucial area for development within their own instructional practices. In this survey of instructors teaching 39 sections of educational psychology to a total of nearly 1400 students within a large teacher education program, most of the instructors "expressed that they knew more about the theories and concepts than about the practical implications of these theories" (Peskin & Katz, 2007). Although some of the instructors had taught children and adolescents for many years; many others were Ph.D. graduates and tenure-track professors with theoretical knowledge of developmental psychology and/or cognitive science, but little experience in school teaching. An overemphasis on theoretically-driven analysis may result in reduced teacher candidate participation in the case discussions and little sharing of practical classroom experience (Engle & Faux, 2006). The disconnect between the theoretical and practical is a common theme in evaluations of educational psychology courses by teacher education candidates: In a recent survey, McBride and Chen (2006) found that teacher candidates clearly want more practical applications of the psychological research and theories taught in educational psychology courses.

One way to provide students with multiple perspectives from expert teachers in case study analysis is to bring the expertise of classroom teachers into the university setting. Using expert in-service teacher analyses of the very case studies that novice teacher education candidates deal with within their educational psychology course may offer students more connections between theoretical and practical aspects of the course, as well as serve to model and facilitate engagement as a reflective practitioner. The present study explores teacher candidates' experiences of watching videotaped insights provided by multiple expert teachers when reading and analyzing rich case studies used in the students' educational psychology classes. The overarching questions of interest in this two-part study is whether access to these experts' insights through pre-recorded videos fosters new understandings in students about the practical aspects of the case study and the complexity of case study analysis, as well as how the theories and concepts in educational psychology could be applied to the case study.

The first experiment explores whether a cohort of future elementary-level education teachers (who made use of an asynchronous database called Knowledge Forum® 4.5 for online discussions of cases) referred to the expert videos in their on-line reflections on the case and whether these reflections demonstrated movement towards a deeper understanding of theory-practice links. The second experiment compared two cohorts of future secondary-level education teachers who participated during classes in face-to-face group discussions of case studies. In this experiment, the experimental group who viewed videos with the expert insights was compared to a control group which did not view the videos.

In the remainder of this introduction the theoretical and empirical work on expertise will be explored, in order to better situate the current study within this research area. Following this, the growing importance of multi-media in the educational psychology classroom will be described.

Expertise

Theoretical writing and research on expertise is a robust area in cognitive science (Ericsson, 2006). It is postulated that experts not only have a vast body of knowledge but that this body of knowledge is highly structured and organized in memory. These deep structures of knowledge, or schemata, allow the expert to see large and meaningful patterns in problem-solving situations. When given a problem, experts typically construct a mental

representation which both defines and constrains the task, and they then rapidly solve the problem (Bereiter & Scardamalia, 1993; Chi, Glaser, & Farr, 1988; Ericsson & Smith, 1991; Sternberg & Horvath, 1995). Studies on expertise mainly look at what experts know and what strategies they use that novices do not know and do not use (e.g. Ericsson, 2002; Peskin, 1998; Peskin & Olson, 2004; Simon, 2002; Sternberg, Grigorenko, & Ferrari, 2002; Sternberg & Horvath, 1995; Wineburg, 1991; 1998).

Experts are often unable to provide detailed descriptions of how they perform or view tasks. For instance, in the teaching practicum students often complain that access to the supervising teachers thinking about teaching is a key missing element and that the knowledge of their supervising teacher is often tacit (Ethell & McMeniman, 2000). Furthermore, teacher candidates often lack the experience necessary to observe meaningfully the complex and rapid interactions that occur in the practicum placement classroom, to know what to focus on or what questions to ask of the teacher (Masingila & Doerr, 2002). There is evidence to suggest that examining expert teachers' deep understanding of teaching situations through the *think-aloud* approach (Ericsson & Simon, 1993) is one effective method of identifying the strategies, operations, and metacognitive processes that guide practice, as tacit knowledge is brought into conscious reflection.

By viewing different teachers thinking aloud on the same case study, students may come to appreciate that the knowledge base of teaching is a complex domain (Spiro, Coulson, Feltovich, & Anderson, 1988) and the teaching process evokes informed but divergent interpretations and suggested actions. Modeling is considered by social learning theorists to be a powerful factor in learning (Bandura, 1997; Bandura & Walters, 1963), effective not only because it can provide important information as to how a skill is performed, but also in raising expectations that a new area can be mastered. Through the viewing of expert video responses to a case and their subsequent discussion, it was hoped that students might see that, precisely because each case is open to many interpretations, teachers have to be analytical and make reasoned judgments and decisions in the face of uncertainty (Darling-Hammond, Hammerness, Grossman, Rust, & Shulman, 2005). Thus students, themselves, might begin learning how to deal with the many dilemmas they will encounter in the course of their work, and to evaluate multiple alternative solutions from various perspectives, thereby further fostering professional reasoning (Harrington, 1995).

In addition, examining how experts struggle and finally deal with a difficult problem helps novices develop belief in their own capabilities (Collins, Brown, & Holum, 1991). Schoenfeld (1985) demonstrated this kind of modeling in his teaching of mathematics, when he thought aloud as his students watched him tackle complex problems. Students would see him effortfully work through difficulties as he worked to make sense of these real problems, conjecturing, musing, making tentative connections and questioning. Bereiter and Bird (1985) and Mckeown and Beck (1998, 1999) have also shown the efficacy of expert modeling in teaching reading comprehension. When novices witness experts struggle, they are better able to see that such difficulties are not unique to them nor a sign of their incompetence (Collins et al., 1991), which may lead to greater confidence and persistence in the face of obstacles.

Multimedia

Bencze, Hewitt, and Pedretti (2001) point to multimedia as fulfilling a need for teacher candidates to have opportunities to learn, judge and express ideas. Multimedia cases have gained prominence in teacher education programs and within professional development (Bencze et al., 2001; Fong & Woodruff, 2003; Masingila & Doerr, 2002) as ways to bring real-world exemplary teaching into the classroom and provide students with a common context from which to discuss concepts of teaching and learning. For instance, Masingila and Doerr provided students with videotaped cases of experienced teachers in the field reflecting on their own practice following their teaching of a lesson. The current study builds upon this work by including opportunities for multiple experienced teachers to muse, perhaps more objectively, about someone else's practice while reading the same text-based case study assigned to the teacher candidates in their educational psychology course. The creation of this shared experience through video-taped think-alouds may enable teacher candidates to begin to appreciate the multiplicity of interpretations and perspectives possible in teaching. Indeed, text-based case studies have a greater level of ambiguity than videos of a classroom scenario, and this, too, might foster a greater diversity of interpretations. Text-based case studies are also conducive to portraying complex situations involving not only a one-time classroom experience, but events as they unfold over time; and they permit description of a variety of personal interactions, within and outside the classroom, such as relationships between teachers, students, parents, and other school personnel.

At the university where the present study was conducted, various multimedia are increasingly being used. Some of the instructors teaching educational psychology (including the instructor who agreed to be part of Experiment 1) have their teacher candidates engage in online discourse using a computer database (Knowledge Forum® 4.5). Online discussions proceed *asynchronously* (i.e., teacher candidates post notes to each other to be read at later times). The elementary-level teacher candidates in Experiment 1 not only experienced the video-captured expert insights as shown in class, but interested individuals could subsequently re-screen the video on Knowledge Forum® online.

EXPERIMENT 1

Experiment 1 is aimed at providing insights into the following five research questions: First, did participating elementary-level teacher candidates perceive that the expert teachers' insights were beneficial in that they offered new *practical* suggestions; *applied theories and concepts* in educational psychology in interesting ways; and/or added new understandings about the *complexity* of the case? Secondly, did these teacher candidates perceive that the expert teachers' insights *confirmed some of their own understandings* of the case, causing these teacher candidates to report greater *confidence* in their own understandings of classroom teaching? Third, did these elementary-level teacher candidates *challenge* the opinions raised by the expert teachers in the video in their online postings? The fourth question related to whether these teacher candidates *specifically discussed the videos in their online postings* and at what level of analysis; did these postings reflect movement towards *deeper understanding of concepts and reflective practice*? The final question addressed whether these elementary-level teacher candidates felt that the video added to their *enjoyment* of the case; that is, would the students want to use the video insights of expert teachers in the future for other cases?

Method

Participants

Participants in the study included a class of 65 elementary-level teacher candidates who all had an initial undergraduate degree. Fifty-seven of the teacher candidates in the study were female and eight were male, a ratio not uncommon within the elementary-level teacher education program at the university.

Making of the Video

The practicum supervisor of a large Initial Teacher Education program, who was, therefore, familiar with outstanding teachers, made suggestions and provided contact information for possible video subjects. An expert has been defined as someone who has achieved excellence through motivated “deliberate practice” (Ericsson, 2002; 2006), over a period of about 10 years. Four elementary-level school teachers were approached and all agreed to be part of the project, and also agreed that the videos could be shared with other faculties of education in North America. The four elementary-level teachers had an average of 17.8 years of teaching experience although some had more than that and one teacher, who had won various teaching awards, had less than 10 years of experience. Two case studies used in teaching educational psychology to elementary-level teacher candidates were chosen, and each of the four expert elementary-level teachers thought aloud as they read the two case studies. They also answered the questions at the end of the cases. These individual sessions were videotaped and the protocols transcribed. A team consisting of the coordinator of the educational psychology course, two Ph.D. students in education, and one teacher candidate, jointly chose insightful clips from the complete videos. The educational psychology instructor who agreed to be part of the study examined the transcribed comments on both of the case studies and chose one of them, “Life in an Elementary Classroom,” (Greenwood, Fillmer, & Parkay, 2002) as particularly rich, insightful and relevant to her course content. As the content of this case pertained to two different sets of readings and concepts covered in the course, she chose to use the case over two consecutive weeks. This case study thus served as the initial test of the effects of video-captured expertise on case study analysis.

The selected video segments for this case study were then organized thematically around issues within the case, such as a teaching strategy adopted by the classroom teacher or a specific behavioral incident. For each theme, chosen clips of comments from the four different expert teachers were spliced together into longer segments, of about 45 seconds. The final video product of 26 minutes was presented with appropriate title prompts in order to provide teacher candidates with context for the comments in the video. These title prompts were very useful in also directing the teacher candidates to specific incidents within the case that the expert teachers focused on, and later served as reference points in their online postings. The opening scene gave the impression that the teacher candidates were entering a staffroom

lounge in an elementary school to discuss the case study with four experienced teacher colleagues.

Procedure

The current experiment was conducted in a compulsory educational psychology course as part of a one-year teacher education program. The course was held over 12 three-hour sessions. Teacher candidates were organized into small groups of six or seven students by the course instructor. These groups sat together during the face-to-face discussions of the case studies, and participated online in further discussions of the case studies outside of class time.

Following each class, teacher candidates were required to make a posting to the online discussion forum that adhered to specifications outlined by the course instructor (see Appendix A). The stated objective of the posting was to raise issues from the case study and relate them to the concepts and research in the course readings. The teacher candidates were also required to read postings from other group members, and where appropriate, build onto their ideas, in a process the instructor continually referred to as “*improvable ideas*,” where participants work towards continuously improving the quality, coherence, and utility of ideas (Scardamalia, 2002). The instructor in this way explicitly encouraged her students to participate in deep reflective practice. As these notes were captured within the online database, teacher candidates could keep alive their ongoing discussion of issues.

The case, “Life in an Elementary Classroom,” for which the composite video of expert insights had been made, was introduced towards the end of the course once teacher candidates were comfortable conducting analyses and providing and accessing peer feedback on postings online. By this stage they had also received a number of instructor formative assessments on the quality of their postings. In the second week of examining this rich case study, teacher candidates viewed the expert commentary video in class. The teachers in the video were always referred to as “experienced teachers” rather than “experts” so as not to discourage teacher candidates from adopting a critical stance. Two segments included in the video were considered somewhat controversial by the course instructor, as she felt that these segments did not exemplify best practices. It was decided to include these segments anyway, partly in order to gauge whether any of the teacher candidates might be critical of some of the comments they heard. We hypothesized that the teacher candidates at this later point in the course, after a few weeks of

practicum experience, might adopt a more critical stance towards some of the “experienced teacher” opinions. The video, along with a transcript of the video, was also made available to the teacher candidates online in their course database, to aid with their completion of their online posting. They were not required to make direct reference to the video in their posting, but the course instructor encouraged her students to view the video as another (albeit optional) source from which to raise practical and theoretical issues to discuss about the case.

Measures and Analysis

There were three sources of data: Questionnaires, Interviews and Online student postings on Knowledge Forum® 4.5.

Questionnaires. Two short questionnaires were developed to determine how teacher candidates viewed the use of case studies, expertise in teaching, and their perceptions of the effect of the video-captured insights of the expert teachers. In a pilot study, the questionnaires were given to eight new teachers and revised appropriately for clarity and purpose. The immediate post-intervention questionnaire was administered after the initial viewing of the video in class, while the delayed post-intervention questionnaire was given two weeks after the viewing.

The questions in the immediate post-intervention questionnaire, guided by the central research questions, directly evaluated teacher candidates’ judgments of the effects of the video intervention. Participants first responded with “Yes,” “No,” or “Not Sure” to items asking whether the experienced teachers’ insights voiced in the video raised new practical suggestions, applied theories and concepts in interesting ways, and added new understandings about the complexity of the case. They were also asked whether the experienced teachers’ insights confirmed some of their own understandings of the case. In addition, on a scale from 1 (*very low*) to 10 (*very high*), teacher candidates were asked to rate their confidence in teaching in a classroom setting after having watched the video clips of the experienced teachers discussing the case study.

Similar questions were also asked in the delayed post-intervention questionnaire to examine lasting effects after the students had reverted to analysis of case studies with no video. On Likert scale type items ranging from 1 (*strongly disagree*) to 4 (*strongly agree*) teacher candidates rated whether accessing experienced teachers’ insights through video added to their understanding of

practical issues, whether it added to their understanding of theoretical issues, whether they wished they had the videos for other cases, if having the videos directed them to the “right” or “most correct” answer, and finally, whether they felt it was important to challenge the opinions of more experienced teachers. In this delayed post-intervention questionnaire, participants were also provided with opportunities to write comments about their experience of the video-captured expert insights.

Interviews. The student interview protocol was developed by the researchers in order to investigate the research questions in greater depth (see Appendix B). These questions had been examined for clarity and purpose by the same eight novice teachers who tested the questionnaires. Participants provided consent for follow-up interviews at the beginning of the intervention, and were later approached to participate in one-on-one interviews with the first author. Five participants consented to participate in these interviews. Although there was limited participation of teacher candidates in follow-up interviews, many teacher candidates had already given elaborated written feedback on their post-intervention questionnaires on similarly phrased questions. Interviews were audiotaped and transcribed. Interview transcripts and written feedback on the post-intervention questionnaires were examined together for themes pertaining to the central research questions.

Analysis of online participant postings on Knowledge Forum® 4.5 database. Postings in this database were analyzed for any references that participants made to the videos of the expert teachers. Coding procedures on the notes were used in order to assign each note a meaningful label that would reflect the level of depth or consideration that the participants used in incorporating the video of the expert teachers in their postings. Thus, each label represented a category in terms of unique properties and dimensions along a continuum of analysis (Strauss & Corbin, 1990). Such coding was helpful in the organization, retrieval, and interpretation of data (Coffey & Atkinson, 1996), and in determining how effective the video may have been in prompting students to engage in deep understanding and reflective practice. Participant notes were coded for the types of references that teacher candidates made to the video according to three levels: (a) *superficial* – where teacher candidates only mentioned the video and did not incorporate any points by the expert teachers in their postings; (b) *initial analysis* – where teacher candidates mention the video and make some attempt to link the expert teachers’ comments to concepts from the course;

and (c) *detailed analysis* – where teacher candidates made more detailed connections between the expert teachers' comments and concepts from the course, thus showing some movement towards demonstrating deeper understanding and reflective practice in their posting. (See Appendix C for examples of postings rated in each category.)

Results and Discussion

Each of the five research questions will be discussed in turn.

New Understandings

TABLE 1

EXPERIMENT 1: RESPONSE PERCENTAGES FOR THE IMMEDIATE POST-INTERVENTION QUESTIONNAIRE ITEMS

Questionnaire Item	% Yes	% No	% Not Sure
Have the experienced teachers in the video raised <i>practical</i> suggestions for the classroom that were new to you?	82	15	3
Have the experienced teachers in the video <i>applied theories and concepts</i> in Psychology and Education in interesting ways?	69	5	26
Have the experienced teachers' insights voiced in the video added new understandings about the <i>complexity</i> of the case?	94	3	3
Have the experienced teachers' insights voiced in the video confirmed some of your own understandings of the case?	97	3	0

Results indicated that elementary-level teacher candidates felt overwhelmingly that the video added new understandings of the complexity of the case (94%). In addition, the vast majority of participants responded positively to both the practical insights (82%) as well as the theoretical applications (69%) offered by the expert teachers.

These positive results were confirmed in the delayed post-intervention questionnaire, after participants had returned to the experience of case

The first research question focused on the teacher candidates' perceptions of the benefit of the expert teachers' insights. Teacher candidates considered whether new practical suggestions were offered in the video; if the theories and concepts in educational psychology were applied in interesting ways; and whether access to the multiple different perspectives of experienced teachers fostered appreciation of the complexity of the case.

Data for these three dimensions were initially collected from the immediate post-intervention questionnaire and can be seen in the first three questions of Table 1 below.

studies without an accompanying expert-teacher video (See Table 2).

In written comments made in the delayed post-intervention questionnaire and in the follow-up interviews, participants made reference to how access to the video clips impacted their analysis of the case study in terms of new understandings about the practical and theoretical aspects as well as the complexity.

All five participants who were interviewed made positive references to the practical suggestions in *Teaching Educational Psychology* Vol. 3:1

the video. For example, one student remarked during her interview,

Hearing someone else outside the class with more experience and who actually tied it to their real practice is a lot different. Some of the teachers who were speaking

were pin-pointing some certain things that...got me to think back to my practicum to connect [the case] more with practical experiences.

TABLE 2

EXPERIMENT 1: RESPONSE PERCENTAGES FOR THE DELAYED POST-INTERVENTION QUESTIONNAIRE ITEMS

Questionnaire Item	% Strongly Agree	% Somewhat Agree	% Somewhat Disagree	% Strongly Disagree
... added understanding of <i>practical</i> issues.	53.8	38.5	1.5	6.2
... added understanding of <i>theoretical</i> issues.	38.5	49.2	1.5	10.8
I wish I had ... for the other cases.	53.8	32.3	6.2	7.7
Having ... directs you to "right" or "most correct" view on case.	8.8	67.6	20.7	2.9
It is important to challenge ideas even if the opinions are of more experienced teachers.	67.6	26.5	5.9	0.0

Note. The dots in each question stand for "the experienced teachers' insights through video."

Another student noted,

[The expert teachers] had such great ideas...[The video] was very good because it was practical. It spoke to how we can practically change the lesson...make the lesson better.

In terms of strengthening theoretical connections to the case, one elementary-level teacher candidate described the value of the video in bridging concepts and practice,

The video insights provided a better link between theory and practice. While our readings and instructor gives us ideas of what we may want to try in our classrooms, hearing these ideas from teachers who have in fact tried them, gives the concepts more value.

All but one of the five participants interviewed felt that the video offered more practical than

theory-related insights. This finding was consistent with data derived from the immediate post-intervention questionnaire and delayed post-intervention questionnaires (see Tables 1 and 2), where participants reported a lower percentage of positive responses in terms of the theoretical applications to the case. As one teacher candidate stated,

They didn't really name any names of people's theories. So it was between the lines. You knew they knew the theory but it wasn't articulated really clearly. So, I think for me it was really hard to identify from just watching the video that this was the particular theory that underlies a particular aspect of the case.

On the other hand, the interviewed teacher candidates' comments consistently reflected an increased appreciation of the complexity of the

case. For instance, one teacher candidate described how the expert think-alouds led her to view aspects of the case that she had not previously appreciated.

When the experienced teacher went through [the case], suggesting things that the teacher could have done to make the lesson better, then I realized, "Boy, there could have been so many things that she could have done better." So it really brought out... the complexities of the lesson, and the creative ways that a teacher could have gone about teaching this one thing.

Similar comments were made by four of the five interviewed participants, which suggests that the expert teacher insights seem to have encouraged at least some of teacher candidates to move from a simple evaluation of the case to a multi-dimensional understanding.

Comparing Self with an Expert as a Measure of Confidence in Teaching

The second set of research questions focused on teacher candidates' perceptions of whether the video-captured expert teachers' insights on the case confirmed their own understandings and impacted their confidence in teaching in a classroom. On the immediate post-intervention questionnaire, 97% of participants reported that the video confirmed some of their own understandings of the case. Teacher candidates also reported a moderately high level ($M = 7.10$) of confidence in their ability to teach in a classroom after having viewed the insights of the expert teachers.

In written comments in the delayed post-intervention questionnaire and in follow-up interviews, participants were explicitly asked to describe their relative confidence in teaching after having viewed the video. One teacher candidate wrote that the video "confirmed issues our group identified as we had prepared our presentation." She described a sense of her group being "on the right track" after seeing what the expert teachers had to say. In a follow-up interview, another teacher candidate remarked,

I'd say that people were more comfortable and confident in their ideas, stance, and whatever perspective they had because they had something more to back them up rather than just the textbook. With the textbook, we quote, so what? But when it comes from someone we think is more experienced...we became more confident.

In another follow-up interview, a male student said,

I felt that [the video] helped me confirm what I felt....So, if I believed that she [the teacher in the case]

was motivational for a certain reason, and then one of the teachers in the video confirmed that, I felt that I actually caught on, or I felt that at least I'm thinking like an experienced teacher is thinking.

As this quote demonstrates, the video seemed to be effective in building some teacher candidates' confidence in their abilities to judge teaching and learning situations.

Reluctance to Challenge Expert Teachers' Insights and Opinions in the Video

The third research question explored the extent to which participants challenged the insights and opinions raised in the video. It was hypothesized that teacher candidates in this experiment might adopt a critical stance about experienced teachers' opinions as the video was introduced late in their course, after they had acquired a strong knowledge base and had observed experienced teachers for many weeks in applied settings. Indeed, in the delayed post-intervention questionnaire (see Table 2), 94.1% of participants either "strongly agreed" or "somewhat agreed" with the statement, "It is important to challenge ideas about teaching and learning of others, even if the opinions are of more experienced teachers than I." However, we observed no evidence of elementary-level teacher candidates critically challenging or disagreeing with any insights or opinions offered by the experienced teachers in students' notes posted in the database. In the delayed post-intervention questionnaire participants were also asked to consider the statement, "Having the experienced teachers' insights through video directs you to what the 'right' or 'most correct' view on a case is." That 76.4% of elementary-level teacher candidates "strongly agreed" or "somewhat agreed" with the statement, may suggest students' reluctance to critically evaluate the experts' opinions.

Online Use and Level of Analysis of Expert Teachers' Insights

The fourth research question addressed how elementary-level teacher candidates dealt with the additional resource of the video-captured expert teachers' insights when formulating their online postings for discussion. As it was not mandatory for teacher candidates to refer to the video in their postings, we were interested in whether many of the students would explicitly mention the video in some capacity in their postings. The online database was surveyed for all references to the video made in that week's online contributions. The percentage of participants making explicit reference to the video was 42%. This figure is likely an underestimate of the video's actual impact, as

teacher candidates who did not explicitly mention the video may still have been influenced by the expert teachers' insights in their postings.

Notes that made reference to the video were coded according to three levels of analysis with respect to the expert teachers' insights: superficial, initial analysis, and detailed analysis. Examples of each type of coded online posting are included in Appendix C.

Superficial notes, which only made brief mention of the video without elaboration, comprised 28% of *all* notes posted that week. The majority of the notes (44%) involved some degree of *initial analysis*, and 28% of notes were coded at the level of *detailed analysis* –demonstrating movement towards deep understanding of the concepts through skillful integration of theory and practice. Teacher candidates in follow-up interviews described the process by which they considered the expert teachers' insights when creating their online postings. For instance, one female teacher candidate describes how multiple perspectives from the experts gave her more material for thought which allowed her to make more links between the case and educational psychology concepts:

With the video, it made it a lot clearer for me. Maybe it was because the teachers were more experienced also, and just some of the things they said I never thought of. And so when I went back and read the textbook before I wrote my Knowledge Forum [posting], I was able to see more links. I read through it and it was like, "Oh, that was what that person said," or "Oh, I remember this person saying that,"...so I really liked the video idea.

Another student discussed in detail how the use of the transcript that was available online facilitated her online posting:

I didn't watch the video again at home, but I did go through the transcript, and I did cut and paste [ideas] that stuck out for me and the ones I thought that I might be able to relate back to the theories in the textbook...I found that having the transcript to refer to at home was what really helped me... I definitely read the transcript a lot – actually twice. I went through it to think about specifically how the teacher said things and that really helped my posting a lot. I did actually quote the transcript within my posting.

Over half of the participants who provided *detailed analyses* also quoted some portion of the transcript.

Enjoyment and Future Use of the Video-Captured Insights of the Expert Teachers

Elementary-level teacher candidates rated their enjoyment of the case study with the expert video after they had reverted to experiencing a case study with no expert video. In responding to the delayed post-intervention questionnaire, participants were asked to rate from 1 to 10 how access to the video clips of the expert teachers impacted their overall enjoyment of the case. Participants reported fairly high levels of enjoyment with the video ($M = 7.34$). In addition, as shown in Table 2, 86.1% of students expressed agreement with the statement, "Having had the experience of having the video insights of the experienced teachers for the case 'Life in an Elementary Classroom,' I wish I had them for the other cases."

In all five participating teacher candidates' follow-up interviews, they expressed their enjoyment of the video and their desire for other such videos in case study analysis. In particular, one teacher candidate remarked that the insights of the expert teachers would have greatly helped with cases that were very complex, especially when confusion about the issues was shared by their peers.

EXPERIMENT 2

Experiment 1 suggested that expert teachers' video-captured insights are viewed positively by elementary-level teacher candidates. However, an important limitation was the lack of a control group for comparative purposes. The aim of Experiment 2 was to address this shortcoming. A second aim was to duplicate the first experiment for purposes of reliability and to extend the findings to teacher candidates planning to teach in secondary education.. These students were taught educational psychology in a more traditional manner, engaging in face-to-face, rather than online, discussions of case studies.

Method

Participants

There were 24 secondary-level teacher candidates in the experimental group class, 18 females and 6 males; and 25 secondary-level candidates in the control group class, 14 females and 11 males. Teacher candidates studying to become secondary-level school teachers are taught educational psychology in cohorts of about 22 to 35 students. Two of these cohorts, both taught by the same instructor, participated in the study. The two cohorts were deemed to be reasonably equivalent in terms of their ability.

Making of the video

Two case studies were chosen and expert teachers approached following the same procedures as outlined in Experiment 1. Five expert secondary-education school teachers thought aloud as they read the two case studies. These expert teachers had an average of 12 years of teaching experience. As the first experiment suggested that the expert teachers' insights helped build teacher candidates' confidence, we hypothesized that exposure to these insights might be particularly helpful early in the program, prior to the first practicum. One of the case studies, "The New Teacher," is frequently used by instructors in the first week or two of the educational psychology course and was therefore chosen for the study and insightful clips organized into a video. This case is adapted from the case "And if they don't all want to learn?" in Greenwood & Fillmer's (1998) book, *Educational psychology cases for teacher decision-making*. No controversial segments were included as the students were only just beginning to construct a knowledge base and had not had any formal classroom experience within the program.

Procedure

Prior to class each cohort had been required to read two chapters in the book, *Educational Psychology* (Woolfolk, Winne, & Perry, 2005). These readings were chosen as they related to "The New Teacher" case study. During each cohort's class, the instructor gave a short mini-lecture which provided additional research and theories pertaining to the case study. The teacher candidates then re-read the case study and, in small groups of approximately four students, discussed how the concepts in the required readings as well as the mini-lecture could be applied to the case study. The students then provided individual written answers to four questions guiding their analysis of the case. Participants were given as much time as they needed to answer these questions, and were then given a post-intervention questionnaire.

The differences between the experimental and the control group pertained to the part of the class where the teacher candidates discussed the case study in groups. The control group discussed the applications of the concepts to the case study within their small groups for 20 minutes, followed by a 10-minute whole group discussion with the instructor. The small and whole group discussion therefore took a total of half an hour. The experimental group also discussed the applications with their peers in the small group format but were given only 10 minutes to do this. They were then given a copy of part of the case study with the expert teacher think-

aloud comments inserted in a different font in the relevant places. They read these comments and briefly discussed them in their small groups, and then watched a segment of the actual expert teachers on the video. Exposure to the expert comments took 20 minutes, for a total of half an hour as per the control group.

Measures and Analysis

There were two main sources of data: the questionnaire which consisted of nine questions (see Table 3), and students' written answers to four questions about the case study, each presented on a separate page. These questions are frequently used by instructors in the program in case study analysis, and it was decided, therefore, for purposes of validity, to use them in this experiment.

In addition, four weeks after the intervention, when teacher candidates had experienced four more case studies without expert teacher comments, the experimental group was asked to answer just one question: "Having had the experience of the insights of experienced teachers for the 'New Teacher' case study, I wish I had them for other case studies", with ratings ranging from 1 (*strongly disagree*) to 4 (*strongly agree*).

Analysis of written responses to the four questions. Secondary-level teacher candidates' written responses to the four questions were typed and word counts conducted for each question. The focus of this written requirement was very different from that of Experiment 1: The instructor in Experiment 1 emphasized "improvable ideas" using asynchronous online discussions, whereas the Experiment 2 instructor emphasized linking the case study to the concepts in the required readings and class mini-lecture. It was, therefore, decided to code the Experiment 2 written assignments in line with this focus. A researcher and the class instructor (who had taught educational and developmental psychology for 14 years) compiled a list of 49 important concepts that could be applied to the case. This list was developed from the required readings and the class mini-lecture, as well as the expert transcripts. Participant protocols were examined, and it was found that 41 of these concepts were referred to by at least one student. A coding scheme of the 41 concepts was developed and divided into three groups: (a) those contained in the required readings and the mini-lecture; (b) those referred to by the experts (and to which the control group would not have had exposure); and (c) those that were in the readings and/or mini-lecture as well as referred to by the experts. Frequencies were counted in each of these categories for all four questions combined. If

participants repeated a concept it was only counted once.

Results and Discussion

Table 3 gives the results of the questionnaire for both the experimental and control groups of these future secondary-level school teachers. Although the control group rated their experience quite highly, on all nine of the items the experimental group rated their experience of the expert teachers' insights somewhat higher than the

control group rated their small and whole group discussions. Individual differences were statistically significant for the first question, "Have the experienced teachers' insights (experimental version) or group discussions (control version) raised *practical* suggestions for the classroom that were new to you?" (Fisher's exact test of probability, $p = .05$, two-tailed). However there were no statistically significant differences in responses to the remaining items.

TABLE 3

EXPERIMENT 2: QUESTIONNAIRE ITEMS AND RESULTS

A. Forced choice items: Percentages of Student Responses

B. Likert scale items: Means and Standard Deviations

	Experimental			Control		
	Yes	No	Not Sure	Yes	No	Not Sure
A. Forced choice percentages						
Have the ... raised <i>practical</i> suggestions for the classroom that were new to you?	100	0	0	80	12	8
Have the ... <i>applied theories and concepts</i> in Psychology and Education in interesting ways?	79	4	16	64	8	28
Have the ... added new understandings about the <i>complexity</i> of the case?	100	0	0	84	12	4
Have the ... confirmed some of your own understandings of the case?	100	0	0	88	4	8
Have the ... made you feel more confident in going into your first practicum?	87.5	0	12.5	68	12	20
Did the experience of studying the case provide you with greater insights into classroom management?	100	0	0	92	4	4
Did the experience of studying the case provide your with greater insights into instruction?	83.3	8.3	8.3	72	12	16
B. Likert scale 1-10	<i>M</i>		<i>SD</i>	<i>M</i>		<i>SD</i>

Rate the experience of studying this case

in terms of <i>enjoyment</i> :	7.75	1.12	7.28	.89
Rate the experience of studying this case in terms of <i>how much I learnt</i> :	7.62	1.66	7.14	1.54

Note. In the version given to the experimental group the dots in the first four questions stand for the phrase “experienced teachers’ insights in the hard copy and the video,” whereas for the control group the dots stand for the phrase “group discussions.”

When completing the questionnaire, a few of the teacher candidates in the experimental group also added positive comments (on the back), for instance, that the video allowed them to see “that even the most experienced teacher is always learning,” or as one student wrote, “Hearing what the experienced teachers had to say added a lot to my case study experience. It was helpful to hear what their suggestions for solutions were because many of their ideas I never would have thought of.”

With regard to differences between the experimental and control groups on the four-page written assignment, Table 4 shows the means and standard deviations for the total word count and the counts for each question. An independent-samples *t* test indicated that the mean total word count of the

experimental group ($M = 574.67$, $SD = 126.49$) was significantly greater than the mean total for the control group ($M = 468.16$, $SD = 174.56$), $t(43.8) = 2.45$, $p = .018$. On question 1 the mean word count of the experimental group ($M = 129.79$, $SD = 43.90$) was significantly greater than the mean for the control group ($M = 102.38$, $SD = 42.42$), $t(46.7) = 2.23$, $p = .031$, and on question 3 the mean word count of the experimental group ($M = 138.83$, $SD = 46.99$) was also significantly greater than the mean for the control group ($M = 107.20$, $SD = 55.99$), $t(46.2) = 2.15$, $p = .040$. Although the counts for the experimental group for Questions 2 and 4 were higher than those of the control group, the difference was not statistically significant.

TABLE 4

EXPERIMENT 2: MEANS AND STANDARD DEVIATIONS FOR TOTAL WORD COUNTS AND WORD COUNTS FOR EACH QUESTION IN THE FOUR-PAGE WRITTEN ASSIGNMENT (EXPERIMENTAL $N = 24$; CONTROL $N = 25$)

	Experimental		Control	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Total Word Count	574.67	126.49	468.16	174.56
Question 1: Identify issues	129.79	43.90	102.28	42.42
Question 2: Suggest solutions	198.96	70.80	164.12	73.02
Question 3: Relate case to theories and research	138.83	46.99	107.20	55.99
Question 4: Ways it may influence your future teaching	107.08	39.25	94.56	45.35

Table 5 shows the means and standard deviations for the frequencies of coded responses on the written assignment, divided into the three categories: applications of (a) concepts from the readings and mini-lecture; (b) concepts discussed by the expert teachers; and (c) concepts in the readings and/or mini-lecture as well as discussed by the expert teachers. Independent-samples *t* tests showed no significant difference between the experimental and control groups in terms of use of concepts from the readings and mini-lecture. As expected, the experimental group's mean number of applications related to the expert teachers ($M = 5.79$, $SD = 1.89$) was significantly greater than the mean for the control group ($M = 2.04$, $SD = 1.02$), $t(35.1) = 8.60$, $p = .001$. Most interesting, the

experimental group's mean number of applications that were in both the Readings/Mini-lecture and raised by the expert teachers ($M = 1.79$, $SD = .93$) approached significance in comparison with the mean of the control group ($M = 1.32$, $SD = .75$), $t(44.1) = 1.95$, $p = .058$. This latter result suggests that even though the control group had been exposed to these concepts in their readings and the mini-lecture, they did not apply them as often to the case study. However, the experimental group, who had not only been exposed to these concepts in their readings and/or mini lecture, but had then experienced them in the expert think-alouds, seemed to internalize the concepts and draw on them in their written work more.

TABLE 5

EXPERIMENT 2: MEANS AND STANDARD DEVIATIONS FOR FREQUENCIES OF CODED RESPONSES IN THE CLASS ASSIGNMENT (EXPERIMENTAL N = 24; CONTROL N = 25)

Frequencies of concepts	Experimental		Control	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Concepts in required Readings and Mini-lecture	4.71	1.65	5.76	2.72
Concepts raised by Expert teachers	5.79	1.89	2.04	1.02
Concepts in both Readings/Mini-lecture and raised by Expert teachers	1.79	.932	1.32	.75

Four weeks after the intervention, when these secondary-level teacher candidates had experienced four more case studies without expert comments, the experimental group was asked to respond to the statement, "Having had the experience of the insights of experienced teachers for the 'New Teacher' case study, I wish I had them for other case studies." Not a single student disagreed, with 49% of them responding "Strongly agree," and 51% responding "Somewhat agree." Indeed, in their midterm evaluations of the educational psychology course itself, when asked "Is there anything you would like to see more of in the course," some of them spontaneously wrote comments such as, "I really liked the expert teacher comments and would like to see more of that if possible please." Or "Have more expert teacher comments. This really puts theory into practice."

GENERAL DISCUSSION

Experiment 1 provided some evidence that elementary-level teacher candidates positively viewed the addition of a video-captured composite of expert teachers' think-alouds when reading case studies, especially in terms of the practical suggestions that were offered. Teacher candidates in this study also seemed to show a greater appreciation of the complexities of the case, and access to multiple perspectives appeared to provide them with more material with which to create bridges to the theoretical concepts in their readings. Teacher candidates also felt that the video confirmed their own understandings, which suggests that this pedagogical tool has potential for building students' confidence. The addition of the video seemed to positively impact the teacher candidates' enjoyment of the case, and they clearly desired such videos for other case studies.

Bereiter and Scardamalia (1996) assert that deeper understanding becomes possible when January, 2008

students are given many opportunities to discuss or revise their *knowledge object* (as represented by their revised and refined notes) as new understandings emerge. In this study, teacher candidates were only exposed to one case study with video insights from experts. Future research will need to determine whether such a pedagogical approach, encouraging discourse around expert teacher insights for cases, if used throughout the entire course, might result in more teacher candidates who demonstrated deeper understanding of the course concepts in their online postings.

In Experiment 2, which looked at secondary-level teacher candidates' responses, the experimental group with its access to the expert teachers' insights, rated their experience significantly more highly than the control group in terms of raising practical issues that were new to them. The experimental group also wrote significantly more about the case in general, and wrote significantly more about identified issues and ways the case related to theories and research, in particular. Although there were no differences between the groups in applications of concepts that were in the required readings and mini-lecture, when teacher candidates also encountered these concepts discussed by the expert teachers, they wrote about them more often than the students in the control group who had only encountered them in the required readings and mini-lecture. This suggested that the concepts had become better internalized by the experimental group and could be drawn on more easily in the analysis of the case.

On a cautionary note, however, even though care was taken to use the term "experienced" rather than "expert" teachers, and in Experiment 1 there were two segments in the video that the instructor believed might be challenged by elementary-level

teacher candidates towards the end of their course, no teacher candidate appeared to dispute the opinions shown in the videos. It is difficult to determine, however, if perhaps teacher candidates did notice problematic expert opinions and just chose to omit commenting on them in their responses. The finding that the elementary-level teacher candidates did not challenge ideas presented in the video may be due to a perception that the segments were selected in order to direct students to a 'correct' answer or solution to the case. In Experiment 1, the majority of participants reported such a perception, which might explain why no student raised in their online postings any of the controversial ideas that were deliberately included in the video. These results suggest important guidelines for instructors who choose to use this teaching tool: The instructor's role could include fostering critical examination of the expert teachers' comments, for instance asking students to identify a clip where they disagree with the expert teacher's suggestions and to provide theoretical evidence to support their position. It is also important to consider just when it is best to introduce the insights of expert teachers into the discourse in order to encourage, rather than inhibit, teacher candidates' own critical analysis of relevant issues in the cases they are examining.

CONCLUSION

Teacher candidates often complain that the educational psychology course is too theoretical, and therefore decontextualized. What they learn in the academic classroom and their experiences in their practica seem disconnected (Guyton & McIntyre, 1990 as cited in Cliff & Brady, 2005). Although teacher candidates clearly articulate their strong desire for practical connections in their educational psychology course (McBride & Chen, 2006), they would also like greater access to the cognitive and metacognitive underpinnings of teacher behavior in the classroom (Ethell & McMeniman, 2000): Teacher candidates have years of experience in watching what teachers *do*, but often have little access to what the teachers are *thinking about* (Doerr & Lesh, 2003), and the procedural knowledge of practicum supervisors often remains unarticulated in interactions during the practica. As expert knowledge in most domains is all too often tacit in nature (Ericsson & Simon, 1993), expert think-alouds can be an effective method of uncovering the thinking behind experts' practical decisions. In the videos, the expert teachers thought aloud as they endorsed or criticized the actions of the teachers in the case studies and provided alternative suggestions. In this way teacher candidates were exposed to the

insights of expert teachers discussing the very practical and theoretical issues educational psychology students were dealing with in their case study analyses. In discussing the importance of expert teacher insights, Sabers et al. (1991) note that, "The reliance upon an experienced and competent other to mediate a complex environment is the basis of learning in Vygotskian thought."

In their practicum experiences, in addition to having supervisory teachers who may not always articulate their knowledge of teaching and learning, teacher candidates too-often experience supervisors who do not have the desired level of expertise. Exposure to the video-captured thinking of the four or five teachers hand-picked by the practicum co-ordinator as the "most expert" might help ameliorate this situation for these students, as well as provide a common context for discourse for the whole class. Masingila and Doerr (2002) assert that without such shared experiences, teacher candidates are less able to examine the complexity of the classroom and therefore may not appreciate the multiplicity of interpretations and perspectives on classroom interactions.

Students in teacher education programs tend to be very anxious about their upcoming practicum placements. As teacher candidates reported that the expert teachers on the video confirmed many of their own understanding about the case, such confirmation may help boost students' confidence about their own developing understanding of teaching and learning situations. Furthermore, as the expert teachers model the types of reflective skills that teacher candidates should be engaging in when considering their own teaching and when discussing those experiences with their supervisory teacher, such access to expert metacognition may be a valuable tool in preparing candidates for practice teaching placements.

IMPLICATIONS FOR FUTURE RESEARCH AND PRACTICE

As the response to both of the videos in this study was so positive, more are in the process of being made. In future research it will be possible to compare whether using a whole set of such videos in an educational psychology course fosters even greater epistemological development, deeper understanding and reflective practice, and more paradigmatic exemplars of practice, as well as better bridges between theory and practice (Copeland & Decker, 1996; Darling-Hammond et al., 2005; Masingila and Doerr, 2002, Merseth & Lacey, 1993). Although making such a video is a fairly time-consuming process, instructors at various teacher preparation institutes who wish to use this

pedagogical tool could share their videos with each other. With this in mind, the consent form completed by the expert teachers in the current study included their explicit permission to share the product with other faculties of education in North America. Although academic instructors advocate *professional communities of learning* for teachers (Brown & Campione, 1994; Cochran-Smith & Lytle, 1999), they too often lack such communities for themselves. Collaboration in making composite expert teacher videos for commonly used case studies in teaching educational psychology might be a first step in creating such cross-institutional learning communities.

The finding in Experiment 1 that teacher candidates do not critically evaluate the experienced teachers' voices has implications for instructors as described above and also implications for the way such videos are made. In the videos in these experiments, the various video clips were grouped together and introduced with text on screen. Some of this text could prime students to attend to potential controversial viewpoints in the set of clips that would follow. Such presentation may encourage students to take a more tenuous and critical stance toward the ideas presented.

Video-captured expert teacher think-alouds have particular relevance and potential for those teaching educational psychology in a distance learning context, where there is a necessity for supporting the online learning experience with rich resources that stimulate deep engagement and discourse. In addition, video resources as described in this study may help to remove the burden of finding articulate, experienced guest teacher presenters to augment the educational psychology course, and also serve to support instructors who may not have strong practical experience in teaching. Even experienced instructors of

educational psychology may greatly benefit from such multi-media resources. For instance, the instructors in the present study both had many years of teaching experience, yet their students still reported that they enjoyed and desired more of these videos with multiple expert opinions.

In conclusion, this study has contributed to the growing body of research that examines the effects of case-based methodologies utilizing multimedia as a way of strengthening connections between the academic classroom and the educational community. It sets forth a new, innovative, and practical approach of incorporating expertise in teaching within the educational psychology course by augmenting existing case study resources. Teacher candidates, scaffolded by experts' insights, were able to effectively widen their lens to examine greater complexity within the teaching and learning situation described in the cases. This pedagogical tool holds promise for instructors of educational psychology as it addresses the need for resources that support the development of practical connections to the theories and research which are the foundation of the course, while highlighting the deeper necessity for placing more instructors with expert pedagogical knowledge into educational psychology classes full-time. The video-captured think-alouds of the expert teachers not only model deep thinking and reflective practice, but also allow the novice teachers to compare their own developing ability to analyze a classroom situation to that of experienced teachers. The confirmation of many of their own understandings may foster a growing confidence in being able to judge teaching and learning situations appropriately. Finally, engagement with the thinking of experts early in the teacher education program may promote preparedness for practicum placements, and support the novice teacher's own trajectory towards teaching expertise.

REFERENCES

- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: W.H. Freeman.
- Bandura, A. & Walters, R. (1963). *Social Learning and Personality Development*. New York: Holt, Rinehart & Winston.
- Bencze, L., Hewitt, J., & Pedretti, E. (2001). Multi-media case methods in pre-service science education: Enabling an apprenticeship for praxis. *Research in Science Education*, 31(2), 191-209.
- Bereiter, C. (2002). *Education and Mind in the Knowledge Age*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Bereiter, C., & Bird, M. (1985). Use of thinking aloud in identification and teaching of reading comprehension strategies. *Cognition and Instruction*, 2, 131-156.
- Bereiter, C., & Scardamalia, M. (1993). Rethinking learning. In D. Olson & N. Torrance (Eds.), *The handbook of education and human development* (pp. 485-513). Oxford, UK: Blackwell Publishers.

- Bereiter, C., & Scardamalia, M. (1996). Rethinking learning. In D. Olson & N. Torrance (Eds.), *Handbook of education and human development: New models of learning, teaching and schooling* (pp. 485-513). Cambridge, MA: Basil Blackwell.
- Brown, A. L., & Campione, J. (1994). Guided discovery in a community of learners. In K. McGilly (Ed.), *Classroom lessons: Integrating cognitive theory and classroom practice* (pp. 229-270). Cambridge, MA: MIT Press.
- Chi, M.T.H., Glaser, R., & Farr, M.J. (1988). *The nature of expertise*. Hillsdale, NJ: Erlbaum.
- Clift, R. T., & Brady, P. (2005). Research on methods courses and field experiences. In M. Cochran-Smith & R. M. Zeichner (Eds.), *Studying teacher education: The report of the AERA panel on research and teacher education* (pp.309-424).
- Cochran-Smith, M., & Lytle, S. L. (1999). Relationships of knowledge and practice: Teacher learning in communities. In *Review of Research in Education*, 24, 249-306.
- Coffey, A. & Atkinson, P. (1996). *Making sense of qualitative data*. London: Sage Publications.
- Collins, A., Brown, J. S. and Holum, A. (1991). Cognitive apprenticeship: Making thinking visible. *American Educator*, 15(3), 6-11, 38-46.
- Copland, W. D., & Decker, D. L. (1996). Video cases and the development of meaning making in preservice teachers. *Teaching and Teacher Education*, 12(5), 467-481.
- Darling-Hammond, L., Hammerness, K., Grossman, P., Rust, F., & Shulman, L. (2005). The design of teacher education programs. In L. Darling-Hammond & J. Bransford (Eds.), *Preparing teachers for a changing world: What teachers should learn and be able to do* (pp. 390-441). San Francisco: Jossey-Bass.
- Doerr, H.M. & Lesh, R. (2003). A modeling perspective on teacher development. In H.M. Doerr & R. Lesh (Eds.), *Beyond constructivism: Models and modeling perspectives on mathematics problem solving, learning and teaching* (pp. 125-140). Mahwah, NJ: Lawrence Erlbaum Associates.
- Engle, R. A. & Faux, R. B. (2006). Towards productive disciplinary engagement of prospective teachers in educational psychology: Comparing two methods of case-based instruction. *Teaching Educational Psychology*, 1(2), 3-6.
- Erickson, F. (1984, Summer). What difference does teaching experience make? *IRT Communications Quarterly*, p. 3.
- Ericsson, K. A., & Simon, H. (1993). *Protocol analysis: Verbal reports as data*. Cambridge, MA: MIT Press.
- Ericsson, K. A., & Smith, J. (1991). Prospects and limits in the empirical study of expertise: An introduction. In K. A. Ericsson and J. Smith (Eds.), *Towards a general theory of expertise: Prospects and limits* (pp. 1-38). Cambridge: Cambridge University Press.
- Ericsson, K. A. (2002). Attaining excellence through deliberate practice: Insights from the study of Expert Performance. In M. Ferrari (Ed.), *The pursuit of excellence through education* (pp.21-55). Mahwah, NJ: Lawrence Erlbaum.
- Ericsson, K.A. (2006). The influence of experience and deliberate practice on the development of superior expert performance. In K. A. Ericsson, N. Charness, R. R. Hoffman, P. Feltovich (Eds.), *Cambridge handbook of expert performance* (pp. 685-706). Cambridge: Cambridge University Press.
- Ethell, R. G., & McMeniman, M. M. (2000). Unlocking the knowledge in action of an expert practitioner. *Journal of Teacher Education*, 51(2), 87-101.
- Fong, C., & Woodruff, E. (2003). Web-based video and frame theory in the professional development of teachers: Some implications for distance education. *Distance Education*, 24(2), 195-211.
- Greenwood, G. E., & Fillmer, H. T. (1998). *Educational psychology cases for teacher decision-making (1st Edition)*. Upper Saddle River, NJ: Prentice Hall.
- Greenwood, G. E., Fillmer, H. T., & Parkay, F. W. (2002). *Educational psychology cases*. Upper Saddle River, NJ: Prentice Hall.
- Harrington, H. L. (1995). Fostering reasoned decisions: Case-based pedagogy and the professional development of teachers. *Teaching & Teacher Education*, 11(3), 203-214.
- Levin, B. B. (1999). The role of facilitator in case discussions. In M. A. Ludenberg, B. B. Levin, & H. L. Harrington (Eds.), *Who learns what from cases and how? The research base for teaching and learning with cases* (pp. 101-116). Mahwah, NJ: Lawrence Erlbaum Associates.
- Masingila, J. O. & Doerr, H. M. (2002). Understanding pre-service teachers' emerging practices through their analyses of a multimedia case study of practice. *Journal of Mathematics Teacher Education*, 5, 235-263.
- McBride, H., & Chen, X. (2006, April). *Improving the psychology curriculum in a pre-service program*. Paper presented at the annual meeting of the American Educational Research Association, San Francisco, CA.
- Mckeown, M.G., & Beck, I. L. (1998). Talking to an author: Readers taking charge of the reading process. In N. Nelson & R.C. Calfee (Eds.), *The reading-writing connection: Ninety-seventh yearbook of the National Society for the Study of Education, Volume 2*. (pp. 112 - 130).
- Mckeown, M.G., & Beck, I. L. (1999). Getting the discussion started. *Educational Leadership*, 57, 25-28.
- Merseth, K. K., & Lacey, C. A. (1993). Weaving stronger fabric: The pedagogical promise of the hypermedia and case methods in teacher education. *Teaching and Teacher Education*, 9(3), 283-299.

- Peskin, J. (1998). Constructing meaning when reading poetry: An expert-novice study. *Cognition and Instruction, 16*, 235-263.
- Peskin, J., & Katz, S. (2007). *Curriculum, coherence and collaboration: Building a program and a community in initial teacher education*. Manuscript submitted for publication.
- Peskin, J., & Olson, D.R. (2004). On reading poetry: Expert and novice knowledge. In R. Berman (Ed.), *Language development across childhood and adolescence: Psycholinguistic and crosslinguistic perspectives*. TILAR (Trends in Language Acquisition) series, Volume 3, (pp. 211-232). Amsterdam: John Benjamins.
- Sabers, D. S., Cushing, K. S., & Berliner, D. C. (1991). Differences among teachers in a task characterized by simultaneity, multidimensionality, and immediacy. *American Educational Research Journal, 28*, 63-88.
- Scardamalia, M. (2002). Collective cognitive responsibility for the advancement of knowledge. In B. Smith (Ed.), *Liberal education in a knowledge society* (pp.67-98). Chicago: Open Court.
- Schon, D. (1983). *The reflective practitioner: How professionals think in action*. New York: Basic Books.
- Schoenfeld, A. H. (1985). *Mathematical problem solving*. Orlando, FL: Academic Press.
- Schoenfeld, A. H. (1998). Looking toward the 21st century: Challenges of educational theory and practice. *Educational Researcher, 28*, 4-14.
- Simon, H. A. (2002). Achieving excellence through education. In M. Ferrari (Ed.), *The pursuit of excellence through education* (pp.181-194). Mahwah, NJ: Lawrence Erlbaum Associates.
- Smith, J. S., Malkani, J., & Dai, D. Y. (2005). Understanding student perceptions of the case method in Educational Psychology. *Teaching Educational Psychology, 1*, 1-11.
- Spiro, R.J., Coulson, R.L., Feltovich, P.J., & Anderson, D.K. (1988). Cognitive flexibility theory: Advanced knowledge acquisition in ill-structured domains. In V. Patel (Ed.), *Proceedings of the tenth annual conference of the cognitive science society* (pp. 1-9). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Strauss, A. & J. Corbin (1990). *Basics of qualitative research*. California: Sage Publishing.
- Sternberg, R. J., Grigorenko, E. L., & Ferrari, M. (2002). Fostering intellectual excellence through developing expertise. In M. Ferrari (Ed.), *The pursuit of excellence in education* (pp. 57-83). Mahwah, NJ: Lawrence Erlbaum Associates.
- Sternberg, R. J., & Horvath, J. A. (1995). A prototype view of expert teaching, *Educational Researcher, 24*, 9-17.
- Wineburg, S. (1991). Historical problem solving: A study of the cognitive processes used in the evaluation of documentary and pictorial evidence. *Journal of Educational Psychology, 83*, 73-87.
- Wineburg, S. (1998). Reading Abraham Lincoln: An expert/expert study in the interpretation of historical texts. *Cognitive Science, 22*, 319-346.
- Woolfolk, A. Winne, P. H., & Perry, N. E. (2005). *Educational Psychology*. (3rd Canadian Edition). Toronto: Pearson.

Latika Nirula is a teacher and a Ph.D. candidate in the Human Development and Applied Psychology Department at the Ontario Institute for Studies in Education at the University of Toronto (OISE/UT). Her research interests include learning technologies, metacognition, and self-efficacy

Joan Peskin is an Assistant Professor in the department of Human Development and Applied Psychology at OISE/University of Toronto. Her research interests include developmental psychology and English education.

APPENDIX A

INSTRUCTIONS FOR ONLINE POSTING

Within your Groups after class, each of you will contribute one posting to Knowledge Forum® that synthesizes and extends your understanding of a key issue arising from the case study or your practice and relates it to theory and research presented in the chapter.

This can be done either:

(a) by identifying a key issue from the case study or your practical experience and interpreting it in light of the theory and research

or conversely

(b) by defining a key concept or cluster of concepts from the theory/research and illustrating it with a practical example from the case study or your practical experience.

Again it is necessary to determine who will be making the first posting each week.

The goal of these posting is to begin to extend your understanding of the relationship between key issues arising from the case study or your own practice and the theory and research presented in the chapter and discussed in class.

MAXIMUM Length: 250 words

APPENDIX B**STUDENT FOLLOW-UP INTERVIEW PROTOCOL**

1. How do you think the case study (i.e., “Life in an Elementary Classroom”) with additional video of experienced teachers’ insights, has informed your understanding of course content in educational psychology?
2. What process did you go through when analyzing this particular case with video?
Prompt: How did you deal with the addition of the video clips when having to do a case analysis?
3. Describe any differences in peer discussion (either online on Knowledge Forum® or offline in face-to-face discussions) with the addition of the video clips of the experienced teachers to case studies in this course.
4. How did access to the video clips of experienced teachers impact your overall enjoyment of case studies in this course?
4A. Prompt: Was the experience more or less enjoyable, or did it not change?
4B. Prompt: How did things change?
5. How did access to the video clips of experienced teachers impact your understanding of the case study in terms of its practical aspects, theoretical aspects and complexity?
5a. Prompt: Consider the video’s impact in terms of practical suggestions.
5b. Prompt: Consider the video’s impact in terms of theoretical applications.
5c. Prompt: Consider the video’s impact in terms of understanding the complexity of the case.

APPENDIX C
EXAMPLES OF RATED ONLINE POSTINGS

C.1. Superficial Analysis

Lazy teacher equals lazy teaching

When I first read the case study I was surprised at how lazy Miss Walker was. I completely agree with [names another student] about Miss Walker's teacher oriented lesson planning and a couple of the educators in the video said the same thing. Miss Walker's lesson was not clear and the lesson did not include any explicit teaching (p.459). Miss Walker should explain to the students exactly what she wants them to do and go around and check that all the students are on task. Instead she became lazy focusing on certain students and neglecting others like Frank who appeared like he had no motivation to do the work. One thing Miss Walker could have done because of the grade level she was teaching to make her lesson more student oriented was modeling (p.321-322). In the primary age group some students need to see what to do in order to understand. Overall lazy teachers result in lazy students and poor classroom management.

C.2. Initial Analysis

"Ask Three, Then Me."

After watching the video in class I was intrigued by the concept of "Ask Three, Then Me" (p. 464) and immediately wrote it down. I then found it in the text. The idea is for a teacher to be available to his/her students while they are doing seatwork, and enabling the students to seek their own help without forcing your help upon them. The students "have to consult 3 classmates before seeking help from the teacher" (p. 464). This in turn enables the teacher to have frequent quick checks on the entire class instead of only helping 2 students. The students are taught how to help (scaffold) instead of giving out the answers to each other, and are encouraged to ask questions of each other and work collaboratively. The teacher in turn can then work with a small group while the rest of the class is working at their desks. I saw my practicum teacher use this strategy while she worked with ESL

students and the rest of the class continued on. However, I did not know it was the “Ask Three, Then Me” strategy being used. What a useful strategy for the students to take charge of their own learning!!!

C.3. Detailed Analysis

Learning from Ms. Walker’s classroom!

This case study, “Life In An Elementary Classroom” has really made me realize (much more) that sometimes as teachers we don’t always stop and take notice of what is truly going on with our students in our classroom. What I mean is that Ms. Walker did not stop at any given time to reflect on what was happening in the room and how her kids were learning and if they were being motivated to learn. She gave seat work (3 stories and questions) to a group of grade two children and expected that they accomplish the task at hand. In the video a teacher suggested that everything seemed “teacher directed” and really Ms. Walker should have been more “student directed.” As suggested in the video, teachers need to assess kids, but Ms. Walker’s methodology of having kids sit and read 3 stories with questions was not very motivational. It is really important to tap into the interests of the kids (p.370) and gear our teaching around their interests which can prompt them in becoming motivated and eager to learn the lesson presented. Ms. Walker failed to have the children really interact with one other therefore there was no scaffolding taking place. Vygotsky suggested that “cognitive development occurs through the child’s conversation and interactions with more capable members of the culture (adults) and more able peers” (p. 48). In Ms. Walker’s class children did not interact with one other in terms of sharing ideas, making predictions about the reading –thoughts about the readings and so on. The group of 8 that she worked with at the round table was faced with the similar situation. The kids simply sat there and answered what was asked of them without having any feedback from their peers or any “meaningful” suggestions from the teacher. A teacher in the video suggested Ms. Walker should have facilitated further questioning and modeling. Ms. Walker should have modeled what she wanted from them and should have allowed scaffolding to take place as well as peaking the children’s interest and motivating

them further in the classroom. This case study is a good reminder for each of us when working with children in and out of the classroom. We need to stop and assess our own selves. I believe that we need to always check to make sure we are working and motivating children in their own ZPD and creating an environment that is more student directed instead of teacher/adult directed. Ms. Walker is not a “bad” teacher, for all we know we glimpsed into her life on an “off” day. She could have and probably should have done things in the gr. 2 classroom very differently. However, we can all learn from this and try to take notes on how we would improve the learning environment of the children we teach, so that they will be motivated to learn and cognitive development and growth will occur.