CASE-BASED DISCUSSIONS IN AN EDUCATIONAL PSYCHOLOGY COURSE:

PROBLEM SOLVING PROCESSES AND INTERACTIONS

by

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Submitted to the Graduate Faculty of

University of Pittsburgh in partial fulfillment

of the requirements for the degree of

Doctor of Philosophy

University of Pittsburgh

2007

UNIVERSITY OF PITTSBURGH

SCHOOL OF EDUCATION

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University of Pittsburgh, 2007

The purpose of this study was to describe the interactions between a classroom facilitator and student teachers during whole class case-based discussions. Five questions were explored. 1) What role did the facilitator play in whole class discussions? 2) How did particular cases elicit problem solving? 3) What kinds of engagement did students demonstrate in each discussion? 4) How did individuals differ in their participation during case discussions? 5) How did turn-taking between students and facilitator, change over time?

The data sources were transcripts of videotaped whole-class case discussions and a semi-structured interview with the facilitator. This study analyzed, in detail, both the content of the case discussions in the framework of problem solving strategies and the interaction between the facilitator and the students during the seven whole-class discussions.

The content of the discussions was analyzed specifically looking at the aspects of problem solving, which regards problem analysis, solution analysis, knowledge resources and individualized perspectives. The interaction analyses were categorized as asking, probing, agreeing, challenging, clarifying, paraphrasing, praising, inviting, referring and elaborating. The results revealed that the facilitator was more often guiding and supporting student participation in the first three discussions. The facilitator orchestrated the discussion by sharing responsibilities for learning and teaching together. The content and the nature of the case influenced the format of the discussion. Students' personal and professional experiences affected

their engagement and contribution to the discussions. This study gives some insights into how whole-class discussion works and how the facilitator and students engage in these discussions. This study reveals that interaction and content of discussions could be affected not only by students' background knowledge and previous experiences, but also by the facilitator's intentions and purposes.

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1.0   INTRODUCTION

There has been much increasing popular interest in developing and using "cases" for teacher education (Kleinfield, 1992; Merseth, 1991; Razvi & Allen, 2005; Shulman, 1992; Siegel, 2002; Stepich, Ertmer & Lane, 2001). Cases are richly detailed, contextualized, well-documented narrative events (Shulman, 1992) that enable prospective teachers to experience the complexity of the original situation (Doyle, 1990). Teacher-educators increasingly have been using case discussions as a teaching method for their courses, in contrast to lecture and text-based discussion methods.

Besides instructional use, there has also been increasing academic research on the effects of case analysis and case-based discussions. There have been some promising findings that, as an instructional tool, cases help prospective teachers connect theory to practice (Faux, 1999) and develop problem-solving ability (Kleinfield, 1991). Case-based discussion in teacher education motivates students and facilitates higher level thinking (Flynn & Klein, 2001; Levin, 1995; Lundeberg & Fawer, 1994).

Researchers generally have examined outcomes of the case-based discussions with particular perspectives such as problem-solving (Kleinfield, 1991) and cognitive growth (Lundeberg & Fawver, 1994). They have also studied the influence of discussion on performance and motivation in case-based learning (Flynn & Klein, 2001). Levin (1995) studied the quality, form, and content of the teachers' thinking after discussion. These previous studies examined

individual development after engaging in case-based discussion. It can be concluded that case-based group discussion positively affects teachers' problem solving, cognitive growth, thinking, and motivation (Flynn et al., 2001; Kleinfield, 1991; Levin, 1995; Lundeberg et al., 1994). As an instructional outcome, it also spurs student teachers to be more reflective practitioners (Malkani & Allen, 2005).

Case-based discussion is a powerful tool to facilitate problem-solving skills involving the application of knowledge to real-life situations. The case provides "opportunities for inquiry - inquiry bounded by experience, framed by theory, generating possibilities, and informing practice" (Harrington & Garrison, 1992, p. 721).

Laframboise and Griffith (1997) also emphasize that "discussion during case method sessions is an essential part of the meaning-making process" (p. 370). Discussion provides a diversity of perspectives, and it externalizes assumptions regarding one's values and beliefs "to see the world as others see it," and allows for the learning of ways to cope with complexity and vagueness (Brookfield, 1990, p. 192). Group discussion gives us a window of understanding, into what and how teachers are thinking about the problems, and issues embedded in cases.

There is some evidence that case-based instruction improves a novice teacher's classroom decision-making and problem-solving skills with diverse groups. Kleinfield (1992) studied student teachers' understanding of minority populations before and after role-play using cases. She found that, after role play, students better understood cultural issues and could identify possibilities for action. Tillman (1992) compared the use of problem-solving cases in cooperative learning groups with the use of a traditional lecture format while teaching general education student teachers about integration of special education students. The case method group performed better than the lecture group in solving a classroom case problem during the

assessment phase. Andrews (1996) found that analyzing inclusion cases increased student teachers' classroom problem-solving and planning skills in a mainstream course. Thus, a premise of this research has been established in previous research.

As evidence begins to accumulate in favor of case-based instruction, teacher- educators are not asking "Will we use cases?" but, instead, "How can we use our discussion effectively?" Previous studies have examined the outcomes of case-based instruction on teachers' problem solving by student teachers (Kleinfield, 1991, 1992; Mitchell, 2001). This study aims to explore the process of group problem solving that takes place in whole-class discussions.

1.1   STATEMENT OF THE PROBLEM

Research is limited on the facilitator's role in case discussions, and what is going on during these discussions. Previous studies have examined how case-based discussion affects the problem-solving skills of student teachers. However, we know little about problem-solving processes and interaction patterns occurring during case-based discussions in which student teachers engage as a group with a case-based problem. The purpose of this study is to identify and explain teachers' engagement in problem-solving processes in whole-class, case-based discussions used in educational psychology courses, and to find out how teachers interact during these problem-solving discussions.

1.2   RESEARCH QUESTIONS

The research questions are as follows:

1.   What role did the facilitator play in whole-class, case-based discussion?

- What were the facilitator's intentions and purposes?

- What types of interaction did the facilitator actually demonstrate during

    discussions?

2.   How did particular cases elicit problem solving?

3.   What kinds of engagement did students demonstrate in each discussion?

4.   How did individuals differ in their participation during case discussions?

5.   How did turn-taking between students and facilitator, change over time?

1.3   SIGNIFICANCE

This descriptive study explains how student teachers handle case-based problems in a group process. The theoretical implications of this study provide insight into social construction of knowledge in a setting like a case discussion. The proposed study has the potential to help us better understand how the teacher-educator can improve and orchestrate the best way for the whole-class case discussion to proceed, so that pre-service teachers are able to easily deal with and learn from classroom problems. The implications of this study will enhance teacher-educators' understanding of how to appropriately meet the challenges that arise during case discussions. The findings will reveal not only instructional strategies for teacher training but also cognitive understanding of how student teachers deal with educational dilemmas.

1.4   DEFINITIONS

Cases, described as reports of specific, well-documented, and richly described events, have been suggested as instructional tools in teacher education (Harrington, 1990, 1994; Shulman, 1986). Cases are complex narratives observed in a classroom setting that allow for multiple levels of analysis and interpretation (Levin, 1993).

Case-based instruction is a teaching method focusing on the use of cases as part of a course curriculum and includes the use of a case report, in small-group work, and/or in whole-group discussion.

Case-based discussion is a form of discourse having both cognitive and social elements; the different communication and interactional styles demonstrated by the participants. It may facilitate discussion based on written, existing cases.

Whole-class discussion is a large group discussion, in which the entire class participates.

Problem solving is defined as the direct result of teachers thinking about education as a complex activity, involving issues, perspectives, and possible courses of action, and then making decisions based upon best practice and perceived consequences of recommended actions (McNergney, Herbert, & Ford, 1994). The five-step problem-solving strategy consists of the following: a) identifying the educational issues or problems; b) thinking of the case from multiple points of view (perspectives); c) utilizing knowledge from various resources; d) proposing appropriate actions that might solve the problems; e) considering negative and positive consequences of the actions or solutions.

Interaction pattern refers to the chain of connection among participations' contribution to the discussion.

2.0   LITERATURE REVIEW

In this chapter, the first section reviews the history of case-based instruction and its rationale. Then, case-based discussion was considered. Finally, the problem-solving literature was related to case-based discussions.

2.1   HISTORY OF CASE-BASED INSTRUCTION

Case-based instruction has a long history of use in professional fields including law, medicine, and business. In 1870, Christopher Columbus Langdell, a dean of the Harvard Law School, introduced and developed the case method to promote students' understanding of theory. Under the guidance of Langdell, faculty emphasized the analysis and discussion of individual cases by students in their training (Merseth, 1991; Sperle, 1933). Cases on the law of contracts in Langdell's textbook were published in 1871. By 1915, case-based instruction had gradually spread and was employed in well-known law schools (Merseth, 1991).

Harvard's school in the field of medicine, as in law, influenced the use of the case method in medical training (Sperle, 1933). Flexner, (cited in Sperle, 1933), then at Harvard, proposed the case method as a powerful pedagogical stimulant in fourth-year medical school training. In the medical field, the case is the individual patient. Medical students give full reports

of the case: students must take the medical history, conduct the physical examination, do the clinical laboratories, propose the diagnosis, and suggest treatment.

After the established popularity of the case method in Harvard Law School, Harvard professor Lawrence Lowell proposed to the business school committee a new business curriculum, implementing cases similar to the law school (Merseth, 1991). However, the plan was not successful due to faculty's lack of expertise in case-based instruction, and also the fact that case materials were unavailable. The dean of the business school had graduated from Harvard Law School. Dean Wallace B. Donham brought a new case-based application to the Graduate School of Business Administration (Copeland, 1954). He emphasized that the business curriculum should be a problem-centered, an approach based on real-life situations. He worked on case materials and trained faculty to gain expertise in case-based teaching. In 1920, he established the Bureau of Business Research. He worked with Copeland to collect cases from the business fields for teaching (Copeland, 1954). Due to the contributions of Donham and his followers, case-based instruction was successfully used in Harvard's Business School.

Case-based instruction was already popular in Harvard's medical, law, and business schools, and in the late 1920s, case-based instruction was introduced at the Harvard Graduate School of Education. Henry H. Holmes, appointed dean, founded a project to implement case-based instruction with inexperienced students in the two-year master's degree program. But his aim and projects were not understood by colleagues and administrators, and his method was not implemented (Merseth, 1991).

Kagan (1993) traced the history of case-based instruction in teacher education until 1927. Waples (cited in Kagan, 1993) proposed case analysis as a method of dealing with the problems related to teaching situations. In 1927, Waples wrote a book entitled *Problems in*

Classroom Method, addressed to supervisors and teachers in service. The book has forty case problems, along with solutions proposed by teachers. In 1928, he wrote a second case book entitled *Problem Exercises for High School Teachers* (Kagan, 1993; Sperle, 1933). Waples proposed a five-step outline for case analysis (Sperle, 1933, p. 21): defining the case, analyzing the case, interpreting the case, collecting solutions, and defining the conclusions.

In 1933, Sperle published a case book entitled *Case Method Technique in Professional Training*. He surveyed the use of the case method in education and certain comparable fields, in order to understand underlying principles and facts, to better apply case-based instruction in teacher training. He also included examples of applications of case method used at the New Jersey State Teachers' College at Montclair.

In 1986, the Carnegie Forum on Education and the Economy issued a report entitled *A Nation Prepared: Teachers for the 21st Century*. As a result of this report, teacher preparation programs have been motivated to use case-based instruction. The report emphasized that the case method has been successfully developed and used in law and business education, but unfortunately, in teacher preparation programs, the case method was virtually unknown. This report recommended that teacher education programs should pay more attention to the case method of instruction (Carnegie Commission, 1986). This report motivated educators to respond to the challenge, to write cases and use them to enhance students' learning.

2.2   RATIONALE FOR CASE-BASED INSTRUCTION

As noted previously, case-based instruction has a long history in professional education such as law, medicine, and business, as an alternative to traditional teaching strategies (Merseth, 1991).

It has gained importance in the field of teacher education (Merseth, 1996; Shulman, 1992). To understand case-based instruction, the following will further explain what a case is, and why it is important for teachers.

Shulman (1988) defines cases as the reports of specific, well-documented, and richly described events. According to Shulman (1998), practitioners can examine and learn from the cases. He believed that "case methods thus become strategies for helping professionals to 'chunk' their experience into units that can become the focus for reflective practice" (Shulman, 1998, p. 525). Shulman (1986) proposed case knowledge as a way of connecting the principles of theories to practical situations. Shulman (1998) believes that "as pedagogical devices, cases confront novice professionals with highly situated problems that draw together theory and practice in the moral sea of decisions to be made, actions to be taken" (p. 525).

Cases, as an instructional tool, can be used to teach teacher candidates about principles or concepts of theoretical knowledge. Through cases, learners have the potential to bridge theory and practice. Cases can serve as exemplary models for practical, moral, ethical, and instructional strategies (Shulman, 1992). Cases are narratives situated in the context of application and emotions that are embedded in place and time. Through cases, concepts and principles are contextualized and situated in narrative form so that students can easily remember and apply them. The process of thinking within situated contexts in case-based instruction helps learners acquire their motivation to teach and to become expert practitioners.

Shulman (1992) stated that "cases motivate. They stimulate interest in the problems they represent. This is not a controversial claim. Were it the only value of case methods, they still merit our interest. They certainly merit the interest of the learners" (p. 9). Case-based instruction involves solving authentic problems and working with others to find real solutions. Therefore,

learners find case-based instruction challenging and rewarding (Wassermann, 1994). However, Cossom (1991) reports that "some students think that the methodology does not meet their learning needs well. They are frustrated with the absence of correct answers and lack of clear decisions, or a consensus about what should be done in a particular case" (p. 150). He explained that students' learning styles are an important factor in whether or not students feel comfortable with case-based instruction.

Harrington and Garrison (1992) highlight cases as vicarious experiences. Cases as vicarious experience allow pre-service teachers to learn from the experiences of others. Novice teachers experience the connection of theory to practice without actually experiencing the experience, but they can share and analyze it as individual or group cognitive, practical, and normative components of everyday practical problems. Merseth (1991) emphasizes that cases help bring a sense of reality to the college classroom.

According to Harrington (1991), students in case-based teaching have the opportunity to construct knowledge, build on prior knowledge, connect new knowledge to experience, transform the knowledge, and grow knowledge structure. Therefore, teacher-educators should be aware of the role of students' preconceptions and misconceptions in their acquisition of knowledge, and how these might influence the discussion of cases in case-based instruction. Students can also examine their own beliefs and preconceptions in case-based discussions.

In summary, case-based instruction can bridge the gap between theory and practice. Via case-based instruction, teacher candidates can practice what they may face in the future. Teacher candidates can develop a repertoire of solutions to frequently occurring educational problems (Kleinfield, 1992).

2.3   CASE-BASED DISCUSSION IN TEACHER EDUCATION

The discussion in case-based instruction is an essential part of the meaning-making process in knowledge construction. According to Vygotsky (1986), meaning is constructed through social interactions. The shared inquiry occurring during discussion becomes context that individual students might ascend to a new level of understanding with other students' help, or an individual student may affect the group by changing previously held concepts or thoughts.

Shulman (1986) not only emphasized the content of the case, but also expressed the importance of discussion and facilitation, when she noted, "Cases, even with commentaries, do not teach themselves." But case discussion as a process itself is important (Christensen, 1987; Merseth, 1991).

Christensen (1991) stated that "the classroom encounter consumes a great deal of energy; simultaneous attention to process (the flow of activities that make up a discussion) and content (the materials discussed) requires emotional as well as intellectual engagement" (1991, p. 15). Christensen presents four fundamental principles for a discussion class: (1) partnership: students and teacher share the responsibilities and power of teaching, and the privilege of learning together, (2) a learning community with shared values and common goals, (3) alliance with students, and (4) the ability to manage content and process.

Merseth pointed out that case-based discussion requires multiple levels of interaction between the case and students, between students and facilitator, and among students themselves (1991). Skyes and Bird (1992) stated that "learning from cases will depend on the interaction among what the case presents, and what the reader brings, and what the teacher does with the cases" (p. 511).

Levin (1999) believes that discussion is very crucial in learning from cases. Written responses to cases give teacher-educators a window into understanding what and how teachers are thinking about the problems embedded in cases. Written analyses of cases before and after discussion have been used as research tools for determining what teachers are thinking (Harrington, 1996; Levin, 1995, 1997; Lundeberg et al., 1996).

Levin found that social interaction during discussion is the source of changes in the pre-service teachers' thinking about these case discussions. These findings were concluded by comparing the content of participants' pre- and post-discussion writing about the case, with a detailed discourse analysis of the audio transcripts of the case discussions. Interestingly, she found that, even though some participants were more apt to listen than to speak, their thinking still changed after discussion. The ideas and perspectives of others in the group influenced them to rethink previous thoughts; therefore, the content and the context of this case discussion might create internal cognitive conflict.

Participants exchange ideas and problem solutions. They share personal experience and stories, in the social interaction among peers during a case discussion. However, the participants' previous understanding and experiences, personal background, and individual interests determined what they understood from the case and its discussion (Levin & Powell, 1997). Lundeberg (1993) states that non-traditional students had much more contribution such as generating more decisions and issues because they utilize personal life experiences in the classroom.

It is important to understand the nature of what is learned from discussion. First, how this learning occurs, and the goals and purposes of the case facilitator, should be explained. The study findings indicated that the role of the instructional leader was very important. It has been

emphasized that the level and quality of the facilitator's responses, and the role and nature of facilitator participation in case discussions, can change participants' thinking (Libby, 1994). Future studies should cover, in a descriptive manner, not only how the facilitator perceives his or her role in case discussions, but also document the behavior of the facilitator for leading a case discussion (Libby, 1994). Lundeberg (1999) suggested that "micro analysis and comprehensive discourse analysis of both the participants' and the facilitator's role in case discussion would be very valuable in future research in this field" (p. 238). This study aims to describe not only participants' and facilitator's role in the discussion but also their interaction.

2.4   PROBLEM SOLVING

Teachers must be prepared to deal with the problems and issues that arise in the classroom. Prospective teachers should be trained to understand the situation, analyze it, apply action plans, and evaluate their actions.

Kleinfeld (1991) compared the problem-solving abilities of students who were taught by case-based instruction to those of students taught through other discussion methods. Data included the midterm exams, an attitude survey, classroom observations, and the standard university evaluation process. The findings of this study indicated that students taught by the case method approach showed significantly greater ability to analyze an educational problem.

On the other hand, Bronack (1998) examined in-service teachers' written case analyses, in order to show the impact of participating in the CaseNet program and the five-step problem-solving method regarding teachers' abilities to make decisions about school issues. The results

showed that there was no significant difference in the problem-solving abilities of teachers who participated in CaseNet program, and those who did not participate.

Kilbane (2000) investigated the problem-solving proficiencies of students enrolled in the CaseNet program, those enrolled in a master's degree teaching program, and those enrolled in a bachelor's degree program in a field other than education. Written case analyses based on the Herbert-McNergney five-step problem-solving method (McNergney & Herbert, 1995) were collected and analyzed by expert judges. Kilbane found that the CaseNet group had a higher problem-solving proficiency rate when compared to the other two groups.

Case-based instruction appears to be a sound pedagogical strategy for teaching problem-solving skills to prospective teachers. Case-based problem solving gives power to teacher candidates, along with a repertoire of skills to deal with situation-specific dilemmas.

Lundeberg and Fawver (1994) investigated whether an entire course built around case-based teaching affected reflective cognitive growth in pre-service teachers. Their findings showed that older students and women were more reflective, and demonstrated higher problem-solving proficiencies than younger students and men. Pre-service teachers exhibited cognitive growth in the area of flexibility, which is the ability to identify problems and solutions.

The data in this literature review presents evidence from empirical and theoretical papers, that the discussion of a case is an important pedagogical tool in a case-based teaching program for the learning and development of teachers. The purpose of this study is to analyze descriptively not only the content of the case discussions within the framework of problem-solving strategies, but also examining the triangle of case, facilitator, and student teachers during a seven-week period. This study gives teacher- educators an overview of how teachers' problem-

solving takes place in whole-class group discussions, and also how they interact or engage, and what role the facilitator plays in this process.

3.0   METHOD

This chapter begins with describing the participants and the context of the study. Then, it follows data sources that are cases, discussions, physical settings, and an interview with instructor are described. Finally, data analysis is presented.

3.1   PARTICIPANTS

Students enrolled in one of the sections of the Psychology of Learning and Development course at a mid-Atlantic university in the 2002 fall semester. Participants were 23 students: 11 specializing in secondary science, 11 in foreign languages, and 1 from a music education master's degree program at a nearby university. Nineteen participants were female; four students were male. Most of the students enrolled in this course were planning a teaching career and were student teaching for approximately 20 to 30 hours per week, while taking a full load of four required courses. Even though there was no documented information about detailed characteristics of the participants, some of the teachers seemed more experienced. For example, one of the students said that she was mentoring intern teachers in her school. Two other female teachers were parents; one of them was a female intern teacher with an immigrant background, while the other had more teaching experience.

3.2   DATA SOURCES

Before the 2002 fall semester, two instructors and two of their colleagues redesigned this educational psychology course for pre-service teachers.   They aimed to establish some standardization between two sections in terms of content, assignments, and grading scheme, and they incorporated cases into the course.   This experimental course design was applied to two sections of the course, and these two sections were videotaped for research purposes.

In this study, data sources included eight videotaped case discussions in the Tuesday section of these courses, the course syllabus, case-related handouts, and a semi-structured interview with the case facilitator who was the instructor for the course.   The following section describes the structure and context of the course from the syllabus and videotapes.

3.2.1   Course context: Integrating cases to the course

According to the course syllabus (Fall, 2002), *Child Development and Education* (McDevitt & Ormrod, 2002) was assigned as a textbook, along with other supplemental readings throughout the course. The instructor introduced students to basic psychological theories and concepts that apply to education.   The instructor aimed to foster their understanding of psychological theories and concepts, develop their ability to use these theories and concepts to analyze and resolve realistic educational problems (Appendix A).

The cases were integrated as a curricular activity to small and whole-class group discussions during eight weeks of the fall semester. One of the goals of discussion was to apply psychological theories and perspectives to realistic educational problems. The instructor first taught some educational psychology content via lecture and then gave students written cases that

might be relevant to course content, via small and whole class discussions. After reading the case, the class discussed the case as a small group - four to five people - and followed with whole-class discussion eight times during the eleven weeks of the semester. Students were then assigned to present their final project of case analysis. Teachers were expected to apply at least two different psychological theories to a case they developed themselves over the course of the semester.

This study focuses on data obtained through the videotaping of the whole-class case discussions. In total, there were eight discussion tapes.

3.2.2 Case materials

The instructor used eight printed cases drawn from Greenwood, Fillmer, and Parkway's book *Educational Psychology Cases* (2002). Each case provided extensive dialogue and additional material about students in the cases, such as their scores on exams or other demographic information. Cases were five to 10 pages long, open-ended, and problem-centered. The cases reflected the difficult and frequently experienced problems that teachers faced in actual teaching situations. The cases used in research analysis are summarized below.

"The Glory that was Greece" is a case about a ninth-grade world history teacher challenged by some of her students who say they see little value in studying history. She turns to a curriculum coordinator for advice when none of the techniques she tries seem to motivate them.

"The Comedienne" case involves a seventh-grade science teacher who has to decide what to do about the antics of a female class clown. The student's classroom disruptions have reached the point where they not only interfere with the student's learning, but also encourage imitators.

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"The Little Engine That Couldn't" case concerns a beginning sixth-grade teacher who becomes frustrated when the students in his culturally diverse class do not believe they can learn the material and seem unmotivated to try. He begins to question his ability as a teacher when some of his classroom teaching strategies fail, and his students' parents do not seem to value learning, either.

The "To Retain or Not to Retain" case is about a first-grade teacher meeting with the building principal to make a promotion/retention decision about Juan Rodriguez, a physically small, somewhat emotionally immature boy from a large Hispanic family in which English is a second language. Juan has difficulty reading and writing English, and his father becomes upset when he learns that the school is considering a repeat year for Juan.

"Withdrawn Wanda" involves a middle-school teacher who seeks advice from a school psychologist about a severely withdrawn ninth-grade girl in her class, whose problems appear to stem from a mentally abusive home situation.

"Which is Higher?" is a case involving a social studies curriculum director chairing a committee of teachers to revise the secondary world history curriculum. His problem is to get the committee to move from dead center when two teachers polarize the group around two different approaches to teaching: one emphasizes the learning of facts through lecture-discussion teaching methods and objective testing procedures, while the other argues for higher-order learning through small-group problem-solving methods and essay tests.

The case "Life in a High School Classroom" is about a high school principal who observes an experienced high school mathematics teacher making moment-to-moment decisions as he teaches a ninth-grade general math class. Since the purpose of the observation iss for the

semester evaluation, the teacher wants the principal to go to lunch with him and give him some feedback on his performance.

3.2.3   Whole-class case discussions

Participants first read the case and then analyzed it in small groups of four to five students. This was followed by whole-class discussions of all eight cases, during 10 weeks. Discussions were facilitated by the instructor who taught the course. The focus of this study is upon the whole-class case discussions, with both students and facilitator as participants.

These whole-class case discussions varied in length from 6 to 47 minutes. The order and duration of case discussions can be seen in Table 1.

Table 1. Order and timing of case discussions

Case Title	Discussion Date	Duration	Total minutes
The Glory that was Greece	September 3	7:47:40-7:56:32	28
	September 10	5:30:20-5:48:15	
The Comedienne	September 10	7:53:29-7:57:54	25:25
	September 17	5:30:19-5:50:28	
The Little Engine That Couldn't	September 24	5:19:50-6:05:34	46:44
To Retain or Not to Retain	October 8	6:28:10-7:00:20	32:30
Withdrawn Wanda	October 15	7:14:13-7:27:36	14:13
Which is Higher?	October 22	7:33:48-7:47:46	14:58
Potpourri	November 5	7:49:27-7:53:47	5:20
Life in a Classroom	November 12	7:27:41-7:38:52	12:11

In this study, seven case discussions were selected for analysis. These cases were "The Glory that was Greece," " The Comedienne," "The Little Engine that Couldn't," "To Retain or Not Retain," "Withdrawn Wanda," "Which is Higher?" and "Life in a High School Classroom." As mentioned previously, these case discussions ranged in duration from approximately 12 to 47 minutes. The seventh discussion, "The Potpourri," will not be included as the discussion lasted only 5 minutes and 20 seconds. It was too short for value assessment.

The following table presents information about order, time, and key contents in the discussions.

Table 2. Content of the cases in each discussion

Case Title	Week	Content	Total minute
The Glory that was Greece	2&3	Cognitive theory Instructional objectives Motivation Measurement and Evaluation	28
The Comedienne	3&4	Learning Theory Class management Motivation	25
The Little Engine That Couldn't	5	Cognitive Theory Teacher belief and effectiveness Motivation Social psychology Home and parent influences	46:44
To Retain or Not to Retain	7	Human development Cognitive theory Teacher belief and effectiveness Home parent influences	32:30
Withdrawn Wanda	8	Human development Motivation Home and parent influences	14:13
Which is Higher?	9	Cognitive theory Instructional objectives Motivation Measurement and evaluation	14:58
Life in a Classroom	12	Instructional objectives Teacher belief and effectiveness Classroom management Motivation	12:11

As seen in Table 2, there were variations in duration of the discussions that took place.

The longest in duration, "The Little Engine that Couldn't," was more than 46 minutes. This case

was discussed in a small group the previous week, and then whole-class discussion began the

following week (week 5) at 5:30 p.m. The shortest discussion was about "Life in a High School

Classroom," about 12 minutes. The first case, "The Glory that was Greece," was started in the last 10 minutes of the second week's class, and then the rest of the discussion took place the following week at 5:30 p.m., before the lecture was given. The second case discussion, "The Comedienne," was discussed much like the first case. The majority of cases were discussed in the second half of the class time.

3.2.4   Physical setting

The lecture and case discussion segments took place in a physically small classroom, as seen in the videotapes. One video camera was set up in the corner of the classroom at the entrance. All discussions were videotaped from the same perspective. The facilitator stood in front of the blackboard and faced the students. During most of the whole-class discussions, students stayed in a small circle/group shape and participated in the whole-class discussion, with the exception of the second parts of the first two whole-class discussions, in which the students were in a lined-up position, facing the facilitator. In the circle formation, most of the students faced other small-group friends. In the third case discussion, "The Little Engine that Couldn't," participants discussed in small groups in the fourth week and then, the following week, in the beginning of class, students discussed whole-class but in regular lecture position, lined up and facing the facilitator.

3.2.5   Interview with instructor

In addition to videotapes of the whole-class discussions, a semi-structured interview was conducted with the course instructor who facilitated case discussions. After documenting the

instructor's professional background, questions referred to four main themes: 1) what objectives he expected to establish for case discussions; 2) how the instructor prepared for case discussion; 3) how he evaluated not only himself as a case facilitator, but also 4) how he evaluated the quality and depth of case discussions. Before the interview, he was asked to watch videotapes of case discussion segments and then asked questions pertinent to my study. The interview was conducted by the researcher in the School of Education and was audio-taped.

Interview Questions

(1) Academic and instructional background:

What is your academic and teaching background?

How did you come to be interested in case discussions?

(2) What were your goals and objectives in whole-class case discussions?

(3) What was your role, and how did you perceive yourself in case discussions?

(4) Explain how you prepare yourself to facilitate these discussions.

(Explain how you prepare yourself when conducting case discussions.)

(5) How successful do you think these case discussions were? What are your criteria for successful case discussions? What worked and what did not?

If something was not working, what might you have done differently?

(If discussion is stuck or does not work, what might be done differently?)

(6) What was the most challenging problem you have encountered as a facilitator when leading whole-class discussions?

(7) If you had a chance, how did you organize your approach and preparation to facilitate better?

3.3   DATA ANALYSIS

Through this qualitative study, the aim was to understand the process of whole-class, case-based discussions in realistic setting. The data was collected through multiple sources, including an interview with the facilitator and video recordings of whole-class discussions. First, seven whole-class case discussions were transcribed from video records.

Analysis was conducted on transcripts of the seven whole-class case discussions and the semi-structured interview with the facilitator. First, a visual map was used to make sense of the data, the discussion transcripts. Visual mapping helped illustrate the flow of interaction during discussions, and to deal with the complexity of the text firsthand. On the map squares were used to represent the facilitator, and ovals to represent students. Arrows and lines show the direction of the relationships. Visual maps for each discussion, and notations, are presented in Appendix C. If the person asked a question, a question mark appears in the shape. A sloped line with a down arrow meant that the participants elaborated on what the previous person said, such as explaining or giving an example. A sloped line with an up arrow indicated that a student replied or responded to the question. Agreement, disagreement, and referring statements were also represented by notations. A vertical line with a left arrow indicated that a speaker paraphrased or summarized the previous speaker. These visually capture the interaction in each discussion.

Then NUD*IST 6 software was used to organize and manage the data. All seven discussion transcripts were transferred into the NUD*IST 6 software. This software makes it possible to search, code, and retrieve data easily. Similar patterns and themes were identified and marked in these segments of data with descriptive words or category names to signify that particular segment. In this study, the unit analysis consisted of participant statements when they took turns. Some categories which were used to describe the interaction were based on previous

studies, but new categories for coding were also explored. Interaction categories represent the interactions of both facilitator and students.

In order to answer the first research question, concerning what role a facilitator plays during discussion, a semi-structured interview with the facilitator and an analysis of the course syllabus were used to discover the facilitator's intentions and purposes. Then, the facilitator's actual interaction was coded. For the facilitator, interaction categories that existed in at least four discussions were asking, probing, elaborating, praising, inviting, paraphrasing, and clarifying. Definitions and examples of codes are explained in Appendix B.

Due to different durations of discussions (for instance, ranges from 12 to 47 minute), the frequencies of these codes are transformed to percentiles for each discussion, in order to eliminate time differences. The percentile values of interaction categories for each discussion are compared. The interaction analysis, and facilitator intentions and purposes gathered from the interview generalize what role a facilitator played during discussion.

The second research question regards how particular cases functioned to elicit problem solving. The content analysis was carried out. Problem-solving was used as a framework to capture the content of the discussion. The five-step problem solving strategy has developed by McNergney et al. (1994). It consists of the following: a) identifying the educational issues or problems, b) thinking of the case from multiple points of view (perspectives), c) utilizing knowledge from various resources, d) proposing appropriate actions that might solve the problems, and e) considering negative and positive consequences of the actions or solutions.

The five-step problem-solving strategy in this study is simplified, to be used for verbal discourse of the group. Instead of problem identification, *problem analysis* was employed. It refers to identifying the problem or issues, and how the problem occurred and why. If statements

are related to the issue or problem, if a participant is talking about why a problem happened and how it happened, these statements are coded as a problem analysis. For example, in discussion one, Karen's statement was coded as problem analysis. Karen stated the issue as follows:

> Our group felt a lot that -- two main things she -- she tended to focus too much on details. That came across through her testing and the way that - just the dialogue with her class. We thought maybe she could focus on broader concepts and, um, she doesn't have meaningful context. She just kind of brushes over - she has that opportunity to kind of connect with Barry about the sparkplug thing or whatever it is, and she just kind of brushes over…

Perspective taking is also examined, but not coded by looking at statements. However, a general impression is recorded regarding individuals' contributions in terms of perspective taking.

Solution analysis is coded if a participant gave solutions and suggestions that dealt with solving the problem or issues. Cara's following statement is an example of solution analysis coding:

> I was just going to say…you'd actually have your class divided into groups of four and actually have each group present an era that you're studying in the history book and then have at the end - instead of having a test, have everyone present their era and you can assess that way. You don't have to do it as a test. I think for this class it would work much better.

In this study, personal and professional experiences were coded under the *knowledge sources*. The following experience is coded as personal experience:

> I remember when I took algebra in high school and I was amongst the students who did this - what am I here for? This has no relevance for anything. And that was - that was the complaint throughout the school year. The teacher certainly didn't attempt to address that. We just went on about our business but that was the complaint. He failed to make algebra relevant for us.
> Personal experience refers to what one experienced as a student in a school setting, or

vicariously experienced as a person outside of school. Professional experience is categorized as

what one experienced as a teacher or a student teacher. Heidi's statement was an example of professional experience referring to her second year of teaching:

> I had to retain a first-grade student, very similar situation. It was a young girl, also very small. And I retained - I had to fight to have her retained and in kind of an opposite situation, because I felt like she was capable of learning to read; she was about to learn to read like this boy sounds like he is…

The third question regards what kinds of engagement students demonstrated in each discussion. Engagement is defined as verbal interaction that refers to the function of their contribution to each other. Student interaction categories seen in at least three discussions are reported; these interaction categories are elaboration, challenge, agreement, asking, probing, referring, replying, and clarifying. Definitions and examples of codes are explained in Appendix B. As stated previously, the frequencies of these codes are transformed to percentiles for each discussion in order to eliminate time differences. The percentile value of interaction categories were compared for each discussion, across cases.

In the fourth question, "How did individuals differ in their participation during case discussion?" problem solving was observed in light of individual contributions. Every student's statements were coded as problem analysis, solution analysis, and knowledge sources. The numbers of coding statements (problem solving) among students were compared, except for perspective taking. Then emerging differences in terms of individual contribution are described. Emerging patterns were determined by comparing discussions how the problem-solving occurs, and how participants individually contributed to this process.

The last question, how did turn-taking between students and facilitator, change over time was examined by comparing students' and facilitator's turn-taking per minute over the

discussion time. The content of the student's statement in his turn taking was not the focus, but just the number of his turn-taking was reported.

The reliability of interaction coding was checked by looking at the percentage of the agreement between the researcher and a graduate student in discussion 4. Discussion 4 was selected because of its duration. Thirty-three minutes was close to the average duration of the seven total discussions. The percentage of agreement on categories are as follows: asking 87%, probing 80%, inviting 75%, agreeing 60%, praising 100%, challenge 80%, elaborating 88%, and responding 85%. Referring and clarifying were added as new categories after the reliability.

In summary, the purpose of this descriptive analysis of problem solving and interaction in case-based discussions is to document what takes place in a set of real discussions among students and facilitator. A second purpose is to compare and contrast the activity in various cases, in order to examine the nature of similarities and differences. Because it reveals the explicit content of case discussions and the goals of a facilitator, this study should become a curriculum guide for the enhancement of learning through cases.

4.0   RESULTS

This chapter begins by presenting the facilitator's expressed intentions, purposes, and beliefs, from the interview that merited the choice of case material and orchestrating case discussions. Next, the facilitator's interactive behavior during discussion is presented. Then the chapter describes how the cases functioned to elicit problem solving. This is followed by explaining students' engagement during discussion. After individual student participation was discussed, students' and facilitator's turn-taking over time was compared. The research questions addressed in this chapter are as follows:

1.   What role did the facilitator play in whole-class, case-based discussion?

- What were the facilitator's intentions and purposes?

- What types of interaction did the facilitator actually demonstrate during discussions?

2.   How did particular cases elicit problem solving?

3.   What kinds of engagement did students demonstrate in each discussion?

4.   How did individuals differ in their participation during case discussions?

5.   How did turn-taking between students and facilitator, change over time?

4.1   FACILITATOR'S ROLE AND INTERACTION

To understand the role that the facilitator plays in whole-class, case-based discussion, the facilitator's intentions and purposes were analyzed.   Then, what types of interaction the facilitator demonstrated during discussion were examined.

4.1.1   Facilitator's intentions and purposes

To answer the first research question, "What role did the facilitator play in whole-class, case-based discussions?" the facilitator's intentions and purposes were collected using an interview, a syllabus, and his actual comments about the cases and the case discussions. In the syllabus (Appendix A), the facilitator stated that learning and teaching are multifaceted processes influenced by cognitive, social, and behavioral factors. In his course, as stated in the syllabus, participants learn about the cognitive, behavioral, and social factors that influence their classroom decisions. The facilitator also emphasized in his syllabus that this course fostered students' understanding of educational theories and concepts, and developed their ability to use these theories and concepts, to analyze and resolve realistic educational problems. The facilitator claimed in the interview that the purpose of the case-based discussions was to build a bridge between theory and practice.

The facilitator reported in the interview that a case should ideally be challenging for students, and illustrate multiple perspectives that pair with his lectures, given when he initially chose the cases to be discussed. At the end of the second discussion, he stated, "I love these cases because they're just so rich and I hope they reflect a multiplicity of problems and solutions.

Well, you're experiencing them as if you're going along in a classroom." He was very enthusiastic about how cases could be rich and complex and might reflect real life.

Cases drawn from Greenwood, Fillmer, and Parkway's book, *Educational Psychology Cases* (2002), provided the instructor with extensive dialogue and additional discussion questions, and highlighted theories and concepts. But he left out the theoretical perspectives and the discussion questions that came with the cases. After choosing a case, he prepared himself by reading it carefully and underlining what particular points he hoped his students would raise. He said he gave cases to his students to nudge them to work with messy, real-life examples, without giving pre-structured questions or theory. He wanted students to link theory and practice without his intervention via a hidden agenda. Successful discussion was described as when students connect the issues presented in the case to the theoretical perspectives, and then use theories to address the issue and solve the problem. He said that, ideally, discussion of the case, with complex, challenging, real-life problems, will open itself up without his intervention.

In the interview he stated that he let students develop their discussion and structure it and be active; he saw his function as guiding and prompting. He said he really wants to guide them, not lecture them. That is why he was trying to do his best by leading questions, guiding them, and trying to get them think about issues. If students did not respond, he prompted students to think; at that time, he would explicitly remind the students that, for example, "This is an example of a theory."

He was asked if there was a time pattern for a successful discussion. He told that he believed time was not an issue for producing fruitful discussion. Some short discussions might be more engaging and raise more issues. But he reported that the most challenging problem in the discussion for him was to get the discussion going. If the discussion was stuck, he would

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explicitly asked students if it reminded them of something. He said, ideally, he wanted students to link theory and practice without his pointing out that relationship. According to him, discussion might be affected by his performance, students' conditions (tired, etc.), and case characteristics. These three factors determined successful discussion. Indeed, he said that he liked to have open-ended discussion with no closure. He said for next time he would provide a little summary of the discussion as a closing point. Next, the types of interaction actually demonstrated by the facilitator during discussions are presented.

4.1.2   Facilitator's interaction in each discussion

The types of interaction the facilitator demonstrated during discussions with his statements are categorized as the following: asking, probing, elaborating, praising, inviting, paraphrasing, and clarifying. Definitions and examples of each interaction categories are in Appendix B. The categories demonstrated by the facilitator in at least four discussions were reported. There are duration differences among case discussions.

Each discussion had a different duration, ranging from 12 to 47 minutes. In order to eliminate time differences among the case discussions, the frequencies of stated facilitator's interaction categories in each discussion are transformed to percentile values. Table 3 shows percentile values of the facilitator's interaction categories in each discussion.

Table 3. Percentages of the facilitator's interaction in each discussion

Facilitator Statement	Dis1	Dis2	Dis3	Dis4	Dis5	Dis6	Dis7	Total
Asking	12	11	10	9	14		19	11
Probing	15	5	12	19	5	44	19	13
Elaborating	7	19	8	14	14			10
Praising	22	28	22	9	5		12	18
Inviting	24	30	33	38	43	44	50	34
Paraphrasing	12	3	7	5	19	11		8
Clarifying	7	3	8	5				5

As indicated in Table 3, the total percentage of inviting statements is higher than any other statements used. This indicates that the facilitator most frequently engaged with students by calling their names and giving them verbal signs to invite them into discussions. The facilitator's invitation helped keep the discussion going, and demonstrated engaging participants.

The second most frequent statements were praising. Praising not only indicates how the facilitator valued to the contributions made by students, but also was a motivational tool. After praising, the probing category had the highest percentile in overall total discussions. Asking statements were in the low percentiles, compared to inviting, praising, and probing; however, questions in the asking category not only framed the content of the discussion but also structured the discussion.

Examining the facilitator's interaction categories across discussions as seen in Table 3, there is no evident pattern among categories, except that the inviting category is in the higher percentile in all cross-case discussions. Praising is second highest in the first three discussions,

compared to following discussions. The facilitator used praising statements (such as "Good idea, great solution," etc.) in the first three discussions; the reason might be that the facilitator preferred students to know that their contribution was appreciated.

The facilitator's questions helped structure discussions but also determined the content of the discussions. The facilitator, by probing and elaboration, helped the students think more deeply and expand their thoughts. Next, what kind of questions the facilitator asked during discussions and how he expanded and supported students' thinking are explained.

4.1.2.1 Facilitator's questions help structure discussion

The facilitator played an important role in ways to discuss case contents, by the questions that he asked and how he asked them. He started with open-ended questions such as "What was going on in this case? What was the problem, or problems?" In case discussion 7, he asked, "So what is going on here? What are your opinions?" Generally, the facilitator opened discussion to explore what was the problem or issue in the case, and then he probed students to think more deeply about issues by asking "What seems to be going on here that has been causing the problem?"

At the beginning of the discussion, the facilitator guided students to think about problems. Then, if students did not start to develop solutions, he asked, "Now how about some suggestions on what he might be able to do? What could Tom do?" or, "What about some proposed solutions to this case?" In the first case discussion, students started to talk about issues, to which they brought some solutions or suggestions about what the teacher might do. In the second and third discussions, the facilitator asked students to think about how they could solve the problem, or problems. In case discussion 6, Heidi, one of the students who had more teaching

experience, asked students how they would solve this particular problem. For example, she said, "I am more interested in how you all think they're going to solve this problem…"

Besides solutions, the facilitator was also interested in seeing that the students discussed different perspectives. He prompted students by asking, "What do you think about the teacher's interaction with the parent? Was that a good idea to begin with? What role do you think the parent should be playing in this particular case?"

Basically, the facilitator's questions were about identifying the problems, considering different perspectives, and finding some solutions; these were the main question themes that the facilitator used to structure ongoing discussion. Identification of issues or problems, perspectives of the case characters, and solutions to the problem are three of the problem-solving strategies mentioned earlier. The facilitator's elaboration statements were less reported overall but, in order to gain a descriptive picture of discussion, the elaboration category should be explained.

4.1.2.2 Facilitator's elaboration expands and supports students' thinking

Elaboration is one of the coded statements that the facilitator used. Descriptively, the facilitator brought additional attention to previous statements of other participants. Elaborating includes an explanation via personal and professional experience and knowledge. Elaborative statements were used to give examples, link to theory, clarify, explain, and establish basic knowledge that leads to probing questions, which might take the discussion to different areas. The facilitator used elaboration when he was agreeing with the students, but additionally, he gave his opinion or his observation to elaborate upon what a student said previously. For example, the facilitator stated:

Yes, yes. And it doesn't come out - or maybe (unintelligible) what his siblings - what Juan's siblings experienced if they were held back. They seemed to think they weren't but we don't really know that for sure.

The facilitator elaborated upon students' comments or thoughts by giving examples with anecdotes or from personal experience. The following example is from discussion one:

That's an excellent point. I remember I had a - in graduate school I had a professor on research methods in cognitive psychology. And I have the scars to prove that I went through this course, and it was absolutely dreadful. It was one of the worse courses I've ever had. But the man who taught the course is brilliant - he is absolutely brilliant. But he simply could not explain these ideas to us. And I wasn't the only person who was, you know, faltering in this course - it was dreadful. And so knowing a lot about a subject does not necessarily mean you can communicate with other people and that. Good point, that's a very good point.

Another elaborative statement that he used was to link practice to theory. If students gave examples from their experience or thoughts that exemplified that theory, the facilitator highlighted the theory and linked that practice stated by students, as in the following example:

Well, doing that would be very effective. Bandura said that, you know, if a model is similar to students, uh, she or he is much more effective. Because, it's easier for them to relate to the model if they are similar in some way. It's much easier for them to relate to them, and the model can be much more effective. So, yes, that's a good idea.

In elaborating statements, the facilitator highlighted particular information such as relevant theory, and added extending comments that clarified and explained what participants pointed out. He guided the students to reframe the discussion before asking probing questions. In short, elaborative statements that the facilitator used expanded and supported students' thinking. However, elaborating statements in the facilitator's interaction less frequently occurring during discussions. The facilitator wanted students to elaborate upon each other's thoughts instead of him doing so. Although he preferred deep student engagement, but if the learning community did not open up the issues that he had in mind, he helped students to discuss those issues.

4.2 PROBLEM SOLVING IN DISCUSSIONS

The research question which examines how particular cases functioned to elicit problem solving was answered by problem-solving analysis. During the problem-solving analysis, the problems, solutions, use of knowledge resources (personal and professional experiences), and finally, perspective taking are analyzed. Problem solving and knowledge resources are presented in Table 4. Perspective taking is examined later, during individual student participation in problem solving.

Problem-solving analysis is a framework to capture the content of the discussions. Problem-solving analysis is adapted from McNergney et al. (1994), who developed the five-step problem-solving strategies: a) identification of issues or problems; b) perspectives of case characters; c) knowledge sources; d) solution of problem; e) evaluation of negative and positive consequences of the actions or solutions. The problem-solving framework is commonly used as a visual graphic organizer for students to contribute to discussions (Libby, 1999) and to organize case analysis (Sudzina, 1999). Problem-solving framework has also been used to facilitate and evaluate case discussions.

In these discussions, the facilitator naturally used similar problem-solving framework to structure and organize discussions. The problem-solving framework was used to analyze how students contributed to discussions. After observing discussions, a simplified problem-solving framework which has four dimensions was adapted from the five step problem-solving strategies (McNergney et al., 1994). Each unit which is every turn-taking that students meaningfully contributed was coded as problem analysis, knowledge sources, and solution analysis in each discussion.

Problem analysis was coded if the participant talked about what the problem was, and the reasons for the problem. *Knowledge source* refers to how students draw from experience for any part of the problem-solving analysis. Two kinds of knowledge sources are distinguished: personal and professional. *Personal experience* refers to what one experienced as a student in a school setting or vicariously experienced as a person outside of school. *Professional experience* is categorized as what one experienced as a teacher or student teacher. *Solution analysis* is coded when participants developed or stated any solution or suggestions.

Perspective taking refers to recognizing the perspectives held by individuals involved in a case. By recognizing different perspectives, in terms of feelings, behaviors, and thoughts of others, students develop a better understanding of problems and propose appropriate actions. These perspectives might be that of the teacher, student, principal, parent, etc., that appear in the case. Perspective taking is not coded for each statement, but rather, an overall impression for each case discussion, and how individual students played a role, is presented later.

As mentioned earlier, to eliminate time differences in the duration of each discussion, the percentile values of each discussion within the problem-solving categories (except perspective taking) are presented. Table 4 reports the percentage of problem analysis, solution analysis, and knowledge resources in each discussion.

Table 4. Percentages of problem and solution analysis and knowledge resources across case

Case Discussions	Problem Analysis	Solution Analysis	Knowledge Sources	
			Personal Experience	Professional Experience
Discussion1	31	24		9
Discussion2	20	17	15	9
Discussion3	16	22	15	29
Discussion4	4	4	38	19
Discussion5	12	17	8	9
Discussion6	14	7	23	9
Discussion7	2	6		14

*Percentages are rounded to the nearest whole number

As seen in Table 4, students used more problem analysis statements in a case discussions one, two, and six. In the first discussion, students engaged in relatively more problem analysis than in any other discussions. This case was about the ninth-grade world history teacher challenged by some of her students. Her students did not have any motivation to study history. She asked a curriculum coordinator when none of the techniques she tried seemed to motivate the students. Students identified the main issue as a lack of motivation regarding the subject; however, they focused much more on underlying issues that caused the main problems: teacher behavior with students, teaching issues like grouping, and management issues during teaching. They retroactively re-examined underlying teaching problems behind the lack of student motivation.

In discussion two, students also focused on problem analysis. A seventh-grade science teacher had to decide what to do about a student's classroom disruptions. The teacher thinks that the girl's disruptive behaviors have reached the point where they not only interfere with the student's learning, but they also have begun to encourage imitators. In this case, students focused

on issues that help explain why the student is disruptive: parent-teacher communication, teacher's behavior dealing with the disruptive student, classroom management issues, and teaching issues in science.

Students addressed relatively more problem analyses than solutions in case discussion six. A social studies curriculum director chairs a committee of teachers to revise the secondary world history curriculum. His problem is to move the committee from dead center when teachers polarize the group around two different teaching approaches: one emphasizes the learning of facts through lecture-discussion teaching methods and objective testing procedures, while the other argues for higher-order learning through small-group problem-solving methods and essay tests. Students discussed the outcomes of the two teaching approaches, assessment differences, the decision of what and how to teach, and time management.

In case discussions three, five, and seven, students were relatively more solution-oriented. Even though discussion one had relatively more solutions and suggestions, it was more problem-analysis-oriented. These cases stimulated forward-looking (prospective) discussions. Participants focused more on solutions or suggestions dealing with issues. In discussion three, a beginning sixth-grade teacher becomes frustrated when the students in his culturally diverse class do not believe they can learn the material and seem unmotivated to try. He begins to question his abilities as a teacher when some of his classroom teaching strategies fail, and his students' parents do not seem to value learning either. Participants identified the issues very straightforwardly, and then they suggested how to deal with the problems. This case reminded several students that they had experienced similar situations. The following solutions were discussed: individual learning style, modeling, effective grouping, and preparing programs to engage parents.

Discussion five was about a middle-school teacher who sought advice from a school psychologist, about a severely withdrawn ninth-grade girl whose problems appear to stem from a mentally abusive home situation. Students focused on solutions regarding how the teacher can help to deal with her student's withdrawal, how changing teaching and learning environment can help, and how the teacher should communicate with the student. In discussions three, and five, similarly to discussion seven, cases stimulated solution oriented discussions. Participants briefly focused on the issues, and then were occupied with how to deal with the withdrawn student, giving suggestions and solutions.

Case discussion four, unlike other case discussions, did not have any problem or solution centered. A first-grade teacher and the principal meet to make a promotion/retention decision about a physically small, somewhat emotionally immature Hispanic student. This case stimulated the participants to make decisions. Students defined the issues such as language and maturity. However, the focus of the discussion was about making a healthy decision; so they discussed outcomes and benefits of the decisions. Students supported as well as challenged each other's decisions. More personal stories or experiences were shared in this discussion than any other. Participants had personally or vicariously experienced similar circumstances as the case character.

There are some differences in using personal and professional experiences. In some case discussions, such as case discussion four, students related an experience that is more personal. Student-teachers had much more connection to issues as a student. Students recalled their professional experiences, in contrast to their personal experiences, in discussion three, in which a beginning sixth-grade teacher deals with unmotivated students in his history class. The issues in this discussion underlying lack of motivation are teacher efficacy, teaching strategies, and

teacher-parent involvement. Students who had a connection with this beginning teacher had a similar problem coping with unmotivated students. The content of the case had a big impact on what students focused on during discussion. The specific case engaged the readers, and influenced what kind of knowledge resources they utilized. However, besides the case content, the way in which the facilitator affected this relationship while asking questions and probing the students is important, also.

4.3   STUDENT INTERACTION ANALYSIS IN DISCUSSIONS

The research question, "What kinds of engagement did students demonstrate in each discussion?" was examined by interaction analysis. Interaction categories stated by students in each discussion are reported in Table 5. Table 5 shows the percentile of interaction categories stated by students in each discussion.

Table 5. Percentages of student interaction by category in each discussion

Interactions	Dis1	Dis2	Dis3	Dis4	Dis5	Dis6	Dis7	Total
Elaboration	24	18	38	43	69	25	12	37
Challenge			4	21		12		9
Agreement	9	12	6	3	12		12	6
Asking			9	5		12	12	5
Probing			11	11	6	12	12	8
Referring	24	12	4	5	6	25		8
Replying	43	53	17	11	6	12	50	21
Clarifying		6	11	1				4

** Percentages are rounded to the nearest whole number

As noted in Table 5, elaborating was the most frequently observed category (looking at overall percentiles of interaction categories). Students' elaborative statements reflect that students brought additional thought to previous statements by other participants or the facilitator offered. Students elaborated on each other's thoughts by exemplifying, supporting, and explaining via personal and professional experience and knowledge, etc. The second most frequently observed interaction category was replying, in which students answered the question asked by other discussion participants or the facilitator.

As seen cross-case in Table 5, in the first two discussions, replying statements ranked higher than elaboration statements, indicating that participants were led by the facilitator's questions in the first two discussions. Then, from discussion three to five, elaboration statements ranked higher than replying statements. Students extended and supported each other's ideas, giving examples, and explaining each other's thoughts. Case discussions three and four are so

rich that they include all interaction categories, including challenging, asking, and probing, unlike other case discussions. As mentioned above, elaborating and replying were the two most observed interaction categories. However, elaboration ranks higher than any other category. It seems that students had much more autonomy to lead the discussion and support each other. Challenging statements were observed in case discussions three, four, and five, but the highest percentile of challenging statements was seen in case discussion four.

There were no patterns over time, except that, in the first five discussions, there was a pattern of more elaborative and replying statements. Notice that, in Table 5, cases in discussion three and four stimulated the students to engage more by challenging, referring, agreeing, probing, and clarifying. That indicates participants were actively engaged, and discussions reflected students' autonomy in their discussions. Those two discussions had longer time durations, also. Therefore, this could be due not only to the length of the discussion and the content of these cases, but also how the facilitator activated or triggered the discussion via questioning and probing.

4.4   INDIVIDUAL STUDENT PARTICIPATION IN PROBLEM SOLVING

The fourth question, "How did individuals differ in their participation during case discussions" is analyzed in the problem solving frame. The problem-solving analysis previously mentioned contains the following categories: problem analysis, problem solving, knowledge resources, and perspective taking. Statements that were related to describing the problem or issues and explaining the reasons why problems occurred, and how the problems occurred, are coded as *problem analysis*. If statements addressed solutions or suggestions to deal with the problem, that

statement is coded as *solution analysis*. When participants discussed the problem and solutions, they used some *knowledge resources* (personal and professional experiences shared in group discussions), that were coded as such. Table 6 reports overall individual student contributions in problem solving during case discussions in general. The following students who contributed to at least four discussions were reported here.

Table 6. Frequencies of individual's participation in problem and solution analysis and knowledge   resources in overall of case discussions

| STUDENTS | Problem | | Knowledge Resources | |
	Analysis	Solution	Personal experience	Professional experience
Heidi	9	16	1	11
Karen	5	3		2
Candy	5		2	2
Betsy	2		1	1
Rita	1	2	1	2
Abbie	4	4		1
Salma		2		1
Rania	1		2	
Cara	4	1		
Jackie	3	2		
Thelma	5	1	1	1
Earl	2	1	1	
Nathan	1	5		1
Lauren	2	5		
Tiffany			1	
Total	44	42	10	22

*Pseudonym is used to represent participants' real names

As Table 6 reports, there are individual differences in contributions to problem solving and using knowledge resources. Cara, Karen, and Thelma focused on the problem or issues during discussions, rather than solution analysis. They were occupied with what the issues were, how they happened, and why. Candy, an intern teacher, interestingly did not contribute any suggestions or solutions. However, she seemed to understand issues similarly to Betsy. However, Heidi focused more on the problems or issues of the cases, compared to other teachers. Additionally, also a mentor teacher, she presented the highest number of solutions among participants. Some of her solutions came from her own professional experiences. In addition to Heidi, Lauren and Nathan were more occupied with the solution of the problem rather than identifying the problem, or analyzing how or why a problem happened.

Lauren and Heidi contributed more elaborative solutions and suggestions, compared to other participants who had no experience. In their solutions and suggestions, it was easy to see their elaboration by using thought connectors such as *and*, *then, instead, if, for example, but, first*, etc. For example, Heidi contributed a suggestion after the facilitator asked, " What could Tom do?" Her suggestion was as follows:

> I know a lot of people didn't like her, or didn't like her behaviors, and I thought that they could be used to encourage the right behavior if Tom would have taken her aside and then said, 'Okay I like you as a person and I - you know, sometimes you make me laugh but - First of all, pointing out that she is embarrassing others, which I don't think anyone said to her, 'Look, you're making your friends feel bad.' And then saying, 'The next time you get an idea like that, like a whoopee cushion, for example, can you come tell me first and maybe you and I can set it up ahead of time so that we can use it, you know, for a learning experience but no one's getting their feelings hurt. So, for example, if she had told him the whoopee cushion idea, which really was pertaining to the class - it was exactly the same type of experiment that they had done - and they had total collaboration - and the student who sat on the cushion knew it was there but nobody else did, then he could have encouraged her comedienne type behavior but, you know, not hurt anyone's feelings and the class would have gotten a laugh out of it. You know - so maybe just encouraging her to check with him first and if she really does have a funny idea - if it pertained to the class - he could perhaps help her to arrange it appropriately.

During the last discussion, "Life in a Classroom," Heidi asked the class, "…I am curious as, like, if you were the principal, what would be the thing that you pointed out to this person in the conference? So what would you suggest to him?" Lauren responds to Heidi's question with the following an elaborate answer:

> Well, at first I was looking for, you know, what could you possibly say was good? But then looking at the evaluation form, I would point out what was positive on that, first, and then try to build on that. For example, the organization of the lesson - I actually thought made sense - the organization of the content. So you want to say, you know it was good, correct, content organization. You went from one idea that was related to another - that was really good. And you did try to praise some kids sometimes. When the kid asked the question about the truck engine, he said, 'Oh, good question,' and moved on from there. So I would find the positive things to say first and say, you know, after you said to Ron or whoever it was, Good question, that was really a nice way to handle that and maybe you could be constructive with all your utterances (laugh) as opposed to sarcastic and destructive - I'd emphasize the positive.

Heidi and Lauren's suggestions or solutions, compared to the other student teachers', were so elaborative that they have systematic instruction for application. In contrast to Heidi and Lauren, some teachers with less experience, teachers like Nathan, proposed abstract, general or superficial suggestions or solutions.

Personal and professional experiences of students are the knowledge resources that are reported in this study. Heidi talked more about her professional experiences more than any other student. As seen in Table 6, she has much more professional experience. As mentioned before, she was a mentor teacher in her school, and she had more expertise than other students do. Lauren seems to be more experienced than other students are, but she did not state any experience. In this study, as knowledge resources of personal and professional experiences were reported, it was easy to recognize that experience from transcripts and conversations of students. However, professional knowledge should be defined and reported in further studies so that

knowledge of theory and principles as well as practical knowledge can be studied besides their experiences.

4.4.1 Knowledge resources: Experience

During case discussions, participants tried to understand the problem or issues and solve them using help from personal and professional experiences. Heidi, the mentor teacher, mentioned many times that her professional experience was closely related to typical cases and case issues. Her suggested solutions came from her professional experience as a teacher, or her vicarious experiences in a school setting that she observed. She had knowledge of professional resources such as career counseling and behavior therapy from which teachers can benefit, or to which they can refer students to.

Case discussions like "Comedienne" and "Withdrawn Wanda" were about a student with whom the teacher has a problem with. Heidi suggested that the case teacher get help from school resources such as the psychologists and career counselors. She gave an example of a practice used in her schools, which is what the school psychologist does in "Withdrawn Wanda" (case discussion four). She said:

> I was wondering…there should be some kind of program already in place for students in the building that are like that because she is not going to be the only withdrawn child in a school building with six grade levels…In our building, for example, the school psychologist runs social groups. And he has every Friday in his office…

She continued with what her school psychologist does in his program. In "Comedienne," she suggests that the student should be seen by a career counselor:

> I just wonder with career counseling at that age if, you know, even just say, okay, this is not the place for your comic behavior but having her… do a little bit of research into, like, the job of being a comedienne, and is that something she'd be interested in…

Lauren also suggested support from outside the classroom for Wanda, the withdrawn child in sixth grade; she thought that the student did not need special education but could participate in extracurricular activities:

> …she could be sent to , maybe in the summer, maybe just after school, something she was interested in and very non-threatening - an art program or music - something extra that she could do outside of this environment where she has already been labeled, where she can have a chance to reinvent herself as somebody new and different and capable.

Even though Lauren did not discuss any personal or professional experience, her suggestions and solutions are coming from professional knowledge. In this study, personal and professional knowledge were not coded. Besides experience, knowledge and belief might be other knowledge resources.

Participants Heidi and Lauren, who had more teaching experience, knew and were aware of professional resources such as school psychologists, career counseling, and school activities that they can use when dealing with individual student problems. On the other hand, intern teachers' suggestions or solutions were abstract, not elaborated, and superficial. Professional experience and elaborative solutions highly correlate, so that the teacher with more experience was more likely to offer solution-oriented statements. The personal experiences that most teachers used as resources helped them understand and define the problem or issues.

4.4.2 Perspective taking

Perspective taking is a kind of problem-solving strategy that participants recognize; perspectives are the feelings and thoughts held by individuals involved in a case: teacher, student, principal, or parents. Recognizing perspectives helped students develop better understanding of problems and to propose appropriate actions. This segment describes these individual differences in terms

of perspective-taking in problem solving. Perspective taking is not coded in each unit analysis, unlike problem analysis, solution analysis, and knowledge sources. Overall impression from discussions in regards to individual contribution is analyzed.

Participants always contributed to the discussion from some perspective, perhaps as student, teacher, principal, or parent. A teacher-centered perspective was generally observed during discussions. Most of the participants reported what the teachers did, and how he or she should handle problem situations. On the other hand, Candy and Thelma had much more empathy for students, and their responses are more student-centered. Candy had a similar experience as Wanda who was a withdrawn student in "Withdrawn Wanda" case. She empathized with Wanda:

> I just kind of was bothered by the teacher because she's so adamant about having her labeled as exceptional, you know, labeled as special. And I think she was just shy and I think she was just trying to, um, kind of put a label on her, that, like -
> Um, having been shy when I was in elementary school, especially, I would have been very, um, disturbed to have (laugh) found that my teacher would have thought that that would have equaled that I was mentally disturbed just because I was a quiet person. And obviously she has some issues going on with it, and, you know, Wanda has some issues - but I would hardly put her in a, um, special needs class - I would just get her positive reinforcement. And somebody in our group mentioned the fact that, like, the same six kids always seem to be called on out of a class of thirty-two. So maybe she just feels like she's not in that elite group of six, and she just wants to be on the sidelines, and maybe there's other issues that are not addressed.

Thelma's response is also from a student perspective, in that she cares about students' feelings. She criticized the teacher in the first discussion by saying:

> …she also opened up for debate, for kids to express themselves, and then she didn't validate their feelings at all. And, um, I thought maybe she turned it around so that her feelings were the only ones…I have been learning just with the students that I have in middle school that those kids that really want attention, you need to build bridges for and just, like before class…

In the final discussion, in her response, it was easy to see that she had empathy:

> And my feeling, if I was a student in this class, it just seems so uncomfortable, like the way he was asking questions and having students answer them was so inconsistent. And he was, like, tricking people and he wasn't encouraging them…

Thelma's and Candy's contributions are student-centered in that they emphasized students' feelings and behaviors in their response. Salma, in case discussion four ("Little Engine"), brought up the relationship between racial background and IQ score:

> About, um, students and then, their, uh, racial backgrounds, and then their IQs and that sort of thing. I just think it's just so discriminatory to just stick kids into these little boxes that really don't tell who they are. Just because someone might be black or African-American or Hispanic doesn't automatically, um, put them lower than white kids. And then, you know, the IQ scores are the same way. They don't really tell all, do they? There's a lot more in question. A lot more has to do with culture and just meeting kids where they are and - maybe you have to look at things a little bit differently. Just because the school says that middle class, or upper class (unintelligible), doesn't mean that's the right way or the only way. So you have to teach kids different - from just where they're coming from.

Interestingly, Salma is an African-American intern teacher who introduced the racial background issue into the case discussion. Similarly, Rania, an Asian-American, disagreed with other students about decision making for the six-year-old student who is an immigrant, in case discussion four. Rita reported that she had had a similar experience as in the case. Retaining a student in a class is not a big deal for her and she moved on:

> On the maturity issue, a little bit of a personal story. I don't know if it really applies too well. When I was in preschool, I did - I did two years of preschool - not for an intellectual thing, but because of my age. And so my parents kept me back another year - I know it's preschool, and it's not first grade or whatever, but it was like, you know, I was a little upset but then I got over it. And, now I'm not thinking, damn, you know, I should be a year, you know, advanced than where I am in my life right now, you know. I mean it's like - it was a big deal for a week and then you get over it because you're - five and six and you know - and you move on.

However, Rania disagreed with her, saying, "But you're not an immigrant. You know, you're

not from other country. We don't feel the same way."

Lauren is also a parent. She had strong opinions as a parent about what kind of

curriculum a school has. She responded:

> … but I was confused by in the very beginning why they're even talking about how
> they're going to teach when they haven't yet decided what they need to teach…I mean,
> first of all, you have to start from, well, what do our kids need to know? And from my
> point of view as a parent, my kid needs to know how to find out information, the process
> - not the product. My kid doesn't need to know …my kid doesn't need to know what
> year a certain battle happened but how to find out what year it happened.

In whole-class discussions, multiple perspectives were observed: teacher, student, family-

parent, and principal. Teacher and student perspectives were raised spontaneously in the

discussions. However, the facilitator also needed to probe the students, to discuss cases from

parental and family perspectives as needed. As reported, participants' contributions and

responses are determined by their professional experience, background, and individual

characteristics that they brought to case discussions.

4.4.3 Shift in the use of pronoun

Participants usually used the "we" pronoun when students appeared to be presenting their

group's ideas and decisions about the cases in whole-class discussions. For instance, Betsy said

in discussion seven, "We decided homework isn't homework if you give them half of the class to

do it. It is class work." Participants contributed group ideas more often in the first discussion

than in the other discussions. In the whole-class discussion, after small-group discussion,

participants more frequently used phrases like, "we think," "our group felt that," "we decided,"

as students explicitly presented themselves as the representative of the group. They did

emphasize the knowledge claim of their group by saying, "we thought," "we felt," and "our group thought." Original ideas suggested by one member of the small group were adopted by others in the group as they identified issues in whole-class discussions. However, students presented what they personally thought about the case by saying " I believe," " I think;" students needed time and the feeling of a secure environment before being confident in a knowledge claim.

Thelma was one of the participants that did not use the "we" pronouns. When she talked, she owned her knowledge by saying, "I felt," "I believe." If the student talked for the first time, or students did not often attend the discussion, they used the "we" pronoun and then presented their group's ideas. Students used "he," "she," and "they" pronouns when they were talking about case characters, and case issues. However, Lauren was one of the more experienced teachers; she put herself in the same position as the teacher in the case, and she communicated with her students. For instance, Lauren said, "Here's how you find out information you need …how you put together..." She talked as the teacher in the case and showed the teacher how he or she should teach the students. Most of the students used the "he" or "she" pronoun when referring to the teacher in the case and what the teacher should do; more experienced teachers such as Heidi and Lauren talked about what they would do personally in that case.

4.5   COMPARING STUDENT AND FACILITATOR PARTICIPATION

The last question is, "How did turn-taking between students and facilitator, change over time?" This is examined simply by looking at the number of initiated turn-taking, and then dividing by

total minutes in each discussion. Figure 1 reports the total frequency of students' and facilitator's turn-taking per minute.
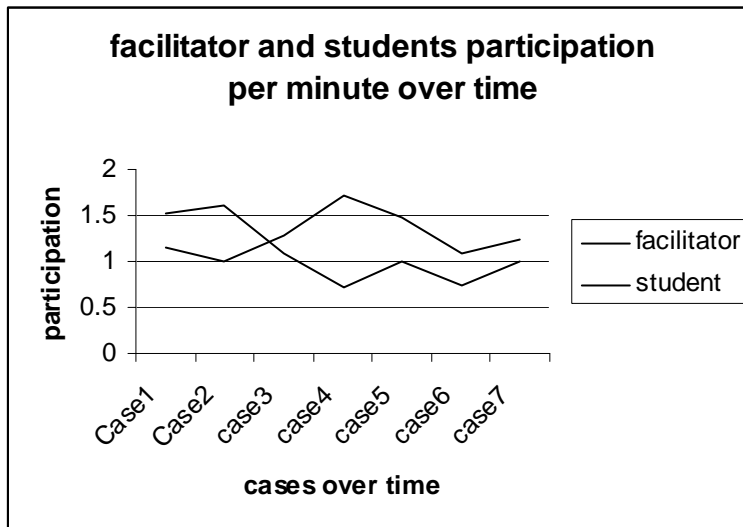

Figure 1. Facilitator and students' turn taking per minute over time

As shown in Figure 1, in overall cross-case discussions, students had fewer turn-takings in the first three discussions. That indicates that, in the first three discussions, the facilitator took more turns during discussion than students. The total facilitator turn-taking per minute was higher in the first three discussions, reflecting the active role of the facilitator in these initial discussions. In following discussions, students took more turns compared to the facilitator. The facilitator did not contribute and talk as much as in other discussions. That means students spontaneously engaged and were more active without the facilitator guiding or leading them. Students were more likely to engage each other in those discussions.

The highest student turn-taking was reported in discussion four. As noticed in the total per-minute, across-case discussions, case discussion four stimulated the highest total student interaction compared to other case discussions. As mentioned earlier, case discussion four

produced more variety statements and challenging ideas discussed by students, compared to other case discussions.

5.0   DISCUSSIONS

This chapter is comprised of four sections, (a) the discussion of research findings (b) a conclusion (c) limitations of the study, and (d) recommendations for further research.

5.1   DISCUSSION OF RESEARCH FINDINGS

What role did the facilitator play in whole class case-based discussions?

While it appears from this study that the quality, form, and content of the teachers' contributions were affected by the role of the facilitator in this study, previous study findings also indicate that the role of facilitator was very important. The level and quality of the facilitator's responses in case discussion can change participants' thinking (Libby, 1994). The facilitator's purposes and intentions determined the selection of the cases, how he engaged and interacted with students, and also, what kinds of questions were raised during discussions. The facilitator chose realistic and challenging cases that reflected multiple perspectives and issues with which to deal. It seems that the facilitator was the bridge used to connect theory to practice. I got the impression that he appreciated whenever students brought their practical knowledge and practices to the discussion. He jumped on the opportunity to connect the theory.

In this study, the facilitator was occupied with getting the discussion going by inviting participants to take turns and share their comments with others. He encouraged the students by

praising them after they explained different points of view or shared personal and professional experiences related to the case's issue or solution. The choice of the facilitator's questions structured the discussion but also determined what they discussed. The nature of the questions asked by participants changed and expanded the participants' thinking. By probing, the facilitator channeled the students' thinking via questions but also asked that students to expand and clarify their thinking. The facilitator elaborated upon students' thinking by supporting them, giving examples, and expanding their thinking when students needed it, but he encouraged students to expand and elaborate upon each other's thoughts and ideas.

There was no clear-cut pattern over time regarding how the facilitator acted. However, the facilitator in the first discussions shared his personal anecdotes and experiences. It seems that his sharing his own personal experiences created trust and encouraged students to share their own personal and professional experiences later on. The facilitator listened and observed instead of commenting during the first two discussions. He redirected the discussion to the students, remained silent, and actively listened to the others. He aimed to maximize student-student interaction and encouraged the students to challenge each other.

How did particular cases elicit problem solving?

The findings show that it is difficult to say if there is the same pattern throughout the cases. Students in some case discussions focused on problem analysis, which consists of identifying sub-problems that cause the general problem. For example, in discussion one, students talked about the other problems that caused students' lack of motivation in a general way. In discussion case two, students focused on analyzing the problems that caused disruptive behavior in a specific student. Discussions three and five are examples of solution-analysis oriented discussions. The problems in these case discussions are so straightforward that the

students focused on how to solve the issues. However, case discussion four is unlike other case discussions. Students did not focus on any problem-solving orientation. There is one issue that the teacher in the case has to deal with. She must decide whether or not to retain a student. Students discussed the issue from the perspective of language deficiency and maturity, and then students discussed short and long-term effects of their decision by citing personal and professional experiences. Students stated more personal experience in discussion four than in any other discussion. That means that students had more personal connections to the case character. They had had similar experiences themselves, or somebody they knew had. They imagined themselves in that position, to fail or not, and decided based on the short and long-term effects of this decision.

The comparison of problem solving to knowledge resources in each discussion indicated that the nature and content of the case has an impact on what students would discuss and how they would discuss it. If the problem or issue is straightforward in the case, students are more likely to concentrate on solutions. If the case has a central issue but, in order to solve this problem, students had to uncover underlying issues or problems; students might focus on problem analysis. The findings show that the nature and content of the case determined how students reacted to the case and case characters. The reaction might be problem-analysis oriented, solution-analysis oriented, or focused on decisions based on looking at their consequences. Therefore, what students learn is a function of (a) what cases are discussed, (b) how the facilitator organizes the discussion, and (c) how students are connected to the case and case character through their prior knowledge and experience.

There is a pattern showing that some discussions had more engagement. Students extended each other's thoughts and gave examples and support to each other without the

facilitator's leading in a constructive way. On the other hand, students in decision-making cases challenged each other and shared ideas about the long-term effects and consequences of their actions. There is no evident of across-case patterns, but the nature of the case and case content likely determine what kind of engagement we can expect. However, case discussion three and four had longer time durations, and that might have an impact on the engagement quality in case discussions.

What kinds of engagement did students demonstrate in each discussion?

Students in the first two discussions were guided and led by the facilitator. They responded to his questions and were invited to the discussion by him. After the first two discussions, students engaged to elaborate upon each other's ideas and thoughts by giving examples, supporting each other in the issue, and expanding their thinking. They asked questions of the group and probed each other's thoughts, especially in case discussions three to five. Discussions three and four had more variation in interaction statements. The nature of the case and case content were more likely to determine what kind of engagement we can expect. However, those two discussions had 33 to 45 minutes ranges of time duration. This indicates that not only the context and content of the case were relevant, but also time duration of the discussion has a relatively large impact on the engagement quality in case discussions.

In addition, the participants' previous understanding and experiences, personal background, and individual interests determined how they engaged during discussions. In the first two discussions, most students had little connection to personal and professional experience. It is likely that students needed time to open up concerning individual experiences and personal feelings. When they felt connected to and trusted the group, they were more apt to share personal commentary and engage each other without the facilitator's guidance. Facilitator

guidance was limited during the class discussions in order to actively promote a free flow of ideas by the course participants.

How did individuals differ in their participation?

The participants' previous understanding and experiences, personal background, and individual interests determined what they understood from the case and its discussion (Levin & Powell, 1997). Non-traditional students contribute more in generating decisions and resolutions, because they utilize their personal classroom experiences fluidly (Lundeberg, 1993). Lundeberg and Fawver (1994) investigated whether an entire course built around case-based teaching affected reflective cognitive growth in pre-service teachers. Their findings showed that older students and women were more reflective, demonstrating higher problem-solving proficiencies than younger students and men. In this study, students in some case discussions were more engaged to define the problem or issues than the solution. The context and content of the case helped students recall their personal and professional experiences. If students had any similar connections with the situation in the case, students more likely recalled their personal and professional experience while they were dealing with the problem.

The teachers with various levels of experience that had the opportunity to interact with each other and discuss the issues in the case were able to influence each other's thinking while they contributed. Teachers' previous understanding, experiences, and personal background served as a filter for what they understood about the case and how they contributed to the discussion of it.

How did turn-taking between students and facilitator, change over time?

The study focuses on how many times participants took turns during a discussion without looking at the content. There is a pattern in the first three discussions. The facilitator took more

turns than students. This does not mean that the facilitator dominated the case discussion. However, the facilitator was working actively to call student names and invite them into discussions that he had already essentially volunteered to take turns. These findings suggested that there might be a stage or stages during a discussion over time. Seven-week discussion periods do not entirely reveal stages. In this time period, the first three discussions were warm-up discussions in that the facilitator was more engaging and trying to warm up the learning climate. Starting with the third discussion, students were more actively engaging and open the general flow individual contributions. Not only time but also the content of the case affected students' participation. If students had a connection and experience regarding the case issues, students were more likely to attend and participate during discussions.

Lundeberg & Fawver (1994) found that discussing controversial cases enabled pre-service teachers to become more flexible in their thinking, both in identifying issues in a problem situation and suggesting alternative courses of action. They brought their own characteristics, values, and experiences to the course. Through case discussions, they influenced one another. The finding from this study showed that these pre-service teachers viewed problems from more perspectives and connected more theories to cases at the end of the semester than they did initially. In summary, discussion of a case does appear to be an important variable in social construction of knowledge. Discussions in this study revealed that students experienced multiple perspectives on the issues in the case. Supportive and constructive colleagues that shared their notions about educational issues surrounded them and enabled a more extensive incorporation of knowledge. From this study, it is difficult to say if individual or group improvement exists over time. When looking at individual contributions to the group discussions, the nature of the discussion and individual contributions were influenced by the content of the case, and also how

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the facilitator dealt with the case. In addition, it is important to acknowledge how the students reflect each other's thinking during discussions.

5.2   CONCLUSION

In this study, case-based discussions reflect a social constructivist pedagogy in which students could connect theory to practice and make application with their previously gained knowledge and beliefs. Students' personal and professional experiences affect their engagement in the discussions. The content and nature of the case might predict what kind of engagement students will have. Therefore, instructors should decide the cases that serve best their objectives in their courses. For example, if an instructor wants students to make decisions and discuss the consequences of particular actions, he should assign decision-oriented cases. Conversely, he might assign problem-oriented cases to diagnose and identify problems.

In addition to choosing the cases, how the instructor or facilitator presents those cases is important during discussion. Moreover, this research has shown that facilitating effective case discussions is a complex undertaking. Instructors have many tasks such as guiding, leading, and moderating. Instructors must possess the ability to manage not only the content but also the process of the discussion. Partnering with students and establishing a strong interactive learning community may alleviate some of the difficulty associated with moderating a case-based discussion. The facilitator and students should be partners that share the responsibilities of teaching and learning equally. This study gives important insight into the large group case-based discussion.

5.3   LIMITATIONS

In addition to a small number of participants, several components of this study limit its ability to be generalized. This study was limited by secondary data sources. The researcher obtained videotapes of large group discussions from the primary researcher who was at the same time the instructor of the course. The observations of the case-based discussion practice were retrospective and the original primary researcher was interviewed a long time after the actual case discussions occurred.   The facilitator's intentions and purposes may not reflect current intentions and purposes.

Another limitation affecting the contributions or responses has to do with the amount of time the participants engaged in discussions. The duration variation among case discussions in this study might be one of the limitations. The longer discussion times may have contributed more in-depth analysis and complex interaction than shorter ones.

The problem-solving framework captured the content of the discussion, and interaction coding revealed the process of the discussion. The problem-solving framework and interaction categories were used in discussions stimulated by problem-solving and decision-making case dilemmas in an educational psychology course. Different case contents in different subjects might not be appropriate for coding or capture the content and process of those discussions.

5.4   FUTURE STUDIES

It appears from this study that the interaction and content of discussions were affected not only by students' background knowledge and previous experience but also by the facilitator's

intentions and purposes. Therefore, it would be valuable to interview students to learn of their attitude toward case discussions, any experience they have with case-based instruction, and any personal and professional background knowledge they may have. Then, after the discussion, they might be interviewed again to learn how their attitude may have changed.

Regarding the facilitator, more case studies should be focused on the facilitator's thought and behavior process during discussions. After videotaped case-based discussion, the facilitator could watch his own practice forum and describe his reasoning behind his decisions shortly after his facilitation.

The content of the cases used for the discussions affected not only student and facilitator responses but also their interaction. Future investigation should be directed at the cases' influence (using the same case content) on teachers with different expertise over time. One observed facilitator's use of written cases during whole-class discussion was in one content area after a small-group discussion. Future studies should examine the discussions with a different kind of case such as videotaped or written cases with decision-making, moral, and ethical dilemmas in an educational psychology course. Different case content might conversely influence students' reasoning and interaction during the discussion. In addition, it might be worthwhile to compare whole-class discussions with small-group discussions. Also, students' case analyses should be compared before and after case discussions, in at least several discussions, so that we might learn how discussion may affect or influence students' thinking.

In this study, students read the cases alone (5 to 7 pages in ten minutes). Then they discussed in small group sessions. Then the facilitator opened whole-class discussion. Further study could compare the discussions after students read and prepared for the cases as homework with guided questions before discussing in a classroom setting, incorporating discussions that

students prepared for in the same way but without guided questions. If they were provided with the opportunity to read and prepare before coming to class, this would likely encourage students to think through the case and elaborate in a very thorough manner.

APPENDIX A

COURSE SYLLABUS

PSYCHOLOGY OF LEARNING AND DEVELOPMENT

Fall term (03-1)

EDUC 2000/CRN 43424

Tuesday 5:15-7:55

Course Overview

Today we view learning and teaching as multifaceted processes that are influenced by a host of behavioral, social, and cognitive factors. In this course you will learn about those behavioral, social, and cognitive factors that influence how we learn to help you as an educator to make informed and reflective classroom decisions.

Course Goals

Introduce you to basic psychological theories and concepts that apply to education (e.g. teaching and learning)

- Foster your understanding of these theories and concepts

- Develop your ability to use these theories and concepts to analyze and resolve realistic educational problems

- Familiarize you with methods of assessment and observation of students

- Create a reflective teacher

Textbooks

Mc/O: McDevitt, T.M., & Ormrod, J. E. (2002). Child Development and Education (8th Edition). Upper Saddle River, NJ: Merrill Prentice Hall.

J/O: Jackson, D. L., & Ormrod, J. E. (1998). Case Studies: Applying Educational Psychology. Upper Saddle River, NJ: Merrill Prentice Hall.

Other supplement readings will be assigned throughout the course.

Requirements

- Attendance is mandatory. If you cannot attend class please let me know as soon as possible.

- You are also responsible for keeping up with the reading assignments for each class. You will need to do so in order to contribute to class discussions.

- I also expect you to hand in assignments on the day that they are due. If you are unable to do that please let me know or have a classmate give it to me.

Assignments

Weekly Reflections

During each week of the course I would like to you write a 1-2 page reflection paper on a pertinent course topic. Your papers may involve; reactions to course readings/lecture/discussion: analysis of a case study; reflections on a classroom experience; presentation of examples of ideas/concepts we discussed in class. Your reflection papers will help you prepare for classroom discussions and serve as a resource for you in the future. Your papers will be graded on a 3 point scale: 1=minimal effort; 2= adequate, 3=exemplary.

Case Analysis Project

As a final project for the course each of you will be responsible for completing an in-depth case analysis. Your case analysis may be based on something that interests or puzzles you

about learning or development in your intern classroom or other relevant educational setting.

You are to describe the case (e.g. the setting, people involved, what interests or puzzles you

about the situation), and then explicitly utilize at least two different psychological perspectives to

better understand it.

Grades

Your grade for the course will be based upon the following scale:

50%--Written work/reflections

30%--Case study analyses

10%--Participation

10%--Peer evaluation

100%

Date	Topic	Readings/Assignments
27 August	Introductions and Background	
3 September	Motivation/Self Regulation Behavioral/Social Cognitive perspectives	Mc/O:pp.403-408;427-429 Reflection 1
10 September	Motivation/Self Regulation Cognitive Perspective	Mc/O:pp.410-427;429-443 Reflection 2
17 September	Motivation/Self Regulation Family Influences; Development of the Self	Mc/O:pp. 447-453;464-476 pp.339-347; 354-356 Reflection 3
24 September	Analyses of cases involving Motivation and self-regulation	Reflection 4-Case analyses
1 October	Piaget's theory of cognitive Development: Neo-Piagetian Theories	Mc/O: pp. 109-131 pp. 183-189 Reflection 5
8 October	Vygotsky's theory of cognitive development	Mc/O: pp. 131-148 Reflection 6
15 October	Information Processing Theory of cognitive development	Mc/O:pp. 151-183;192-196 Reflection 7

22 October	Analyses of cases involving Theories of cognitive development	Reflection 8-Case analyses
29 October	Learning &development in Context; Culture & ethnicity; the media	Mc/O: pp.547-554; 576-583 Reflection 9
5 November	Teachers as researchers; Research, data, practice	Mc/O: pp.31-62 Reflection 10
12 November	Analyzing your own case	
19 November	Presentations	
26 November	Presentations	
3 December	Presentations	
10 December	Final Case Report Due/Student Reflection/ Wrap Up	

APPENDIX B

INTERACTION CODES

Interaction pattern: To understand the process of case-based discussion, interaction patterns, (chains of connection among participations' contributions to discussion) will be coded. Interactions include: Asking a question, agreement, challenging, elaborating, paraphrasing, praising, probing, asking, responding, inviting, independent and other. Interactions among participants and between facilitator and participants will be analyzed to determine which interactions are influential on problem solving process during discussion

       Meaningful and clear statements in transcripts of each case discussion will be coded and categorized. Every meaningful statement might be a sentence or paragraph that participants contribute to the discussions when they took their turn. Statements can be coded as multiple interactions for example one statement is coded as **elaboration** at the same time it can be coded as a **probing** statement.

Codes

AGR/Agreement is a acceptance statement that facilitator or participants like the idea stated by previous contributor in the discussion. Distinguishing words might be "I agree", "I like" or sometimes as a statement meaning agreement without saying I agree.

CHAL/Challenge is a kind of rejection that participant is not agreed what other or previous participants stated or participants who have double view about issues that they discussed. Distinguishing words might be " I disagree", " I don't like", or sometimes they did not say a "disagree" word but you get meaning from what they say.

ELA/Elaborating refers to students or facilitator who brought an additional thought to previous statements that other participants or the facilitator said. Elaborating might be a giving an example or an explanation via personal and professional experience and knowledge etc. For example:

KAREN_ "Like they-- Like now (unintelligible) professional and they needed to back him up. Because he's just sitting in his science class when they were doing those (unintelligible) all the other teachers (unintelligible). I don't think it's going to be-- it's going to work out. Like he needs to talk to her other teachers (unintelligible)."

Facilitator-" If there's any change to take place it has to be in conjunction with the other teachers. I mean it would be losing battle for Tom because she's being reinforced in all of her other classes and you know, she' just going to wind up hating him and act out even more and it's just be mass.(ELA)

HEIDI_"Along that line it just seems to me that it's not even going to be the other teachers as much as um-- Every school these days has a school psychologist if not in their building one that they share in the district. Most buildings have a guidance counselor as well

separate from the psychologist and a lot of schools have behavior specialists, whether it's part time or full time. So any of those if not all three should be involved and/or the principal if those things aren't available. I think even more than (unintelligible) teachers. I mean at this point it's the teachers who've made her aware that it's a long-standing problem so it seems to me that someone that's professionally trained in dealing with this kind of thing should be working with Tom at this point. And it surprised me that they didn't mention any of those people really who would be more equipped to deal with that problem."(ELA)

PAR/Paraphrasing is that the facilitator rephrases what the participant has said, or to clarify what they said saying in a different way.

HEIDI-"…So for example if she had told him the whoopee cushion idea, which really was pertaining to the class - it was exactly the same type of experiment that they had done - and they had total collaboration - and the student who sat on the cushion knew it was there but nobody else did, then he could have encouraged her comedienne type behavior but, you know, not hurt anyone's feelings and the class would have gotten a laugh out of it. You know-- So maybe just encouraging her to check with him first and if she really does have a funny idea - if it pertained to the class - he could perhaps help her to arrange it appropriately."

Facilitator-"So tap into her comedic talents but use them creatively and use them relevantly for the class." (PAR)

CANDY_ "But this-- The way-- The effects that it it's being-- of this spoon-feeding - at least the kids I have-- I have ninth-graders that cannot think enough to read directions on their own because they've always been spoon-fed so they have no-- Their whole creative process - their whole creative thought process - is just killed by this spoon-feeding thing. So that when

they're expected to think of something on their own or go outside that educational standardized box they have no way of knowing how to do it."

Facilitator-"So that brings us to the old problem. I mean you get all these facts. What do they mean if you're asked to use the,-you can't- as you're saying." (PAR)

PRAIS/Praising refers to praising that facilitator use praising words after participants contribute the discussion. Praise statements such as very good, excellent, that is great idea etc.

"That's great, yes, that's a great idea.

"Good point"

PROB/Probing is helping someone to say more about what they were thinking and also leading participant what they think about. Examples are:

Facilitator_"Okay. So knowledge was very superficial?" (PROB)

Facilitator_"If she had followed up on that, what could she have done?" (PROB)

Facilitator_... The thing that strikes me is that Marge is really bright and she's doing well in her academic courses. Uh, any thoughts on that? I was struck by how well she's performing but yet she's so disruptive. Yes?

Facilitator_Well yes. I wanted to ask the question - it doesn't come out but she's doing well in school. her IQ test scores are fairly high. Could it be that maybe she's just bored with the material and this is her way of (unintelligible) and she has no appropriate way to deal with her boredom so she just acts out and-- Do you think that's a possibility - that maybe she's gifted and maybe they ought to try a gifted program for her or something? Any other suggestions?

ASK/Asking is one of the interaction coding that might function like a trigger for different discussion content, start the discussion, or elaborate the discussion by asking a question. For example,

"What else was going on?"

"What was contributing to the problems?"

"Well we have a handful of problems. Now some suggestions on what he might be able to do? What could Tom do?"

RES/Responding is answering the question asked by participants or facilitator.

For example:

"What was contributing to the problems?

Well she was being reinforced for her problem-that behavior…The teacher, we said, waited too long to address the problem." (RES)

INV/inviting is calling to someone to contribute the discussion or moving up the discussion by asking "Any other problems? Yes?"

"Anything else?" Such as

"Yes Heidi?"

"Rania?"

"Yes?" Sometimes without calling name with saying intentionally.

Any other problems?

REF/referring is naming or stating other student while he or she is talking. For example:

"I can help but think of Heidi's example of solution somewhat similar situation…"

**CLA/Clarifying** is explaining what she or he means.

"…let me see if I understand. She gave the students a chance to dislike history."

IND/independent is a statement which is contributing discussion and related to the case but is not put in the above categories. The statements will be coding independent because participants' statement is not connected previous thought or ideas but it opens new ideas.
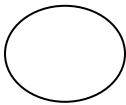
O/Other refers to statements which might not be any category.

APPENDIX C

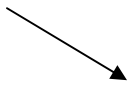**NOTATIONS FOR INTERACTION FLOW MAP AND EXAMPLE**
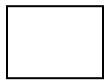
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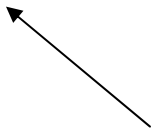<tr><td>▭</td><td>= Facilitator</td></tr>
<tr><td>◯</td><td>= Teachers</td></tr>
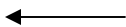<tr><td>↘</td><td>=Slope line with arrow down=discussion in same issue but some elaboration added by next person (such as explaining, giving example)</td></tr>
<tr><td>↖</td><td>=Slope line with arrow up= student reply or respond the question</td></tr>
<tr><td>→</td><td>=Vertical line with right arrow</td></tr>
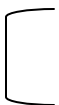<tr><td>←</td><td>=Vertical line with left arrow: speaker paraphrase or summarize previous speaker</td></tr>
<tr><td>⌇</td><td>=Disagreeing with what other people talked or previous person said. Present new challenge.</td></tr>
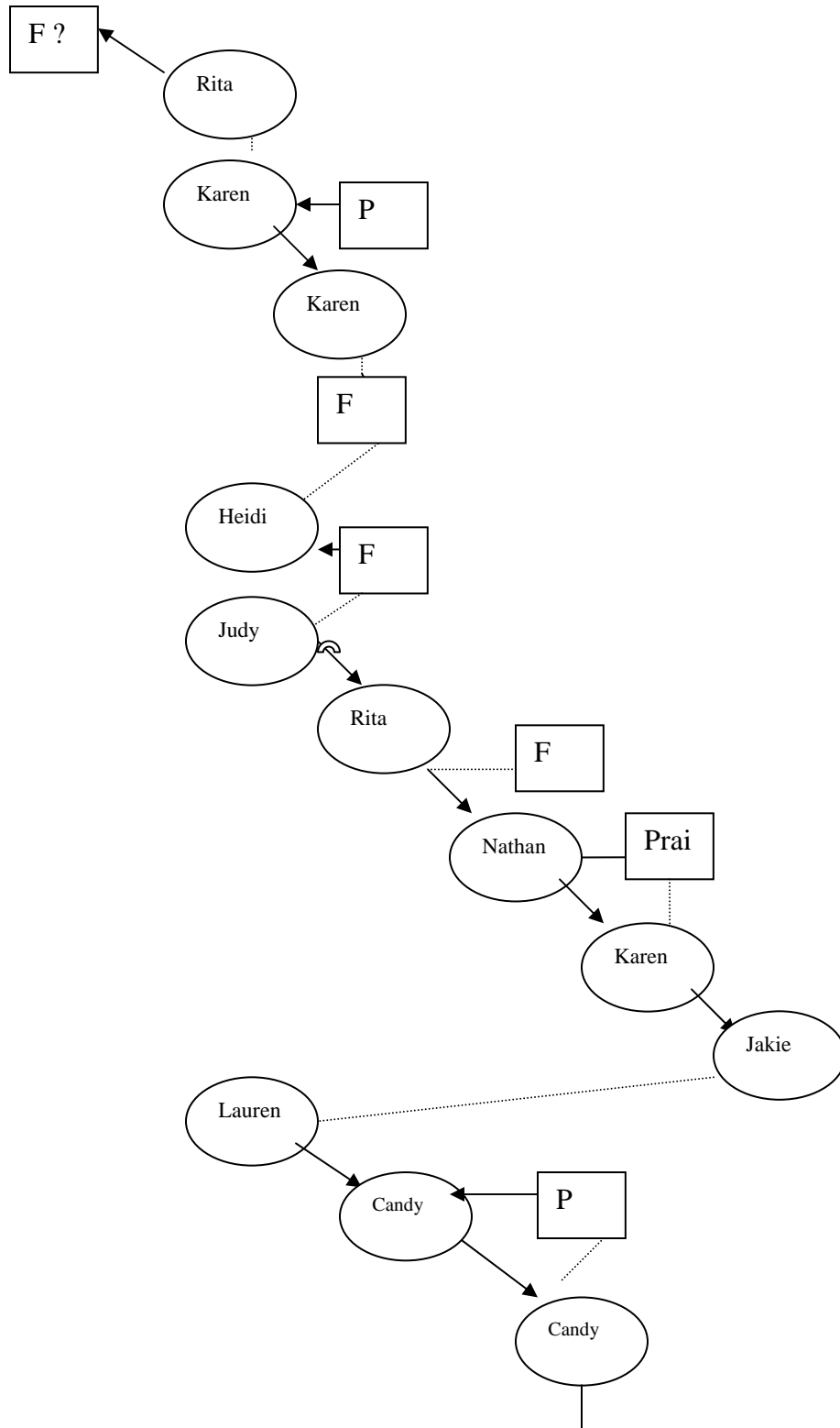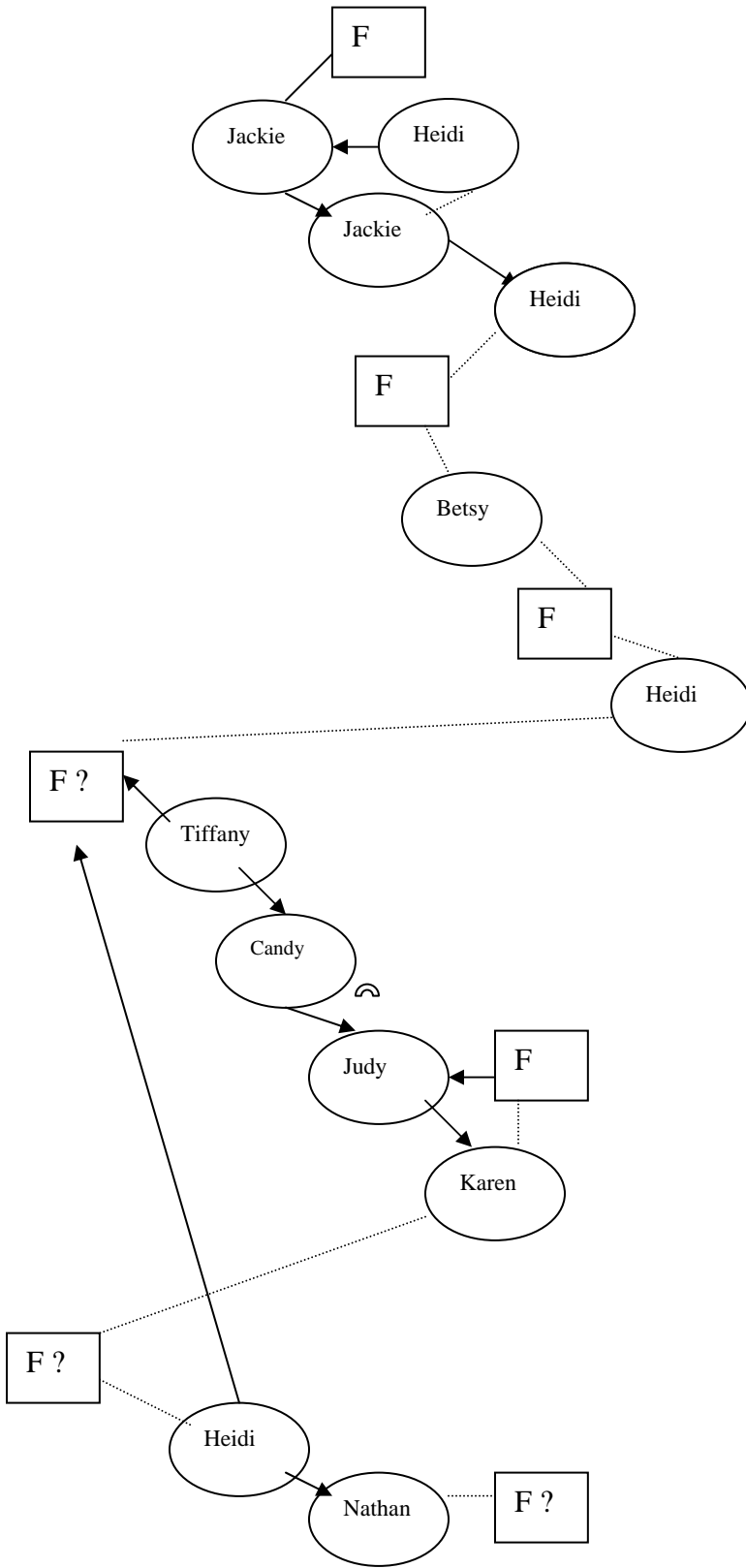<tr><td>⌢</td><td>=agreeing</td></tr>
<tr><td>⌐</td><td>=referring and stating speakers that previously spoked.</td></tr>
<tr><td>-------</td><td>=co the end of elaborated segment to new independent topic or issue</td></tr>
</table>

WITHDRAWN WANDA (October, 15)

F ?

Rita

Karen — P

Karen

F

Heidi — F

Judy

Rita ⋯ F

Nathan — Prai

Karen

Jakie

Lauren

Candy — P

Candy

APPENDIX D

IRB APPROVAL

University of Pittsburgh
Institutional Review Board

Exempt and Expedited Reviews

3500 Fifth Avenue
Suite 100
Pittsburgh, PA 15213
Phone: 412.383.1480
Fax: 412.383.1508

TO: Ayten Eren Artan

FROM: Christopher M. Ryan, PhD, Vice Chair

DATE: December 8, 2006

PROTOCOL: Problem Solving Process and Interaction: Case-Based Discussion in an
Educational Psychology Course

IRB Number: 0610038

The above-referenced protocol has been reviewed by the University of Pittsburgh
Institutional Review Board. Based on the information provided in the IRB protocol, this
project meets all the necessary criteria for an exemption, and is hereby designated as
"exempt" under section 45 CFR 46.101(b)(4).

- If any modifications are made to this project, please submit an 'exempt
  modification' form to the IRB.

- Please advise the IRB when your project has been completed so that it may be
  officially terminated in the IRB database.

- This research study may be audited by the University of Pittsburgh Research
  Conduct and Compliance Office.

Approval Date: December 8, 2006

CR:kh

APPENDIX E

EXAMPLE CASE

Fillmer, H. T., & Parkay, F. W. (2002). *Educational psychology cases.*(2nd   ed.) Upper Saddle River, NJ: Merrill Prentice Hall.

Withdrawn Wanda

Karen Young has taught social studies at Fairmont Middle School for 5 years. She also taught for 2 years at another middle school in the same city, Midland, which has a population of about 60,000 in a Midwestern state. Fairmont's attendance district is approximately 75% white and 25% African-American.

It is sixth period of the second day of classes, and Karen leads a discussion of prehistory with her ninth-grade world history class. The class has 32 students.

KAREN: We've all had a chance to read this interesting chapter on prehistory. I know that the dinosaurs always fascinate people because of movies like *Jurassic Park*, but we want to focus on people today or, to be more technical, Homo sapiens. Let's review a little from yesterday. Roger, how old is the earth?

ROGER: Four and a half billion years.

KAREN: Right! Now how long have human beings been on the earth? (Several hands go up.) Gloria?

GLORIA: About a million years, but I'm not sure that all those prehistoric people were human beings.

KAREN: Good answer, Gloria. Yes, certainly Homo sapiens haven't been on earth that long. What are the names of some of Homo sapiens' predecessors? Wanda? (Wanda stares at the floor and shakes her head.) You don't remember any of them, Wanda? (Wanda continues staring at the floor.) Barry, can you remember any of the names of our prehistoric ancestors?

BARRY: Yeah, Neanderthal man, Java man, and what's that, oh, yeah, Peking man .

KAREN: Yes, Barry, very good! I'll bet you all remember Neanderthal man from *The Clan of the Cave Bear*. But the Neanderthals weren't our immediate ancestors, were they? (Hands go up.) Yes, Marilyn?

MARILYN: No. Cro-Magnon man was, and he lived about 25,000 years ago.

KAREN: Excellent, Marilyn. You people have really been working hard, I can tell! But think about this, people-Homo sapiens haven't been on earth very long. If the earth is four and a half billion years old and Cro-Magnon man has been here for only about 25,000 years, we are real new on the scene. Barry?

BARRY: My dad says that we've probably done more damage to the environment and killed more animals and people than all those early guys combined.

KAREN: I couldn't agree with your dad more, Barry, Homo sapiens may be a relatively new species on this planet, but we sure have caused a lot of trouble in that short period of time. (A few laughs) What do you think, Wanda? Can you think of some ways that Homo sapiens have either helped or harmed the earth? (Wanda looks down and shakes her head. Karen counts off 5 seconds to herself as she waits for Wanda to answer.) OK, Kristen, what do you think?

_____

It is one week later. Karen has noticed Wanda's failure to participate in class in any way. She has resolved to draw Wanda out during class discussion.

KAREN: OK, people. We talked the last time about the end of the New Stone age

around 5000 B.C.? Around that time civilization began. Wanda, do you remember that we talked a little about the rise of civilization. Can you name one of those for us? (Wanda frowns and looks down at the floor. Several hands go up. Karen counts off 5 seconds to herself.) OK, think about it, Wanda, and I'll come back to you in a minute. Yes, Donna?

DONNA: The development of writing was one of them.

KAREN: That's right, Donna, and maybe that's the most important one. Ray, what's another?

RAY: The development of metal tools.

KAREN: Absolutely! Wanda, have you thought of one yet? (Wanda stares at the floor.) Maybe one relating to what we could call business today? (Wanda just frowns.) OK, the development of trade, weren't you thinking of that, Wanda? (No response) Well, uh, Gloria, can you give us more exact date for the beginning of civilization besides 5000 B.C.?

GLORIA: Yes, 4241 B.C. id the oldest date in recorded history.

KAREN: Very good, Gloria. What is that date from?

GLORIA: I am not sure-I've forgotten.

KAREN: (moves directly in front of Wanda) I'll bet you can tell us where that date comes from, Wanda. Think now. (Wanda stares at floor as Karen counts off 5 seconds to herself.) OK, Barry?

BARRY: It's from the first calendar. It was developed by the Egyptians.

KAREN: (still in front of Wanda, speaks quietly) I'll bet you knew that, didn't you, Wanda? (Wanda nods her head.) OK, then, Toni Sue. Besides writing, metal tools, and the development of trade, what else had to develop before civilization could begin?

TONI SUE: Government.

KAREN: Absolutely. And we've had problems ever since, haven't we? (Several students laugh.)

_____

It is Friday after school during the same week. Karen sits in her classroom talking to Mark Harris, a school psychologist in the local school system.

KAREN: Thanks for coming, Mark.

MARK: My pleasure, Karen, You said that you wanted to talk to me about Wanda Loveless. Are you considering referring her? I didn't get a chance to look at her cum record. We had along staff meeting about farming out some of our testing, and I came directly here from the meeting. I do know a little about Wanda though. Several of her teachers consider her very shy and withdrawn. Is that the problem?

KAREN: I'll say! I've tried every trick in the book to draw her out, and she just won't participate. I sense she knows the answers, but she just won't talk!

MARK: Have you given any tests yet?

KAREN: Yes, and she does just fine on them-low B, high C range.

MARK: Sounds like she primarily has a social problem then.

KAREN: Yes, I guess so, but we're going to be working in groups soon, and I wonder If Wanda is going to be able to contribute.

MARK: That will be good test, won't it? My guess is, based on her past behavior, that

she won't participate much more working in a group with her peers than she did during class discussion.

KAREN: That's discouraging, Mark! But what do you think is going on here? Should she be referred to some program?

MARK: Let me look into her case a bit, Karen, before we do anything. Between you and me, it's possible that she's emotionally disturbed. But I don't want to jump the gun. Once you label a child as exceptional, the stereotype can be as bad as the disease, if you know what I mean.

KAREN: Not really.

MARK: What I mean is that teachers, other students, and sometimes even parents begin to relate to the child differently.

KAREN: I see what you mean.

MARK: I just want to take my time and be certain before we do anything.

KAREN: of course. However, I have done one thing I hope you approve of.

MARK: What is that?

KAREN: I called Wanda's mother and asked her to come in for a conference.

MARK: Oh, boy! Mrs. Loveless?

KAREN: Yes. Why do you say it that way?

MARK: Did she agree to come see you without any protest?

KAREN: Yes, of course. Parents don't usually object to having a conference about their child. I guess she thinks it's about grades. But why, Mark?

MARK: Mrs. Loveless is a real battle-ax. Talking to her is a little like talking to a truck driver who's busy and in a hurry. Good luck!

KAREN: (smiling) Well thanks, Mark, for your good wishes! But seriously, she didn't protest, she seemed reasonable enough, and I just don't expect any trouble.

MARK: (smiling) OK. Let me know how it comes out, and meanwhile I'll look into Wanda's situation.

_____

It is Wednesday of the next week, and students are working in small groups of six to nine members. Each group is focusing on a different cradle of civilization that developed around certain river valleys during the sawn of civilization that developed around certain river valleys during the dawn of civilization around 5000 B.C. One group is working on Egypt, another on the Fertile Crescent, a third on India, and a fourth on China. As each group busily works on its report, Barry leaves the ancient Egyptian group and comes up to Karen's desk.

KAREN: Yes, Barry? What is it?

BARRY: Ms. Young, you said that everyone in the group will get the same grade for the group report?

KAREN: Yes, that's right.

BARRY: Well that doesn't seem fair! Some people aren't hardly doing anything, and they're going to get the same grade as me!

KAREN: Who are they, Barry? I'll talk to them.

BARRY: Well, It's mostly one person. Wanda.

KAREN: Really, Wanda? Well, you go back to your group, and in a little bit I'LL call Wanda up and talk to her about it. And I'd appreciate it, Barry, if you'd do your very best to work with Wanda. I think she's shy.

BARRY: (leaving) I think she's lazy! (Five minutes later Karen calls Wanda up to her desk. She motions for Wanda to sit in a chair next to her desk. Wanda looks away from Karen's eyes as Karen talks to her.)

KAREN: Wanda, I've been wanting a chance to talk to you, and this is the first real class time we've had. (Pause) Wanda, I've tried to call on you in class several times, and I'm certain you know the answer, but you just don't seem to want to talk. Why is that?

WANDA: I don't know.

KAREN: But you do know, don't you, Wanda? Like the other day when I asked you who developed the first calendar. You knew the answer, didn't you? (Wanda nods her head.) Is it hard for you to talk to me, Wanda?

WANDA: (speaking barely above a whisper) No.

KAREN: Wanda, I want you to do well in here, and I know you are capable. Can't you tell me why you won't talk more?

WANDA: I don't know the answers. I can't remember all this stuff! It's too hard!

KAREN: Wanda, you've been getting good grades on the tests. You got nine out of ten on the last one. Don't you remember that?

WANDA: Yes, but I really didn't understand it. Sometimes I just seem to get it right.

KAREN: Well, Wanda, tell me about your group. Do you like working with the other students? (Wanda shakes her head.) Why not, Wanda?

WANDA: They just don't like me. They don't really care what I think.

KAREN: Well, Wanda, when you don't say anything, the group may begin to think that you don't know anything when you really know as much as any of them. Why don't you try to contribute more? Why don't you go back to the group now and see if you can't contribute at least three ideas. Will you do that for me?

WANDA: If I can.

KAREN: Did your mother tell you that she's coming in to have a conference with me next week?

WANDA: (with fear in her ayes) No! Why? I haven't done anything wrong, have I?

KAREN: (taken aback) No, Wanda, you haven't. But I like to meet the parents of as many of my students as I can. Since your mother has known you longer than I have, I thought that she might tell me some things that might help me get to know more about you so I can do a better job of teaching. That's all. Nothing to worry about.

WANDA: (frowning) Can I go back to my group now?

KAREN: Well, yes, I guess so. But Wanda, don't be afraid to speak up and let other people know what you know. OK?

WANDA: OK

_____

It is Friday of the next week after school. Karen meets Wanda's mother in her empty classroom. Ms. Loveless is a tall, heavy woman dressed in jeans. She shakes Karen's hand and takes a seat next to Karen's desk.

KAREN: Thanks for coming, Ms. Loveless. I wanted to talk to you about Wanda.

Ms. LOVELESS: Is she doin' something wrong? Don't remember her bringin' home any bad grades.

KAREN: No, that's not the problem. Wanda can make B's when she applies herself.

Ms. LOVELESS: Well, that's just it. Wanda can be lazy when she wants to. You just have to keep after her and not cut her any slack. I'll guarantee you she's not lazy around home. It's just her and me, you know. Her dad ran off with some young chick when Wanda was four.

KAREN: Oh, I didn't realize that you were divorced.

Ms. LOVELESS: Yes, and I love it that way. I don't have to listen to some man tellin' me how to live my life. But I work at Central Electric and often get a lot of overtime. So Wanda has to pitch in and do her share. Of course, from what I've seen of a lot of kids these days, it's clear that a little discipline would do them good. So I guess what I'm telling' you is that if Wanda slacks off in her work, just let me know. I'll back you up at home. I didn't get to be the only female foreman at Central by bein' lazy, and I'm not goin' to let Wanda learn bad habits.

KAREN: Well, Ms. Loveless, it isn't laziness that worries me. Wanda is just so shy and withdrawn. She just won't answer questions during class discussions, and she even seems to have trouble talking with other students when they are working in small groups.

Ms. LOVELESS: (pondering) I guess I can see how she might be a bit shy. She and I don't get out much-maybe to church some Sundays. We mostly stay home nights and watch TV. She doesn't have any regular friends that come over. But I always make her homework first before she does her chores around the house. (Pause) But I think all you need to do is tell her that it's important to talk out and draw her out a bit. If that doesn't work, let her have it. I'll back you up.

KAREN: Yes, well, I have talked to her and have tried to draw her out as you put it. But, Ms. Loveless, she acts fearful, like she's scared of making a mistake all the time. I guess she doesn't try talking so she won't fail.

Ms. LOVELESS: Like I said, just explain to her that it's important for her grades that she talk and don't mince any words. Really crack down on her if she doesn't do what you want. I'll guarantee you that it'll work. I do it at home with her all the time.

KAREN: (hesitantly) Ms. Loveless, I was wondering if that might not be part of the problem? Your coming down so hard on her at home all the time might be causing her to be fearful around other people.

Ms. LOVELESS: (angrily) it sounds to me like you're telling me I'm a poor parent! I'd like to point out to you that you don't see Wanda goin' around beating' up, insulting, and robbin' other folks! There are a lot of parents out there not doin' their jobs, I'm not one of them! Even though I have to do the job alone, I do it right, and I don't need you tellin' me otherwise! You take one of the teachin' and I'll take care of the parentin'. (Storms out)

KAREN: Ms. Loveless, I…

_____

It is Tuesday of the next week, and Karen meets with Wanda in her classroom alone after school.

KAREN: Wanda, I just wanted to compliment you on the score you made on the test that I gave Friday. I guess that you know by now that I talked to your mother that same day, and I would have told her about your good grade if I'd had a chance to grade them.

WANDA: Yes, I guess I got real lucky on that one.

KAREN: Wanda, do you really think that getting 87 of 100 points was just luck? Don't you think your hard work twice as hard as the other kids because I'm just so dense. I'm so envious of someone like Gloria Ashton-she doesn't need to study hardly at all and gets straight A's.

KAREN: Wanda, you're smart, too. It exasperates me that you keep putting yourself down like that all the time. Believe me, as your teacher who has taught a lot of students, you're not dumb! (Silence) Did your mother say anything about our conference?

WANDA: Yes

KAREN: What did he say? Won't you tell me?

WANDA: She said that you told her that I'm as lazy at school as I am at home and that I'd better get busy and get my grades up or she'll come down on me. I don't think she likes either.

KAREN: What did she say?

WANDA: She said you're a know-it-all and she doesn't want any more to do with you.

KAREN: Oh, goodness! Now I wish I'd had some really good news to tell her, like your test score. Maybe that would have helped.

WANDA: No, she really wouldn't have cared. She would just have told me that I should try to do better. I really wish you hadn't talked to her.

KAREN: Why not, Wanda?

WANDA: Because she blames me for causing trouble and making her come to school to talk to you. It always turns out to be my fault! I just wish everybody would leave me alone!

_____

Karen meets with Mark Harris, the school psychologist, in his office located in the district school board building downtown.

MARK: Come in, Karen. I'm sorry that you had to meet me here, but I had an important staff meeting before our appointment. Finances, you know. Thought we were never going to finish!

KAREN: Mark, I needed to talk to you about Wanda Loveless so badly that I would have agreed to meet you anywhere!

MARK: (Laughing) Sounds really serious! What's going on?

KAREN: I met with Wanda's mother, and the conference turned into a real disaster. I think I may have hurt Wanda more than I helped her by talking to her mother.

MARK: I was afraid of that. What happened?

……….

KAREN: I tried to discuss Wanda's withdrawn behavior with her, and she thought I was criticizing her parenting skills.

MARK: (smiling) Were you?

KAREN: (laughing) Yes, I guess maybe I was. She's so demanding and thinks punishment is the solution to every problem.

MARK: (seriously) Do you think there's physical abuse going on there?

KAREN: Not physical-mental maybe. But I'm not real sure what abuse is anymore.

MARK: Well, certainly the scars of mental abuse are sometimes more difficult to detect than those of physical abuse.

KAREN: I just don't know what to try next, Mark. Ms. Loveless has certainly made it

clear that she doesn't want anything more to do with me. I had some idea about involving her as a classroom volunteer, but that will never work.

MARK: I agree. At least, I'd hate to try that if I were in your position.

KAREN: Mark, I wonder if Wanda would be better off in another class like a class for exceptional children. Wouldn't you say she is emotionally disturbed, or handicapped, or whatever the current label is?

MARK: Honestly, I'm not sure yet, Karen.

KAREN: How do you determine that?

MARK: It isn't an easy evaluation procedure. There are behavior checklists that we use, and I plan to evaluate Wanda as soon as I can schedule it. But what it comes down to is a matter of degree. Is the problem behavior a consistent and persistent pattern, or not? Is Wanda over inhibited, or not? That is, is she excessively withdrawn and shy? Once we label her and put her in a special program, it is likely to follow her the rest of her school days. So it's a serious call. Based on what you know now, Karen, what call would you make?

KAREN: I'm not certain, Mark. But what am I going to do with her in the classroom if you decide she isn't emotionally disturbed?

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