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Reflectivity of preservice teachers' perceptions and practices in a novice instructional environment

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Reflectivity of preservice teachers' perceptions and practices in a novice instructional environment

Abstract

This study examined reflective language that preservice teachers engaged in as they structured discourse about their tutorial experiences. Four subjects responded to pre- and postinterviews and a repeated conference questioning frame. Key reflective language from their responses resulted in three broad categories of reflection: Self-Discovery, Instructional Assessment, and Flexibility. Stages of reflective judgment were assigned to each subject at the beginning and at the end of the study, culminating in an overall stage of reflective judgment for each subject. Results reinforced the validity of Korthagen and Wubbels (1991) study on what reflective teachers say and do. The greatest growth was in Self-Discovery, an area that may not be addressed in conventional teacher education. All subjects showed growth in reflective judgment. However, the most growth in reflective judgment was made by subjects not initially using reflective language. Their discussions about practice changed and developed in complexity as a result of their reflective language, signifying the need for reflective discourse to support reflective thinking.

REFLECTIVITY OF PRESERVICE TEACHERS' PERCEPTIONS
AND PRACTICES IN A NOVICE INSTRUCTIONAL ENVIRONMENT

A Research Paper
Submitted to the
Department of Curriculum and Instruction
In Partial Fulfillment
of the Requirements for the Degree
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by
Jeanne Delk Montenier
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ABSTRACT

This study examined reflective language that preservice teachers engaged in as they structured discourse about their tutorial experiences. Four subjects responded to pre- and postinterviews and a repeated conference questioning frame. Key reflective language from their responses resulted in three broad categories of reflection: Self-Discovery, Instructional Assessment, and Flexibility. Stages of reflective judgment were assigned to each subject at the beginning and at the end of the study, culminating in an overall stage of reflective judgment for each subject.

Results reinforced the validity of Korthagen and Wubbels (1991) study on what reflective teachers say and do. The greatest growth was in Self-Discovery, an area that may not be addressed in conventional teacher education. All subjects showed growth in reflective judgment. However, the most growth in reflective judgment was made by subjects not initially using reflective language. Their discussions about practice changed and developed in complexity as a result of their reflective language, signifying the need for reflective discourse to support reflective thinking.

CHAPTER I
THE PROBLEM

Reflectivity is a term that has been used to represent a wide variety of interpretations. Reflectivity has been defined as mental focusing on a subject and the result of such thought as expressed in words. This study looked at reflectivity as the mental process of structuring or restructuring an experience, a problem, or existing knowledge or insight (Wubbels & Korthagen, 1990). Additionally, this study looked at critical reflection, which involves awareness of considerations that affect reflection. Critical reflectivity requires bringing assumptions, premises, criteria, and schemata into consciousness and vigorously critiquing them (Mezirow, 1985). Marsick (1988) characterized critically reflective learners in this way:

[They] are continually sensitive to why things are being done in a certain way, the values these reflect, the discrepancies that exist between what is being said and what is being done, and the way in which forces below the surface in the organization shape actions and outcomes. (p. 191)

Reflection has recently become part of the language of teacher education (Gore, 1987). The terms reflection, reflective teaching, and the teacher as a reflective, inquiring professional are now widely used in journal articles and at teacher education conferences. The popularity of reflectivity indicates a shift in emphasis

on mastery of technique and the learning of theoretical principles toward the promotion of analytical, reflective habits and attitudes in teaching. Preparing teachers as classroom researchers who can assess a classroom event from multiple perspectives, engage in discovery of their role in classroom events, and be flexible enough to provide optimum learning opportunities are becoming significant areas of discussion in teacher education. The significance of these behaviors in the development of reflectivity was underscored by Carol Lyons at the National Reading Conference in 1992. She noted that a responsive teaching model is associated with increased teacher effectiveness by enabling teachers to make learning decisions as classroom researchers.

The general consensus among educators is that new models for teacher education for reflectivity are needed that assist people in understanding the meaning of their experiences (Korthagen & Wubbels, 1991; Marsick, 1988; Ross, 1989). Researchers in the Virginia Beginning Teacher Assistance Project (Wildman & Niles, 1987) concluded the following: "We believe that the vision of teacher as reflective practitioner will be a crucial link in efforts to revitalize the profession" (p. 26), and "What we have seen suggests that the theme of teacher as reflective professional should be pursued vigorously in

programs of training and support for teachers" (p. 30). Significantly, the Virginia project researchers' initial efforts suggest that preparing the reflective practitioner requires a "different environment" for the preparation process and an "intensive effort" for its success.

A consensus is growing in teacher education that the development of reflectivity is a significant component in good teaching because reflective thinking leads to thoughtful decision making. In response, many universities have identified the development of critical reflection as the primary goal of teacher preparation programs (e.g., the University of Florida, University of Wisconsin-Madison, University of Alaska-Fairbanks, University of Houston). Even though reflective practices are critical for teacher development, all the teacher preparation programs are faced with the same dilemmas suggested by Ross (1989). Ross identified mutual challenges for all these programs as follows:

1. Defining the nature of reflection.
2. Identifying strategies for fostering reflection in students.
3. Assessing the impact of their efforts.

In considering these challenges for teacher education programs, the reader should remain aware of the following assumptions when reading this study.

1. Reflection or reflectivity is equated with improving instruction and is part of what is considered good teaching. Various programs' approaches to the development of reflective teachers differ on how they address good teaching (Korthagen & Wubbels, 1992; Ross, 1989; Schon, 1987; Zeichner, 1987).

2. Reflective behavior is observable and also implicated through discourse (Korthagen & Wubbels, 1991; Ross, 1989).

3. Reflective behavior is a teachable behavior (Korthagen & Wubbels, 1991; Ross, 1989; Zeichner, 1987).

Definition of Terms

The following terms have been defined. These definitions are based on their use for the purpose of this study.

Instruction-Based Reflection

The mental process of structuring or restructuring of an instructional experience, problem, or existing knowledge or insight (Wubbels & Korthagen, 1990).

Reflectivity

An initial definition often used in teacher education programs comes from Dewey (cited in Liston &

Zeichner, 1987): "Active, persistent, and careful consideration of any belief or supposed form of knowledge in light of the grounds that support it and further conclusions to which it tends constitutes reflective thought" (p. 24).

Process of Reflection

Reflection involves five phases (Korthagen & Wubbels, 1991). These phases viewed collectively are referred to as the ALACT model:

1. Action: confrontation with a concrete situation which requires action. Example: a lesson taught by the student [training to be a teacher].
2. Looking at or looking back on the situation (analysis). Example: "This lesson went fine. They were a bit noisier than usual, but I could control them all the same."
3. Awareness of essential aspects: crux (mental structure formed or altered). Example: "Ronnie was not present but may have been a cause of the extra noise. In my opinion he is a kind of leader, and because he was always cooperative, the others cooperated too. Now that he wasn't there, the others didn't know how to behave. Yet they all worked well. Another cause may be that we started at 8:30, which is earlier than usual. The children

hadn't blown off steam yet, but I wanted to start quickly all the same, for I had only one hour."

4. Creation of alternative solutions or methods of action. The next lesson the student plans and teaches will constitute Phase T, the trial stage, which is also Phase A, the action stage of the next cycle.

5. Trial (also first phase of new cycle).

(Korthagen & Wubbels, 1991, p. 5)

The model constitutes the basis of a program developed at a teacher's college in the Netherlands. "It was the mathematics department of a teacher education college called the SOL, where a program for the preparation of secondary school mathematic teachers had been developed, in which the promotion of reflective teaching was a basic goal." The aim is to produce teachers who will ultimately be capable of independently tracing a process consisting of the five phases.

Reflective Judgment (The final outcome desired).

The development of the ability to reflect and make appropriate decisions involves the ability to view situations from multiple perspectives, search for alternative explanations of classroom events, and use evidence in supporting or evaluating a decision or position (Kitchener & King, 1981).

Reflective Discourse

Dialogue between teachers about actual teaching experiences that enable questions to be asked about assumptions and practices. The dialogue may analyze behaviors in detail, consider multiple perspectives, provide explanations of events, or evaluate the adequacy of evidence to support an argument. It includes the reformulation of alternative hypotheses for action.

Reflective Practice

The actual testing in classroom situations of those hypotheses that are developed through reflective discourse. Specifically, at a preservice teacher education level, reflectivity involves the fostering of an inquiry-oriented attitude and the promotion of the ability to analyze, to structure, and to devise creative solutions.

The Problem

Research within the past 10 years has provided valuable information that teacher educators might use to foster reflection in their preservice teacher education students. For example, Cruickshank (1981) assessed methods courses that participated in reflective teaching and compared those to control group course sections. Qualitative data in that study indicated that reflective teaching enhances the ability of students to express

themselves in a more analytical manner on matters concerning teaching. However, another study (Liston & Zeichner, 1987) differed from Cruickshank's belief that means rather than ends should be the focus of reflective development in teacher education. In this study, Liston and Zeichner (1987) described how a principled approach to teaching and an ethic of caring may be evidenced in preservice teachers' ability to critically reflect on a specific instruction issue--ability grouping. The researchers presented two contrasting moral views of the practice of ability grouping in an effort to get students to develop their own rationales through reflections as teachers. In addition, Liston and Zeichner (1987) illustrated their point that moral principles should be used to examine educational practices. They elaborated on the idea of moral deliberation as more complex than the reflective approach had heretofore been characterized. Specifically, Liston and Zeichner's expansion of reflection to include ethical, moral, and political purposes required reflection on ends and is evidence of a critical stance in the development of reflectivity.

Korthagen and Wubbels (1991) gathered 10 years of empirical data in four research studies focusing on a teacher education program they developed that seeks to

promote reflective teaching. Their program is based on the assumption that prospective "teachers can be trained to reflect on their own experiences as a means of directing their own growth in the teaching profession" (Korthagen, 1985, p. 11). The idea behind this emphasis is that student teachers can be enabled to resist the "utilitarian perspectives" and "socialization into established patterns of school practice" if the student "has an idea of who he or she is, what he or she wants and, above all, of the ways in which one can take responsibility for one's own learning" (Korthagen, 1985, p. 12).

In response to the ideas of Cruickshank (1985), Liston and Zeichner (1987), Ross (1989), Tom (cited in Gore, 1987), Schon (1983, 1987) and other studies, Korthagen and Wubbels (1991) concluded that reflection is linked to individual views on good teaching. As part of building coherent theories to make explicit the relationship between reflectivity and good teaching, Korthagen and Wubbels researched critical attributes of reflective teachers. They also found indications that certain teacher characteristics are correlated to reflective attitudes.

Four studies conducted by Korthagen and Wubbels (1991) with preservice teachers, student teachers, and

practicing teachers suggested characteristics of practicing teachers and student teachers that may be correlates of reflectivity. Reflective practicing teachers have better interpersonal relationships with students than teachers who do not practice reflection. Reflective practicing teachers also develop a high degree of job satisfaction.

Reflective student teachers:

1. Consider it important for their students to learn by investigating and structuring themselves;
2. Have previously been encouraged to structure their own experiences and problems;
3. Have strong feelings of personal security and self-efficacy; and
4. Appear to talk or write relatively easily about their experiences.

These characteristics that may be correlates of reflectivity in student teachers are important to this study for the significance of their presence or absence in facilitating reflectivity as indicated in subjects' reflective discourse. In developing teacher education programs that promote reflective thinking, Korthagen (1985) suggested the need for teacher educators to consider the differences between students who are more reflective and those who need external support such as

structure, safety, and a gradual developmental approach to internalize ideals of reflective teaching.

However, incorporating instruction to develop characteristics that may be correlates of reflectivity into teacher education courses is not an easy task. If the term reflective practitioner is to be more than a slogan, teacher educators must document their effectiveness in helping students develop reflective abilities (Ross, 1989). As teacher educators develop their programs, detailed documentation and assessment of their efforts seems essential. An initial and integral step in this development is studying the reflective practices of novice teachers. Crucial to the understanding of these practices is the manner in which novice teachers structure reflective discourse.

This research project addressed those concerns with the development of preservice teachers' reflective perceptions and practices using documentation of teaching events and discourse evidencing reflection with structured questioning across subjects, time, and teaching events.

Statement of the Purpose

The purpose of this research project was to document the kinds of reflective discourse that occur with preservice teachers during 4 weeks of remedial one-on-one

tutoring. An anticipated outcome of this study was to gain knowledge of what the subjects perceive and practice as reflective teaching and how these perceptions and practices change over time.

In looking at the kinds of supervisor/subject discourse that occurred prior to this study, reflective discourse was a result of prompts from the supervisor. The following anecdotal information and communication with a supervised preservice teacher during her tutoring experience from the 22nd day of the month through the 14th day of the following month traces the development of reflectivity through encouraging habits of questioning as part of reflection-in-action (Schon, 1983). In conference notes it was noted that this student "could develop a more reflective response to teaching" if the supervisor prompted often to get at reflection. The following are her lesson responses and supervisor's comments on the 22nd and 27th of the month.

Student: "I thought the cloze would go better than it did. She was very negative about doing it. We only ended up doing one page."

Supervisor prompt: "Why? Reflect."

Student: "Well, we didn't get what I had planned done. The journal went much better since I wrote to her! It was longer and had more questions to answer. We

didn't make a list or do a cinquain poem. We were going to write additional sentences with the 'possible' words, but it turned into a rhyme, so then we were going to do a limerick, but it didn't turn out either. I should have stuck more closely to the plan, instead of getting off track."

Supervisor: "Good self-evaluation of instruction."

Student: (further) "I do think [her student] liked reading the story but of course I had to read with her!"

Supervisor prompt: "Why? Did that meet your objectives? Is the material too difficult for your objectives?"

Repeated prompts, as exemplified, led the student to anticipate and then engage in reflective discourse about her teaching. On the 14th of the next month her lesson responses showed less need for prompting and more student-initiated reflection. This was indicated in the use of the reflective words "because" and "but I think."

Student: "Today went quite a lot better than lately. We read Miss Nelson together, then did the whole cloze. I didn't ask her for important words because she was very familiar with the story. It took a long time to complete, but I think it was worth it. I had her reread her story to see if it made sense."

In conclusion, frequent prompting by the supervisor ultimately resulted in more reflections that were student-initiated. Would continued use of prompts have resulted in growth in reflective thinking and practice for this student? A synthesis of this type of discourse from the supervisor's anecdotal records supports the following questions concerning reflective development with prompting in preservice teachers.

1. What do preservice teachers say that indicates reflective thinking?
2. Do preservice teachers show growth in reflectivity from beginning to end of instruction in reflective thinking and practice?
3. Would continued use of prompts result in growth in reflective thinking and practice for preservice teachers?
4. What other aspects contribute to reflective thinking?

Limitations of the Study

The reader should remain aware of the following limitations when reading this study:

1. The definition of reflectivity for this study is from Wubbels and Korthagen (1990).
2. The sample population of this research is drawn from students enrolled in a remedial reading course at

the University of Northern Iowa (UNI) and assigned to supervision and should not be generalized to all preservice education majors at UNI nor education students at other universities.

3. The subjects are all elementary education majors with a minor in reading education.

4. Reflective activities may be controlled by tutorial instruction which is unique to individual subjects and their clients.

CHAPTER II

REVIEW OF THE LITERATURE

This review first describes the development of reflectivity as a response to current views about nature, schooling, and knowledge. In so doing, it will present counter views to the development of both technical rationality and educational conservatism.

A second development discussed in this literature review will be reflectivity as an important aspect of teaching. Various models will be examined. A review of relevant research will show how previous research efforts have attempted to resolve related issues in reflective teacher education. Using a research study on which the present research is modeled, a discussion of what good teachers do that is reflective and what preservice teachers do that is reflective follows. Finally, the future of reflectivity in teacher education is discussed.

The Development of Reflectivity as Response to Current Views

The notion of reflective teaching can be traced to John Dewey (1904, 1933), who warned against too mechanical of a focus on teaching methods in the preparation of teachers (Zeichner, cited in Gore, 1987). Dewey feared that "immediate skill may be got at the cost of power to go on growing" (p. 36). However, contemporary attention to reflective teaching can be attributed primarily to the efforts of Zeichner (1981-

1982) and Cruickshank (1985). Both teacher educators advocate the development of reflective teachers. However, their approaches differ markedly. Cruickshank restricted the focus of reflection to means, that is, methods for achieving prespecified goals and risks--the means becoming ends in themselves.

Such a focus on means is characteristic of technocratic rationality which is the foundation of the behavioristic structure of teacher education in North America (Popkewitz, 1985; Zeichner, 1983). Gibson (cited in Gore, 1987) believed:

(Technocratic) rationality represents the preoccupation of means in preference to ends. It is concerned with method and efficiency rather than purpose. . . . It results in the decline of reason itself and it therefore stultifies, distorts, and malforms individual and social growth. (p. 35)

On the other hand, Zeichner (1983) drew heavily on Dewey in his expansion of reflection to include consideration of ethical, moral, and political principles (reflection on ends). Zeichner is evidence of a critical stance. This critical approach gives greater acknowledgement to "the moral, empirical, and other complexities inescapably linked with educational issues" (Hartnett & Naish, 1989, p. 269).

A parallel view can be found outside of the educational environment in the current workplace learning environment. Recent trends question the value of

behaviorism in workplace learning and emphasize the importance of reflectivity in learning on the job (Marsick, 1987). Marsick stated, "persons learn best about the job when their own identity and growth are recognized as integral to that learning" (p. 194). This view appears to address Dewey's warning that "immediate skill may be got at the cost of power to go on growing" (Dewey, 1904, p. 15). The importance of self-discovery as a component of reflective development is apparent.

A new workplace paradigm for learning would encourage self-directed learning, mentoring, and group learning to take advantage of those learning points in which individuals are more naturally reflective. An environment that encourages reflectivity emphasizes self-discovery, assessment, and flexibility. Such a work environment "must provide opportunities for experimentation, risk-taking, dialogue, initiative, creativity and participation in decision-making" (Marsick, 1987, p. 195).

The parallels between educational and workplace views on reflectivity are responses to current views about nature, schooling, and knowledge. They indicate a universal concern for a shift from an a priori instrumental view to a tentative, problematic view of knowledge in light of the failure of science to solve

problems in the aforementioned domains of nature, schooling, and knowledge (Schon, 1983). These current views on reflectivity are also "a consensus of moves to empower teachers, particularly in a climate characterized by centralized authorities acting in ways to reduce teacher autonomy" (Smyth, 1983, p. 3). In summary, there is a need for pedagogical and curricular development for reflectivity in teacher education that addresses the current views and concerns in education.

Reflectivity As An Important Aspect of Teaching

Several models have been put forward to incorporate reflectivity into teaching. Initial reflective models in teacher education by Cruickshank (1985) and Zeichner (1983) were oppositional in nature but set the groundwork for further development by Schon (1987). His work emphasized an experiential approach or what he called "reflection in action." He shed light on how people actually do learn informally. Schon maintained that in the world of real practice, what he called the "swamp," more attention must be paid to problem setting, an interactive process of naming the focus of attention and framing the context in which a problem is understood. Schon depicted this process of problem setting as a reflective conversation. In this conversation, the practitioner draws on his or her experience to understand

the situation, attempts to frame the problem, suggests action, and then reinterprets the situation in light of the consequences of action.

Problems arise in research of reflective practices in teacher education such as Schon (1983) advocated, because traditionally the research on reflective teaching had been placed historically within the empirical-analytic paradigm. Technical interests dominated this paradigm and, therefore, the aim was to generate instrumental knowledge usually in the form of causal explanations (Gore, 1987). The problem with such a research focus is that reflection, or students' thinking, was studied as an observable phenomenon through language and yet the criteria for evaluating this reflection (e.g., grammatical complexity of sentences, Holten & Nott, 1989) was reduced to measurable components (Kemmis, cited in Gore, 1987). The hypothesis investigated was that students who participated in reflective teaching would subsequently be better able to think and talk critically about teaching and learning. In the empirical-analytic paradigm, the researchers presumed, yet did not explore, a theoretical relationship between language and thought in the form of written and verbal utterances.

Another example of problematic criteria and measurement in researching reflectivity as an observable phenomenon through language can be seen in a study on personality correlates of reflectivity (Jennings, 1986). This research focused on the relationship between reflectivity and indices of ideal self-discrepancy. Subjects were given a Twenty Statements Test (Spitzer, cited in Jennings, 1986) requiring them to repeatedly answer the question "Who am I?" Reflectivity was scored in an all or none fashion as such:

Protocols that contain at least one response in which the subject reenters his own self-description are designated "reflectives" (e.g., "I" am at peace with "myself"); those that do not contain such self-references are designated "nonreflectives" (e.g., "I" am a poor swimmer). (Jennings, 1986, p. 87)

All these studies focused on incremental pieces quantified rather than a global, overall meaningful point. From such studies came the hypothesis that reflective teaching is no better than the practice teaching experiences currently provided (Cruickshank et al., 1981). Such a problematic hypothesis should not automatically lead to the rejection of the reflective approach. The measurement of reflective teaching may be impossible using quantitative methods; features of the research design, such as the instruments used to collect data, may partially account for the unconvincing results. Habermas (cited in Gore, 1987) identified forms of

scientific investigation as "either empirical-analytic, interpretive, or critical in their procedures" (p. 5) and clearly, the research in reflective teaching has been placed historically within the empirical analytic paradigm only.

Nevertheless, there are strong indications that teacher education in reflective teaching offers an alternative to traditional practice teaching experiences with advantages at three levels (Gore, 1987). First, it has the potential to create the awareness central to restructuring of the educational system in line with a critical perspective. Second, preservice teachers can be better prepared for school-based experiences that require flexibility, assessment, and self-discovery. Third, the approach is efficient and cheap.

Reflectivity in Teacher Education

Ross (1989) defined reflectivity in her teacher education model as the development of mature judgment, rationality, and responsibility. Her research model was based on Kitchener and King's seven Stages in the Development of Reflective Judgment (Kitchener & King, 1977, as cited in Ross, 1989) (see Appendix A for a collapsed version of these seven stages). In brief, the seven stages are: 1 and 2, where knowledge is seen as absolute; 3 and 4, where knowledge is uncertain; 5 and 6,

where knowledge is viewed from multiple perspectives; and 7, where knowledge is constructed and contextualized based on reasoning and evidence. This model is the basis of program planning and student assessment in Ross's teacher education program.

Ross (1989) conducted research on reflectivity incorporated into one teacher education course. She used qualitative analysis of student perspectives with descriptive criteria. Implications from Ross's research suggest a major emphasis must be placed on assessing students' reflective abilities and indicate that one course can provide an introduction to reflective thinking and can help students begin the elaboration of their appreciation systems. Such intensive study of student perspectives should lead to teacher education that encourages students to analyze behavior in more detail, to consider multiple perspectives, to provide various explanations to an event, or to evaluate the adequacy of the evidence to support an argument (Kitchener & King, 1977, as cited in Ross, 1989).

Beyond identifying criteria that demonstrate reflectivity as Ross (1989) has done and developing levels in knowledge acquisition as Kitchener and King (1977) have done, Korthagen and Wubbels (1991) sought to identify characteristics that may be considered

correlates of reflectivity. Korthagen and Wubbels drew on empirical data gathered in 10 years of research focusing on a teacher education program that seeks to promote reflective teaching. Their research sought to explicate the relationship between the concept of reflection and fundamental views on good teaching. The four studies were not explicitly designed to answer the question of how to recognize a reflective teacher. However, they did bring to light several critical attributes of reflective student teachers. They were as follows:

Attribute 1. The reflective student teacher is capable of structuring situations and problems and considers it important to do so.

Attribute 2. The reflective student teacher uses certain standard questions when structuring experiences.

Attribute 3. The reflective student teacher has no trouble answering the question of what he or she wants to learn.

Attribute 4. The reflective student teacher can adequately describe and analyze his or her own functioning in interpersonal relationships with others.

Student teachers who possess these critical attributes to a high degree differ in other ways from their less reflective colleagues. Korthagen and Wubbels

(1991) presented a chicken-versus-the-egg discussion of the complex nature of the correlates of reflectivity:

These characteristics are in some cases the consequences of the critical attributes, and in other cases the antecedents. They may even be related to the critical attributes in a circular manner, in that they reinforce the critical attribute and are, in turn, reinforced by it. The correlates are, however, not a generic aspect of reflection. (Korthagen & Wubbels, 1991, p. 12)

These correlates include better interpersonal relationships with students than other teachers, a high degree of job satisfaction, and emphasis on students' learning by investigating and structuring things themselves. Other correlates include the observation that reflective student teachers have previously been encouraged to structure their experiences and problems and have strong feelings of personal security and self-efficacy. Further, in their reflection about their teaching, student teachers who have a high degree of self-efficacy focus on the students. When they have a low sense of self-efficacy, they focus on self. In addition, correlates found that reflective student teachers appear to talk or write relatively easily about their experiences.

This research is significant because it highlights several characteristics that prospective teachers bring to the reflective process which facilitate its development. It also indicates how prospective teachers

with less facility for reflection can be taught to be reflective if they are identified.

Taking into consideration all the variables and characteristics in reflectivity, Wubbles and Korthagen (1990) developed the SOL model to teach people how to reflect. They were influenced in this process by the lack of empirical evidence of a link between reflection and innovation. The aim of the SOL program was to produce student teachers who could use a process with phases wherein reflection is defined as the mental process of structuring or restructuring an experience, a problem, or existing knowledge or insight (Wubbels & Korthagen, 1990). This is known as the ALACT Model and is as follows:

1. Action or confrontation with a concrete situation which requires action.
2. Looking at or looking back at the situation (analysis).
3. Awareness of essential aspects or crux (mental structure formed or altered).
4. Creation of alternative solutions or methods of action.
5. Trial (also first phase of new cycle). (p. 5)

This model, in summary, demonstrates the belief that reflectivity goes with good teaching, is documentable and

teachable, and involves discovery, assessment, and flexibility.

Future of Reflectivity in Teacher Education

Given all the varying theoretical and research activity presently occurring in the area of reflective teacher education, there is a need for a coherent conceptual framework in which authors make clear what they mean by the term reflective teaching and a need to combine the concept of reflection in an underlying philosophy of education.

Comparisons of works by Zeichner (1987, Schon (1983), Cruickshank (1985), Ross (1989, and Korthagen and Wubbels (1991) suggest fundamental differences in their approaches; they work from different premises. Most of the teacher educators and researchers explain how their concept of reflection is related to characteristics they consider fundamental to good teaching in an effort to make possible empirical research into alleged relationships. Such empirical research is no easy task, since the evidence is in teachers' heads.

What is missing in much of the research on reflectivity is a sophisticated research method, using techniques such as simulated recall by means of video recording of teacher activities and video/audio analysis of supervisory discussions to better reveal what actually

goes on in teachers' heads. A good reflective study should provide a collaborative and safe environment in which discourse on reflection will be candid between researcher and subject. The study should take a holistic approach by considering all variables when analyzing data. Such contextual variables as teacher and student backgrounds, the research environment, and all the interactions and their implications for the development of reflectivity must be addressed.

The relationship between concept of reflection and the accompanying perception of good teaching is, as Korthagen and Wubbels (1991) and Ross (1989) have indicated, culturally determined. Because of all the approaches of the concept of reflection, "a great deal of empirical research will be needed if we are to leave behind the realm of vague notions and beliefs about the benefits of reflective teaching and the effects of programs designed to promote it" (Korthagen & Wubbels, 1991, p. 19).

Therefore, the intention of this research on reflectivity was to make use of the most promising techniques available in an effort to contribute empirical data through qualitative analysis techniques that document the development of reflectivity as preservice

teachers structure discourse in a clinical setting over a 4-week period.

CHAPTER III

DESIGN OF THE STUDY

This is a descriptive study which used interviews, repeated guidance questions, and videotapes of tutoring sessions to document reflective discourse and practice. The study was implemented during the second semester of the academic school year and the researcher was the tutoring supervisor of subjects in the study. The research study design was approved by the Human Subjects Review Board of the University of Northern Iowa. This chapter includes a description of the subjects, the materials, procedures, and the data analyses used in the study.

Subjects

Participants in this study were 4 university students registered for 23:192 Experience in Reading: Tutoring and assigned to the researcher for supervision in the University of Northern Iowa Reading Clinic. All subjects were seniors at the University of Northern Iowa with a major in elementary education and a minor in reading education, and they had completed 10 to 14 hours of reading and language arts coursework prior to taking this course. Therefore, all subjects had similar depth of technical and theoretical understanding as a foundation for their reflective development. All

procedures occurred within the context of regular tutoring supervision as part of their normal coursework.

Materials

Instruments for documentation consisted of the following materials:

1. Interviews: A pre- and postinterview (Appendix B) was audiotaped and transcribed. The interview questions used in this study were developed by Korthagen and Wubbels (1991). The interviews were used to assess reflective discourse change over time. They were administered the first week and the final week of the study.

2. Repeated Guidance Questioning Framework (Appendix C): Four questions were asked at each weekly conference over a 4-week period. These questions are typical of questions designed to elicit characteristics of reflective teachers (Korthagen & Wubbels, 1991). Both the questions and the responses were audiotaped and transcribed. Responses to the questions were categorized topically according to reflective language.

3. Videotape: Weekly videotapes of subjects tutoring were used to extract portions of their tutoring illustrating an instructional event around which the conference questions focused.

Procedures and Data Analyses

The purpose of this descriptive study was to document reflective language that preservice teachers exhibit as they structure discourse about their tutorial experiences during the midsemester of one-to-one tutoring in remedial reading. In order to answer the questions which guided this study, the materials listed previously were gathered and compiled. The following section describes the study questions and the forms of the data analysis.

The following questions were used:

1. What do preservice teachers say that indicated reflective thinking?
2. Do preservice teachers show growth in reflectivity from beginning to end of instruction in reflective thinking and practice?
3. Would continued use of prompts result in growth in reflective thinking and practice for preservice teachers?
4. What other aspects contribute to reflective thinking?

Data from pre- and postinterviews, conference discourse, and corresponding videotape practice were collected over 4 weeks of instruction during a 6-week period. After the data were transcribed, the

transcriptions were read by the researcher and reflective language highlighted and coded using key words or phrases found within the highlighted text. Key words and phrases were then categorized into main focus areas. The following describes how the categories were developed from the data using the reflective language from conference discourse from each of the 4 subjects.

The summative categories derived from the process were Self-Discovery, Instructional Assessment, and Flexibility. Stages of Reflection were assigned to each of the final categories of Self-Discovery, Instructional Assessment, and Flexibility for each subject at the beginning and end of the study using a revised version of Kitchener and King's (1977) Stages in the Development of Reflective Judgment (Appendix A). (See Chapter IV for a complete discussion of final category development.) It was necessary to collapse the seven stages down to four stages, as some stages included criteria not germane to this study. For the purposes of this study, the revised version of reflective judgment in four stages is as follows:

Stage 1: The subject believes knowledge to be absolute and decisions are justified according to an authority figure.

each subject. Pre- and postinterviews (Appendix D) were compiled on a summary sheet matching discourse responses for each question across the 4 weeks of the study.

CHAPTER IV
RESULTS AND DISCUSSION

This was a descriptive study that documented preservice teachers' reflective language as they structured discourse about their tutorial experiences toward the development of reflective thinking and behavior.

How can we prepare reflective teachers? According to Carol Lyons (1992), to be more reflective means to be sensitive to "partially right" and "emerging understandings, then teach to ownership as theorized by Vygotsky's zone of proximal development." If social context is the mediator of language, as Lyons (citing Piaget and Vygotsky) contended, a study using qualitative research methods is appropriate to describe and document reflective discourse as this study endeavored to do. The questions guiding this study were:

1. What do the preservice teachers say that indicates reflective thinking?
2. Do preservice teachers show growth in reflectivity from beginning to end of instruction in reflective thinking and practice?
3. Would continued use of prompts result in growth in reflective thinking and practice for preservice teachers?

4. What other aspects contribute to reflective thinking?

Commonalities in language emerged from an analysis of key language (terms indicating reflection as determined by Korthagen & Wubbels, 1991) and the development of true categories which are defined as emergent categories from individual responses for each student. True categories were developed from summations that characterized the reflective language of each subject, including frequency of terms that indicated reflective thinking identified as key language. For example, frequent terms "I wonder" and "What if" led to emergent definitions of the true categories "figure out" and "looking back." These true categories led to broad categories of reflective discourse such as Self-Discovery for subsequent coding of preservice teachers' reflective discourse. From subject's responses, three broad categories were identified and indicated reflective thinking over the course of the study. They were:

1. Self-Discovery or awareness of, looking at, or figuring out a problem or event.
2. Instructional Assessment or doing something with information from a teaching event.
3. Flexibility or spontaneous, contextual responsiveness.

These categories parallel critical attributes of reflectivity (Korthagen & Wubbels, 1991) previously discussed (see p. 27) and detailed below. The category of Flexibility in the present study is highly correlated with Attribute 1: The reflective student teacher is capable of structuring situations and problems and considers it important to do so. Self-Discovery is indicated in Attribute 2: The reflective student teacher uses certain standard questions when structuring experiences. Self-discovery is further indicated in Attribute 3: The reflective student teacher has no trouble answering the question of what he or she wants to learn. The category of Instructional Assessment is indicated in Attribute 4: The reflective student teacher can adequately describe and analyze his or her own functioning in interpersonal relationships with others.

For analysis purposes, the three categories of Self-Discovery, Instructional Assessment, and Flexibility were evaluated using the Summary Chart developed originally by Kitchener and King (1977) which was collapsed into four stages for this study (see Appendix A). It was necessary to collapse the seven stages down to four stages, as some stages included criteria not germane to this study. The four stages are:

Stage 1: The subject believes knowledge to be absolute and decisions are justified according to an authority figure.

Stage 2: The subject believes knowledge is uncertain and decisions are justified according to what one feels.

Stage 3: The subject views knowledge as contextually based and decisions are a result of interpreting evidence from multiple perspectives.

Stage 4: The subject believes knowledge is constructed and contextualized and decisions are derived as a result of synthesizing evidence.

All four stages of reflective judgment were identified in subjects' responses in this study, but not from all 4 subjects. Subjects' development of reflective judgment did demonstrate growth overtime, with 3 subjects moving moved from Stage 1, where knowledge was seen as absolute and decisions were based on authority, to Stage 3, where knowledge was contextually based and examined from multiple perspectives. One subject moved from Stage 3 to Stage 4, where reflections occurred in which knowledge was constructed and contextualized and decisions were the result of synthesizing evidence.

To determine and assign subjects' stages of reflective judgment in this study, matrices displaying data were developed. (See Appendix D for complete pre-

and postinterview transcript data charts and see Appendix C for the repeated guidance questioning frame [conferences]; conference transcripts are available upon request.) Every attempt was made to use typical statements of each subject from the generated categories of Self-Discovery, Instructional Assessment, and Flexibility. Beginning and ending stages of reflective judgment for each subject in each of the three categories, as well as an overall final stage of reflective maturity for each subject, are presented.

Data

In the sections that follow, the data are discussed for each of the 4 subjects of the study within the identified categories of Self-Discovery, Instructional Assessment, and Flexibility. This discussion includes the beginning reflective language of each subject and identification of the beginning stage of reflective judgment. It also presents each subject's final reflective language and identification of the end stage of reflective judgment. Both within subject and across subjects comparisons were made to demonstrate subject development in reflective discourse.

Self-Discovery

A comparison of beginning and ending stages of reflectivity (see p. 43) in this category of Self-Discovery is shown in Table 1. Subjects used Key

Table 1

Stages of Reflectivity by Subjects in the Category
Self-Discovery

Subject	Stage at Beginning	Stage at End
A	1	3
B	2	3
C	1	3
D	3	4

Note: From Kitchener and King's Stages of Reflectivity (collapsed): Stages 1 (least growth) to 4 (most growth).

Language as identified by Korthagen and Wubbels (1991) as indicating reflectivity. Most frequently used Key Language indicating reflections in Self-Discovery were the terms: "I think, I wish I knew what" (action), and "What if (I wonder)."

All subjects showed growth in the category of Self-Discovery in the process of developing reflective discourse that required clarification and refinement of their thinking. Subjects A and C showed the greatest growth. Subjects B and D were initially more reflective in this category than A and C, but they also increased in reflectivity in the category of Self-Discovery.

Reflecting on evidence and viewing events from multiple

perspectives were two discourse actions that developed self-discovery for all subjects.

Reflections of Subjects A through D were recorded as follows: preinterviews and beginning reflections were recorded the week of February 21, 1993. Middle reflections were recorded the weeks of March 7, 1993 and March 21, 1993. Postinterviews and end reflections were recorded the week of March 28, 1993. The following reflections illustrate the development of reflectivity in the category of Self-Discovery by Subjects A through D.

Reflections by Subject A

Subject A's reflections categorized as Self-Discovery moved from reflection on evidence to using multiple perspectives to develop a coherent point of view. This process developed his confidence to take the initiative in teaching events.

Beginning: "I think she's more careful when we've read the sentence again" (Stage 1) and "Was the child insulted when I offered to read?" (Stage 1).

Middle: "I wish I had a better command of the marking system or had started [with less difficult reading material] " and "She seems like she's able to come up with [story beginning, middle, and end] pretty good. Then again, I'm not sure. I tried to make that from what we have used to what she's done in terms of learning to write" (Stage 2).

End: "She needs to do, see before--when she gets involved, she seems more interested. What happens if I do try to use a story without modeling?" (Stage 3).

Reflections by Subject B

Subject B's reflections indicated a similar pattern of growth in confidence through reflecting as Subject A. The development of confidence allowed Subject B to begin taking the initiative in teaching events toward effective action.

Beginning: "I think it was good to have him reread it and for him to tell me parts. I don't think I gave him any of the answers. If he said something, I tried to get him to expand on it" (Stage 2).

Middle: "If you talk about the story after, it seems like he understands it, just little words don't really matter to him, he can still get the gist of it" (Stage 2).

End: "I helped him and we thought of words together . . . just to get him thinking further. It was good for him, he expressed himself . . . it helps me know more about him and his thinking" (Stage 3).

Reflections by Subject C

Similar to Subject A, Subject C's reflections moved to viewing events from multiple perspectives in order to initiate effective action.

Beginning: "I wish I could find something really fun with writing as he doesn't like the actual writing, he likes anything that goes with it" (Stage 1).

Middle: "I prompted him along with the brainstorming list [researcher prompt, why?]. He would never have written anything down" (Stage 2).

End: "Maybe it was my approach" (Stage 3).

Reflections by Subject D

Subject D's reflections categorized as self-discovery in this research were minimal. The researcher saw this as a sign of reflective maturity as defined on Kitchener's Stage 4, where knowledge is constructed and contextualized. In this final stage, decisions are not based on one's feelings as in Stage 2, but are the result of synthesizing evidence.

Beginning: "Now that I look back on it, I think something a little easier for him that has some kind of pattern, rhyming, or anything we discussed would help" (Stage 3).

Middle: "I thought SWAT went just terrible . . . I could have modeled it myself. I probably should have done that . . . I was wondering too, with the responses I got, if he would really use it on his own" (Stage 4).

End: "I think I thought it was okay . . . sometimes he's reluctant, so I'm very persistent, I should have picked up that it wasn't going okay" (Stage 4).

Subject D's reflective responses usually omitted her feelings and, instead, focused on language of gathering evidence and using multiple perspectives. This is illustrated by subjects' comparisons of responses to the preinterview question: What does the term reflective teaching mean to you?

Subject A: "Looking at reactions of students."

Subject B: "Making changes, taking a look at how you're teaching."

Subject C: "Being able to look back at what you've done and reflect on it."

Subject D: "Looking back on things that happened and analyzing different reasons why things could be happening. Keeping accurate records from different perspectives and reasons why that's happening."

Pre- and Postinterview Discussion in the Category:

Self-Discovery

Interview responses showed growth in reflective language and practice for all students in the category of Self-Discovery, as illustrated by responses to the question: What does the term reflective teaching mean to you?

Subject A:

Preinterview: "Look at reactions of students."

Postinterview: "Looking at what you're doing and the feedback you're getting."

Subject B:

Preinterview: "Making changes, taking a look at how you're teaching.

Postinterview: "Being able to look back and evaluate how you're doing with your teaching.

Subject C:

Preinterview: "Being able to look back at what you've done and reflect on it."

Postinterview: "Seeing what works and didn't work and why."

Subject D:

Preinterview: "Looking back on things that happened and analyzing different reasons why things could be happening."

Postinterview: "It means that a teacher can look back and observe things that are happening in a class and what that may mean to a student."

Growth in reflective maturity categorized as Self-Discovery for Subject A developed from a beginning Stage 1 where decision are justified according to what one feels, to Stage 3, interpreting evidence from multiple perspectives such as student reactions and feedback. For example, see the preceding page for Subject A's pre- and postinterview responses to the meaning of reflective teaching.

Subject B showed growth within Stage 2 and on into Stage 3 in the areas of using specific evidence and considering evidence from multiple perspectives. For example, in response to the question: Suppose you just finished a lesson that didn't go too well, what do you do afterward in thinking or acting on the lesson outcome?

Preinterview response: "Maybe the child didn't understand; figure out ways to modify it or make it clear."

Postinterview response: "Maybe the child didn't have enough background knowledge or enough examples or just try to see if the child understands."

In terms of Self-Discovery, Subject B's growth from beginning to end of the study was even more pronounced with responses to the question: If you look at your own development as a teacher, and then consider the future, what is most important for you to learn to do better?

Preinterview: "Like to develop strategies and different ways of teaching . . . to incorporate individual learning and cooperative learning and different styles."

Postinterview: "Realize when something didn't go right so next time I can make those changes better or clearer."

Subject C, as with Subject B, demonstrated growth in use of evidence over personal feelings in decision

making. Subject C also developed from a belief in absolute knowledge to interpretation from multiple perspectives. For example, in response to Question 2 Suppose you just finished a lesson that didn't go too well, what do you do afterward in thinking or acting on the lesson outcome, Subject C stated the following:

Preinterview: "Was it the way the children reacted or my presentation?"

Postinterview: "Maybe I didn't present it in an interesting way; do the same lesson in a more motivating way."

Instructional Assessment

A comparison of beginning and end stages of reflectivity in the category Instructional Assessment is shown in Table 2. Subjects used key language as identified by Korthagen and Wubbels (1991) as indicating reflectivity. Key language most frequently indicating reflections in Instructional Assessment were: "I did (in which subjects described, analyzed, and evaluated) and "because" (indicated subjects' degree of objectivity and amount of evidence to support reflections)."

In the category of Instructional Assessment, Subjects A and B showed one stage of growth; Subject C showed two stages of growth; there was a ceiling effect for Subject D. Subject C moved from a belief in knowledge as absolute to viewing knowledge as being

Table 2

Stages of Reflectivity by Subjects in the Category
Instructional Assessment

Subject	Stage at Beginning	Stage at End
A	1	2
B	2	3
C	1	3
D	4	4

Note: From Kitchener and King's Stages of Reflectivity (collapsed): Stages 1 (least growth) to 4 (most growth).

constructed with the student. A refocus in Instructional Assessment reflective discourse for Subject C was the result of developing reflective thinking in the category of Self-Discovery and led to significant growth in this category. All subjects developed reflective discourse to describe and analyze teaching events with more objectivity.

For this study, reflections of Subjects A through D were recorded as follows: preinterviews and beginning reflections were recorded the week of February 21, 1993. Middle reflections were recorded the weeks of March 7, 1993 and March 21, 1993. Postinterviews and end reflections were recorded the week of March 28, 1993.

The following reflections illustrate the development of reflectivity in the category of Instructional Assessment by Subjects A through D.

Reflections by Subject A

Subject A's beginning reflections in Instructional Assessment focus on instructional problems. Middle reflections by Subject A indicate analysis of these problems and ending reflections demonstrate action toward effective instruction.

Beginning: "I would have picked a shorter story so we'd have time to get the rest of the story done" (Stage 1).

Middle: "She had a lot of errors because it was so difficult. She was missing words she ordinarily wouldn't miss" (Stage 2).

End: "I made sure that she knew that what was on the board wasn't all that was in the story" (Stage 2).

Reflections by Subject B

Beginning Instructional Assessment reflections as identified in this research did not materialize in Subject B's reflective discourse until the middle weeks (March 7, 1993 and March 21, 1993) of the study. Early reflections focused on Self-Discovery and Flexibility. These reflections were discourse on lesson procedures and subject reactions to specific events, with little analysis of instruction or evaluation.

Beginning: "I know he focuses on initial sounds. I'd like to know if I'm doing it right. I'm trying to incorporate other things like reading to the end of a sentence and see if the word makes sense and go back and try to do other things" (Stage 2).

Middle: "We don't always illustrate them, but I think he likes to do that and it adds to the story" (Stage 2).

End: "I gave an example, my name. Maybe we should actually have done my name to help him to help his thinking about what those describing or actions words are" (Stage 3).

Reflections by Subject C

Subject C showed growth in changing her reflective focus from Self-Discovery to Instructional Assessment. Significant development in Kitchener and Kings (1977) Stages of Reflective Judgment began for Subject C in Stage 1, where knowledge is absolute and decisions justified according to an authority figure, to Stage 3 where decisions are derived from evidence and various perspectives and knowledge is constructed and contextualized with the student.

Beginning: "He loves games. He's got to realize that we are here for the purpose of learning something, too. I'm adding words right now . . . I suggested that he jot them down anytime and we'll add them" (Stage 1).

Middle: "I didn't say anything about spelling because when he's done with it, it isn't necessarily going to be up to my expectations" (Stage 2).

End: "He's starting to share his book with me . . . that was the one thing he looked forward to" (Stage 3).

Reflections by Subject D

Subject D's reflective discourse categorized as Instructional Assessment demonstrated Kitchener and Kings's Stage 3: synthesizing evidence from the beginning.

Beginning: "I introduced a new strategy and it worked well, he understood it; I modeled and used some examples that he understood. We could have practiced some more. We'd only done it once as a practice . . . just to make sure he was sure" (Stage 4).

Middle: "I wrote [for anecdotal records] he may not have wanted to read because he already saw the pictures and knew what it was about. I don't know if that way of introducing it works so well with him" (Stage 4).

End: "I modeled and asked him to give me ideas. I think it went okay. I should have maybe had something short that he could have tried before we did [a story]" (Stage 4).

Pre- and Postinterview Discussion in the Category:

Instructional Assessment

Growth in students in Instructional Assessment was evidenced in responses to Question 2: Suppose you just finished a lesson that didn't go too well, what do you do afterward in thinking or acting on the lesson outcome?

Subject A:

Preinterview: "Figure out weak points . . . teach in a different way.:"

Postinterview: "Go back and say this is why it didn't work and this is how it might work."

Subject B:

Preinterview: "It would be helpful if you had a tape so you can see what you did."

Postinterview: "Try to figure it out."

Subject C:

Preinterview: "Decide if the lesson is really important."

Postinterview: "First, don't get upset, lessons do bomb."

Subject D:

Preinterview: "List things I could have done better . . . check back with students and see what I need to reteach."

Postinterview: "Decide whether I need to try it again and change some things . . . what I could have done

and how. Otherwise, I could [blank] the lesson plan and decide to leave it."

Flexibility

A comparison of the beginning and end stages of reflective judgment in category Flexibility is shown in Table 3. Subjects used key language as identified by Korthagen and Wubbels (1991) as indicating reflectivity. Key language most frequently indicating reflection in Flexibility were: "I could have," "I decided to because," and "instead of."

In the category of Flexibility, Subject A showed growth of one stage, Subjects B and D evidenced no change, and Subject C showed the greatest growth of two stages. Subject C's growth seemed to be correlated, as before, with progressive development of reflective discourse in the identified categories of Self-Discovery and Instructional Assessment. Subjects B and D both demonstrated reflective discourse and practices and may only lack experience in identifying evidence and making appropriate modifications to be Stage 4 reflectors in this category.

Reflections of Subjects A through D were recorded as follows: preinterviews and beginning reflections were recorded the week of February 21, 1993. Middle reflections were recorded the weeks of March 7, 1993 and March 21, 1993. The following reflections illustrate the

Table 3

Stages of Reflectivity by Subjects in the Category
Flexibility

Subject	Stage at Beginning	Stage at End
A	2	3
B	3	3
C	1	3
D	3	3

Note: From Kitchener and King's Stages of Reflectivity (collapsed): Stages 1 (least growth) to 4 (most growth).

development of reflectivity in the category of Flexibility by Subjects A through D.

Reflections for Subject A

Subject A's reflections indicate a growing concern with being flexible in order to meet the student's needs.

Beginning: "Asked her to look at the words around the unknown and fill in the blank with the word that works [Prompt: What could you have done differently?] . . . could have sounded it out or word parts" (Stage 2).

Middle: "I could have chosen a new book. She was a little sleepy when the day started" (Stage 2).

End: "She would write something, just a short phrase from the story to remind her of what she thought

was that part. Sometimes I would say, 'So what do you think you would write?'" (Stage 3).

Subject A needed prompts throughout. His development in flexibility was indirectly derived from self-discovery and instructional assessment comments. This subject's responses were categorized predominantly in self-discovery and instructional assessment reflection.

Reflections for Subject B

Unlike Subject A, Subject B showed flexibility from the beginning. Her reflections indicated growth in self-confidence and a willingness to be spontaneous during instruction.

Beginning: "I think he likes to do that [illustrate stories] and it adds to the story. He broke it up almost like a chapter book . . . he explained what was in there" (Stage 3).

Middle: "I asked him 'Which one do you think is which because the creature had made up names?' I could say, 'What kind of house do you think this one would make?'" (Stage 3).

End: "I kind of worked on fluency because afterward I had him reread it. That was the first time we did poems and it was a different thing to work on writing" (Stage 3).

Reflections for Subject C

Flexibility developed slowly at first then quickly at the end of the study as a result of reflections in self-discovery.

Beginning: "I decided to do dictation the next time it was his turn to write. I decided to let him make it short. I prompted him, along with the brainstorming list [Prompt: Why?]. He would never have written anything down" (Stage 1).

Middle: "He doesn't want to read or write. [He] doesn't want to add to his word bank, but he loves the games" [and] "I thought the poster would motivate him. He does not want to brainstorm" (Stage 1).

End: On the postinterview, Subject C responded to Question 2 (Appendix A) with this reflection indicating growth toward greater flexibility: "Maybe it was my approach, how I taught the lesson" (Stage 3).

Reflections for Subject D

Subject D was consistently reflective on Flexibility. She consistently viewed instructional decisions from multiple perspectives and reacted spontaneously and creatively to the student's needs.

Beginning: "I could ask him to say things in his own words. He doesn't require things to make sense because he's used to it not making sense" (Stage 3).

Middle: "After we had gone through it, he felt like he already knew it and I said, 'Do you want to read it?' He didn't, so [we took turns]" (Stage 3).

End: "It was the very last minutes . . . I showed him the script . . . you can pick what part you'd like . . . I said, 'How about I be Alexander and you can read the others' . . . instead of me doing all the reading" (Stage 3).

Pre- and Postinterview Discussion in the Category:
Flexibility

Subject A was concerned with flexibility in reflective discourse. In response to Question 4: "If you look at your own development as a teacher, and then consider the future, what is most important for you to learn to do better?"

Preinterview: "When I'm not doing something correctly, be flexible enough . . . to adapt to a change in styles for the students."

Postinterview: "I like always to be open to change . . . I need to be able to adapt to different situations."

Subject B's responses to Question 3, Can you decide for yourself how you want to learn something or do you need a teacher educator to provide suggestions?
demonstrated consistency over time:

Preinterview: "a little bit of both--know best what works for you yet it's nice to have suggestions where you see other ways to learn."

Postinterview: "a little of both. I like some suggestions, but on my own I can think of some too."

Subject C showed marked growth in Flexibility as a correlate of Self-Discovery as indicated earlier. Her responses to Question 1, What does the term reflective teaching mean to you? indicated the focus moving from herself to meeting the student's needs.

Preinterview: "being able to look back at what was done and reflect on it as how you could change it to make yourself a better teacher."

Postinterview: "teaching a lesson and looking back on it. Seeing what works and didn't work and why and then maybe go back a little further."

Subject D demonstrated consistency over time, as Subject B had done. In response to Question 2: Suppose you just finished a lesson that didn't go too well, what do you do afterward in thinking or acting on the lesson outcome?, Subject D responded:

Preinterview: "I'd check back with students and see what I need to reteach . . . explain better."

Postinterview: "decide whether I need to try it again and change some things."

Overall Stages of Reflectivity

A comparison of beginning and end stages of reflective judgment for each of the identified categories of Self-Discovery, Instructional Assessment, and Flexibility, and a Final Overall Stage of Reflective Judgment for each subject is shown in Table 4.

Table 4

Final Overall Stage of Reflectivity by Subject

Subject	Self-Discovery		Instructional Assistance		Flexibility		Final Overall
	Beg.	End	Beg.	End	Beg.	End	
A	1	3	1	2	2	3	3
B	2	3	2	3	3	3	3
C	1	3	1	3	1	3	3
D	3	4	4	4	3	3	4

Note: From Kitchener and King's Stages of Reflectivity (collapsed): Stages 1 (least growth) to 4 (most growth).

To reiterate, Kitchener and King's Stages of Reflectivity (collapsed) are: Stage 1, in which knowledge is seen as absolute and decisions are justified according to an authority figure; Stage 2, in which knowledge is viewed as uncertain and decisions are

justified according to what one feels; Stage 3, in which the subject views knowledge as contextually based and decisions are a result of interpreting evidence from multiple perspectives; and finally, Stage 4, where the subject believes knowledge is constructed and contextualized and decisions are derived as a result of synthesizing evidence. Subjects A, B, and C demonstrated final reflective judgment at Stage 3 (Stages in the Development of Reflective Judgment, collapsed): they viewed knowledge as contextually based and interpreted evidence from multiple perspectives to a coherent point of view in making decisions.

In the final overall state of reflection, Subject A demonstrated growth of two stages (from Stage 1 to Stage 3) in Self-Discovery. This was indicated by Subject A's increasing ability to figure out a problem by asking what can be learned from a teaching event. Subject A demonstrated increasing confidence and participation as one who views knowledge as contextually based instead of absolute and sees decisions as a result of interpretation from multiple perspectives. Instructional Assessment is an area in greatest need for growth in reflectivity. Subject A needed to develop reflective discourse to adequately describe and analyze his functioning in interpersonal relationships of a teaching event.

His reflections in Instructional Assessment began to emerge toward the end of this study.

Subject B demonstrated initial reflective stages and made modest progress. Continued habits of reflective inquiry to develop confidence and reflective maturity in a supportive environment seem essential for Subject B. In each of the two categories of Self-Discovery and Instructional Assessment, Subject B showed one stage of growth, from Stage 2 to Stage 3, while Flexibility remained constant at Stage 3 throughout the study. Overall, Subject B moved from Stage 2 to Stage 3, from viewing knowledge as uncertain and decisions justified according to what one feels, to viewing knowledge as contextually based and the result of interpreting evidence from multiple perspectives.

Subject C made the most progress in the ability to reflect and embrace reflective habits of discourse quickly. For this subject, growth in reflective judgment moved from Stage 1 to Stage 3 in all three categories of Self-Discovery, Instructional Assessment, and Flexibility. Moving in reflections from a view of knowledge as absolute to a view of knowledge as contextually based and constructed allowed Subject C to become an active participant in reflective discourse and practice. A cumulative effect was created from growth in self-discovery reflections to include the categories of

Instructional Assessment and Flexibility. Perhaps Subject C's background and previous socialization into the teaching profession, focusing on the technical-empirical, had not allowed for reflection to take place. Yet, when a safe environment provided Subject C permission to reflect, this same teaching experience was the catalyst for a more pronounced growth in reflection.

Subject D moved from Stage 3 to Stage 4 in Self-Discovery, remained at State 3 in Flexibility, and was at Stage 4 initially in Instructional Assessment, creating a ceiling effect. Subject D exhibited overall characteristics of the mature reflective teacher and exhibited those characteristics described by Korthagen and Wubbels (1991) as attributes of the reflective teacher. In other words, Subject D used standard questions that reflective teachers use when structuring experiences and knew what could be learned from a teaching event. In the category of Instructional Assessment, Subject D skillfully described and analyzed her own functioning in interpersonal relationships. In terms of both Self-Discovery and Instructional Assessment, Subject D interpreted evidence from multiple perspectives toward synthesizing evidence. With experience and continued reflective inquiry, Subject D may exhibit mature reflective judgment as described by the final Stage 7 of the Stages of Reflective Judgment

(Kitchener & King, 1977) (Appendix C). Nevertheless, providing a supportive environment for reflective discourse allowed her to make progress in development and refinement of her reflective perceptions and practices.

The repeated questioning frame was used throughout the students' conferences when discussing their instruction. Because of the positive change in their reflective practice/language over time (as discussed above), it is clear that use of these prompts did have a positive impact on their growth in reflective thinking and practice. It provided a structure for students to anticipate and then ask reflective questions themselves.

Summary and Future Research

The attributes of reflective student teachers which emerged in this study predictably resulted in responses which were categorically similar to findings by Korthagen and Wubbels (1991) as a result of using the same questioning frame in this study as they had developed and used. Repeated questions in reflections resulting in the category of Self-Discovery parallel Attributes 2 and 3 in which standard questions are used to structure experiences and decision making is that of the student teacher's alone. Reflections in the category of Instructional Assessment indicate Attribute 4 and the reflective student teachers' abilities to analyze their functioning in a teaching event as well as describe it.

Reflections in the category of Flexibility are indicative of Korthagen and Wubbels (1991) Attribute 1 in which the reflective student teacher considers it important to structure situations and problems and can do so.

Commonalities on characteristics of reflective teachers suggest the convergence of key language to identify and describe attributes of reflective teachers and elements of reflective practice.

All subjects showed growth across the identified categories of Self-Discovery, Instructional Assessment, and Flexibility, even in a short period of 6 weeks. All subjects developed reflective language. However, the greatest growth in reflectivity was made by the subjects who were not initially using reflective language, perhaps as a result of reflective prompts from the researcher and their own repeated use of reflective language. In other words, discussions of their practice changed as a result of the language, signifying the need for verbal interaction in the development of reflection and the need for discourse to support reflective thinking.

Surprisingly, of the three categories of Self-Discovery, Instructional Assessment, and Flexibility, the greatest changes were in Self-Discovery, an area which may not be directly addressed in conventional teacher education. This leads to some interesting questions for further study in the area of reflection and teacher practice.

One such question is: What environment will allow the subjects of this research to further develop and refine their reflective judgment? The crucial role of feedback and follow-up is exemplified in Subject D who perhaps made as much progress in the refinement of her reflections and practice as other subjects in the study did in developing reflective discourse and practice. This researcher questions the availability of support and feedback to maintain and enhance reflective discourse and practice beyond this study.

Repeated prompts led subjects to anticipate and then ask the reflective questions themselves as part of the development of an inquiring attitude. A second question for further study is: Would the subjects have progressed as well in their reflective discourse and discussion of practice in analyzing, structuring, and viewing teaching events from multiple perspectives under different circumstances? This researcher views the circumstances of this study as important in teachers' development of reflectivity. Therefore, this study is a beginning to new knowledge needed for preservice teachers to become better reflectors. These questions have been anticipated by other researchers mentioned within this study.

Further research should provide:

1. A longitudinal study of the development of the process of reflectivity in teachers, including individual differences in orientation to reflectivity.

Differences in orientation to reflectivity emerged as a significant area for inquiry in this research and needs to be explored further.

2. Research into contextual influences on teacher development (Korthagen & Wubbles, 1991; Wildman & Niles, 1987).

Providing a safe environment for open dialogue and risk taking appeared to be essential to the facilitation of this study and may be necessary for continued growth in reflectivity.

3. Research in reflective thinking and practice which examines the specific contributions of preservice programs in the development of reflective thinking (Zeichner, 1987).

An underlying question of this study emerged: What can teacher educators include in their program to develop reflectivity in their students? Providing answers to this question is essential if researchers and teacher educators are to influence teaching practices in the future.

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APPENDIX A
 REVISED VERSION OF
 STAGES IN THE DEVELOPMENT OF REFLECTIVE JUDGMENT

(A Summary of Kitchener & King, 1977)

Stage 1 - The subject believes knowledge to be absolute and decisions are justified according to an authority figure.

(Kitchener and King's Stages 1 and 2:

Views world as simple

Believes knowledge to be absolute

Views authorities as the source of all knowledge)

Stage 2 - The subject believes knowledge is uncertain and decisions are justified according to what one feels.

(Kitchener and King's Stages 3 and 4:

Acknowledges existence of difference of viewpoints

Believes knowledge to be relative

Sees varying positions about issues as equally right or equally wrong

Uses unsupported personal belief as frequently as "hard" evidence in many decisions

Views truth as "knowable" but not yet known

Perceives legitimate differences of viewpoint

Develops a beginning ability to interpret evidence

Uses unsupported personal belief and evidence in

making decisions but is beginning to be able to differentiate between them

Believes that knowledge is uncertain in some areas)

Stage 3 - The subject views knowledge as contextually based and decisions are a result of interpreting evidence from multiple perspectives

(Kitchener and King's Stages 5 and 6:

Views knowledge as contextually based

Develops views that an integrated perspective can be evaluated as more likely to be true

Develops initial ability to integrate evidence into a coherent point of view)

Stage 4 - The subject believes knowledge is constructed and contextualized and decisions are derived as a result of synthesizing evidence.

(Kitchener and King's Stage 7:

Exhibits all characteristics listed in Stages 5 and 6

Possesses ability to make objective judgments based on reasoning and evidence

Is able to modify judgments based on new evidence if necessary)

APPENDIX B
PRE- AND POSTINTERVIEW

1. What does the term "reflective teaching" mean to you?
2. Suppose you just finished a lesson that didn't go too well. What do you do afterward in thinking or acting on the lesson outcome?
3. Can you decide for yourself you want to learn something or do you need a teacher educator to provide suggestions?
4. If you look at your own development as a teacher, and then consider the future, what is most important for you to learn or learn to do better?

This interview system was developed from the questions in the following study that were asked of teachers characterized as "reflective." The pilot for this instrument was administered to 2 students with similar educational experiences to the subjects of the study. The piloted students were also registered in 23:192 Experience in Reading: Tutoring.

Source: Korthagen & Wubbels (1991)

APPENDIX C
REPEATED GUIDANCE QUESTIONING FRAME
(CONFERENCE QUESTIONS)

1. Have you thought about your handling of this situation? Why or why not?
2. What happened? Why did it happen? What did you do right? What could you have done differently?
3. What decisions, alternatives did you make? Why?
4. What would you like to know or know better to help you in this situation?

Source: Korthagen & Wubbels (1991)

APPENDIX D

Responses

Question 1: What does the term "reflective teaching" mean to you?

Student A

Preinterview: looking at reactions of students-- taking those results and adapting your teaching style to the needs and abilities of the students

Postinterview: looking at what you're doing and the feedback you're getting from your child and using that to determine what you're going to do in the future. A nonexample of reflective teaching would be not teaching to the needs of the child, just going on a set course

Student B

Preinterview: making changes that look at how you're teaching--making improvement constantly and varying your strategies

Postinterview: being able to look back and evaluate how you're doing with your teaching styles, procedures, improvements. See if you're following up and meeting your goals

Student C

Preinterview: being able to look back at what was done and reflect on it as how you could change it to make yourself a better teacher

Postinterview: teaching a lesson and looking back on it. Seeing what works and didn't work and why and then maybe go back a little further

Student D

Preinterview: looking back at things that happened and analyzing different reasons why things could be happening--keeping accurate records of everything and that helps you reflect when you go back and look over things--from different perspectives and reasons why that's been happening

Postinterview: it means that a teacher can look back and observe the things that are happening in a class and what that may mean to a student, their behaviors need to be taken into consideration. I think it's very important to tell you about your student

Question 2: Suppose you just finished a lesson that didn't go too well, what do you do afterward in thinking or acting on the lesson outcome?

Student A

Preinterview: figure out the weak points and try to work those weak points out--change way lesson taught or totally revamp and teach in totally different way

Postinterview: either the lesson wasn't designed the way it should have been for that child, so I'll go back and say this is why it didn't work and this is how it might work if I did it again

Student B

Preinterview: it would be helpful if you had a tape so you can see what you did. Maybe the child didn't understand it--directions weren't clear--figure out ways to modify it or make it clear

Postinterview: try to figure out--maybe the child didn't have enough background knowledge or enough examples or just try to see if the child understands

Student C

Preinterview: decide if lesson is really important --what prior knowledge was--maybe go back a few steps and introduce some vocabulary or do some other

things that would make them more familiar with the lesson--was it the way the children reacted--or my presentation

Postinterview: first, don't get upset, lessons do bomb. Maybe it was my approach, how I taught the lesson, or the student needs to be taken back--taught a minilesson that would lead into this discussion. Maybe I didn't present it in an interesting way; do the same lesson in a more motivating way

Student D

Preinterview: list things I could have done better --that I will change and throw in a few things that worked a lot better to make me feel better about it. I'd check back with students and see what I need to reteach--explain better

Postinterview: decide whether I need to try it again and change some things. First thing, I'd probably sit down and decide what I didn't do--make some changes in the lesson plan. What I could have done and how. Otherwise I could (blank) the lesson plan and decide to leave it

Question 3: Can you decide for yourself how you want to learn something or do you need a teacher educator to provide suggestions?

Student A

Preinterview: take suggestions--but usually I can determine for myself--think I know how I best learn things

Postinterview: I consider myself to be--I can usually look at something and say that--what I need to do to learn this, which is not to say that I don't learn anything from lectures or observations

Student B

Preinterview: a little bit of both--know best what works for you yet it's nice to have suggestions where you see other ways to learn

Postinterview: a little of both. I like some suggestions, but on my own I can think of some too

Student C

Preinterview: I think both--able to attempt on my own but I like suggestions--small group, too--get others' input

Postinterview: I like to decide for myself. I don't mind suggestions, but use them in my own way

Student D

Preinterview: decide for myself. I know how I learn best

Postinterview: (no response)

Question 4: If you look at your own development as a teacher, and then consider the future, what is most important for you to learn to do better?

Student A

Preinterview: when I'm not doing something correctly, be flexible enough--to adapt to a change in styles for the students

Postinterview: to be able to select books geared to the level of the student. I like to always be open to change. To be able to say this isn't working well, this child isn't being reached. I need to do this to reach this child. Basically, I need to be able to adapt to different situations

Student B

Preinterview: like to develop strategies and different ways to teaching--to incorporate individual learning and cooperative learning and different styles

Postinterview: I need to be more outgoing. Realize when something didn't go right so next time I can make those changes better or clearer

Student C

Preinterview: to be more relaxed

Postinterview: that I can't make miracles happen-- it takes patience. I need to get to know my students, and keep trying to find what works because everyone's got that little thing that motivates the, their special interest to build on

Student D

Preinterview: progress on communication skills-- organization of a classroom--management techniques

Postinterview: it's important for me to do well. I want some experience. Everything is so different when you walk into a classroom