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Beginning Teacher Education : Students' Conceptions of Teaching and Approaches to Learning.

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BEGINNING TEACHER EDUCATION STUDENTS' CONCEPTIONS OF TEACHING AND APPROACHES TO LEARNING

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ABSTRACT

Twenty preservice teachers were interviewed prior to commencement of their teacher education course to establish the conceptions of teaching and approaches to learning with which they entered the course. Students were categorised as surface, deep or achieving in their learning orientations (Biggs, 1987). Five conceptions of teaching were identified: the nurturing helper, authority and disciplinarian, shaper of children's lives, presenter of information and facilitator of thinking and learning. There was a consistent relationship between conceptions of learning and conceptions of teaching. Surface learners tended to see teaching as transmission of information. There were very few deep learners, however they tended to see teaching as facilitation of thinking and learning. Achieving learners tended to see teaching as nurturing. Achieving learners also indicated that shaping children's lives and imposing discipline were important.

Beginning Teacher Education Students' Conceptions of Teaching and Learning

Because of their extensive experience of classroom life, prospective students enter teacher education programs with well established conceptions of teaching and learning (Britzman, 1986; Calderhead, 1988; Feiman-Nemser, McDiarmid, Melnick & Parker, 1988; Weinstein, 1990). For example, Lortie (1975) referred to the long "apprenticeship of observation" in schools which forms the basis of students' knowledge of teachers' work. This student experience has resulted in the belief by many preservice teachers that to become a teacher it is merely necessary to behave like the teachers they have observed (Feiman-Nemser et al., 1988). Consequently, many students enter teacher education with an over-optimistic confidence in their ability to teach and a lack of appreciation for the complexity of classroom practice (Book, Byers & Freeman, 1983). Additionally, Feiman-Nemser et al. (1988) found that many students believed that teaching con-

sisted merely of giving students information and Hollingsworth (1989) found that student teachers frequently believed that learning resulted from the provision of teacher-directed information.

Other researchers have found that students see teachers in a nurturing role. Weinstein (1990) reported that a capacity to be friendly and caring was the most frequently mentioned attribute of a "really good" teacher. Book et al. (1983) found that substantial numbers of students entering teacher education saw teaching as an extended form of parenting. Similarly, Calderhead (1988) reports that many students build ideal images of teaching which emphasised the teacher as a guide, confidant and friend.

There is some evidence to suggest that conceptions of teaching correspond with conceptions of learning. For example, Feiman-Nemser et al. (1988) report that the belief that teaching is the giving of information is supported by the understanding that learning is the reproduction of teacher-given information.

Prior beliefs and understandings exert a major influence on the impact of teacher education on students' development as teachers. Hollingsworth (1989) found that prior beliefs provided a filter through which students viewed their teacher education and classroom experience. Thus, she argued that preprogram beliefs interacted dynamically with program content and classroom practice. Similarly, Korthagen (1988) reports that students' learning orientations influenced their ability to benefit from teacher education. Specifically, he found that a reflective (internal) approach to learning fitted more comfortably with a reflective teacher education program. Students with an external learning orientation often dropped-out of the program.

Teachers' images, conceptions and beliefs also exert a powerful influence on their classroom practice (Calderhead, 1988). For example, Anning (1988) found that teachers' beliefs about

learning were embedded in the teaching strategies that they adopted.

Thus, conceptions of teaching and learning play a major role in shaping students' response to teacher education and teachers' classroom practice. The origin of these conceptions lies in experiences encountered before teacher education is commenced and there appears to be a relationship between how learning is conceptualised, understandings of teaching, and classroom practice.

This study examined the relationship between teacher education students' pre-program approaches to learning and their conceptions of teaching.

Method

Subjects

Subjects were 20 randomly selected students enrolled in a three-year pre-service course for primary teachers in Brisbane, Australia. Fifteen were female and five were male.

Instruments

Students' conceptions of learning were initially assessed using the Study Process Questionnaire (SPQ) (Biggs, 1987). The SPQ is a 42 item questionnaire which provides motive and strategy scores for surface, deep and achieving learning orientations. The two scores (motive and strategy) can be combined to give a general approach score. The specific items on the questionnaire are listed in table 1.

Table 1. Strategy and Motivation Items for Surface, Deep and Achieving Approaches

Strategy	Motivation
Surface	
1. Browsing around is a waste of time, so I only study what's given out in class or in the course outline.	1. I chose my present courses largely with a view to the job situation when I graduate rather than out of their intrinsic interest to me.
2. I learn some things by rote, going over and over them until I know them by heart.	2. I am discouraged by a poor mark on a test and worry about how I will do on the next test.
3. I tend to choose subjects with a lot of factual content rather than theoretical kinds of subjects.	3. Whether I like it or not, I can see that further education is for me a good way to get a well-paid or secure job.
4. I generally restrict my studies to what is specifically set as I think it is unnecessary to do anything extra.	4. Even when I have studied hard for a test, I worry that I may not be able to do well in it.
5. I learn best from lecturers who work from carefully prepared notes and outline major points neatly on the blackboard.	5. Lecturers shouldn't expect students to spend significant amounts of time studying material everyone knows won't be examined.
6. I find it best to accept the statements and ideas of my lecturers and question them only under special circumstances.	6. I almost resent having to spend a further three or four years studying after leaving school, but feel that the end results will make it all worthwhile.
7. I am aware that lecturers know a lot more than I do and so I concentrate on what they say is important rather than rely on my own judgement.	7. I am at college/university mainly because I feel that I will be able to obtain a better job if I have a tertiary qualification.

Deep

- | | |
|--|---|
| 1. While I am studying, I often think of real life situations to which the material I am learning would be useful. | 1. I find that at times studying gives me a feeling of deep personal satisfaction. |
| 2. In reading new material I often find that I am continually reminded of material I already know and see the latter in a new light. | 2. While I realize that truth is forever changing as knowledge is increasing, I feel compelled to discover what appears to me to be the truth at this time. |
| 3. I find that I have to do enough work on a topic so that I can form my own point of view before I am satisfied. | 3. I feel that virtually any topic can be highly interesting once I get into it. |
| 4. I try to relate what I have learned in one subject to that in another. | 4. I find that studying academic topics can |
| 5. I find most new topics interesting and spend extra time trying to obtain more information about them. | 5. I usually become increasingly absorbed in my work the more I do. |
| 6. I spend a lot of my free time finding out more about interesting topics which have been discussed in different classes. | 6. I believe strongly that my main aim in life is to discover my own philosophy and belief system and to act strictly in accordance with it. |
| 7. I try to relate new material, as I am reading it, to what I already know on that topic. | 7. My studies have changed my views about such things as politics, my religion, and my philosophy of life. |

Achieving

- | | |
|---|---|
| 1. I summarise suggested readings and include these as my notes on a topic. | 1. I want top grades in most or all of my courses so that I will be able to select from among the best positions available when I graduate. |
| 2. I try to work consistently throughout the term and review regularly when the exams are close. | 2. I have a strong desire to excel in all my studies. |
| 3. I try to do all my assignments as soon as they are given out. | 3. I would see myself basically as an ambitious person and want to get to the top, whatever I do. |
| 4. After a lecture or lab, I reread my notes to make sure that they are legible and that I understand them. | 4. If I came to the point, I would be prepared to sacrifice immediate popularity with my fellow students for success in my studies and subsequent career. |
| 5. I test myself on important topics until I understand them completely. | 5. One of the most important considerations in choosing a course is whether or not I will be able to get top marks in it. |
| 6. I make a point of looking at most of the suggested readings that go with the lectures. | 6. I see getting high grades as a kind of competitive game, and I play it to win. |
| 7. I keep neat, well organised notes for most subject. | 7. I believe that society is based on competition and schools and universities should reflect this. |

According to Biggs (1987) surface approaches involve the reproduction of given information through rote learning based on extrinsic motivation. Deep approaches focus on the meaning of the content. Deep students read widely and attempt to relate new information to relevant prior knowledge. They utilize intrinsic motivation. Achieving approaches involve organising time and space to promote performance in assessment. These students engage in whatever learning activities they feel will maximize their grades.

Results of the SPQ were confirmed by open-ended interview questions designed to elicit information on students' conceptions of learning.

Conceptions of teaching were documented through open-ended interview questions. Students were asked to describe the characteristics of a teacher and to discuss what constituted teachers' work. They were asked what made a "good" teacher, how they saw themselves as teachers and why they had entered teacher education. They were also asked what knowledge they thought teachers required.

The interview protocol provided areas for questioning (e.g., teachers' work) and some suggested ways of phrasing questions (e.g., "What do teachers do?"). However, specific phrasing of questions was left to the interviewer to develop within the context of the dialogue with students.

Procedure

Interviews were conducted in the week prior to the commencement of the course. Students were randomly assigned to one of three interviewers who arranged a mutually convenient time to meet. Interviews took approximately one hour to complete.

Students were initially asked to complete the SPQ. This was followed by the open-ended interview. All interviewers followed the same basic format. However, interviewers encouraged students to elaborate and expand on answers and asked follow-up questions where appropriate. All interviews were audiotaped and later transcribed for analysis.

Coding of open-ended responses. Initially student responses were summarised under five headings: learning approach; characteristics of teacher; ideal teacher; self as teacher; and paths to teaching. These summaries were examined for similarities and clustered as themes emerged from the data.

Analysis of Learning Approaches. Students were classified as surface, deep or achieving learners according to their highest SPQ score. This classification was then compared with open-ended interview responses. Where interview and SPQ classifications were inconsistent students were given a multiple classification (e.g. deep-achieving).

Finally the conceptualisations of teaching of students in each learning category were examined for consistent themes and areas of divergence.

Results

Conceptions of Teaching

Five clusters of characteristics emerged from students' discussions of their conceptions of teaching. The most frequently mentioned understanding of the role of the teacher was that of a nurturing helper, where the teacher is seen as a confidant, friend and carer. The second most frequently mentioned attribute of a teacher was that of exerting a shaping influence on children's lives. Third, many student teachers felt that exercising authority and discipline was an important aspect of teaching. Conversely, four students felt that discipline was not important. A number of students felt that teaching was primarily presentation of information, while a small minority saw teaching as facilitation of thinking and learning.

1. The nurturing helper. Eleven students mentioned nurturance or focused on the interpersonal nature of teaching. A variety of characteristics of nurturance were mentioned by students. For example, some students felt that the teacher should be a friend.

Interviewer: What is a teacher?

Student: They (students) have to know they could sort of come to her and talk about problems, which I found I could do with some teachers. I liked to talk to the teachers about problems other than school work. A teacher should be a friend as well.

Alternatively, some students saw teachers as helpers who provided guidance and directions for students.

Interviewer: What do you understand to be the role of a teacher? When people talk about teachers and teaching, how would you describe teaching?

Student: I'd describe it as a person who is there to help you and be understanding and be able to help you and be able to show you things, like not to

force opinions or anything on you but give you a guiding hand. I just find the teacher is there to guide you through, just help. I find it a helping stage in your life.

The focus on interpersonal relationships was also reflected in some students' understanding of the knowledge teachers required.

Interviewer: What sort of knowledge and skills do you think is necessary for a teacher to acquire?

Student: Skills on personal relationships, assertiveness, interacting with people.

Interviewer: What sort of expectations do you have about what will be learnt in your college course?

Student: An understanding I think of the kids and how they operate so that you know how to relate to them.

Three of these students referred to their own school experience as helping to shape their ideas. They recalled teachers who had established caring personal relationships which they valued and consequently felt it important to establish similar relationships with their students. In fact, six of these students' ideas appeared so embedded in their student roles that they described the role of a teacher from a student perspective.

Interviewer: What is a teacher?

Student: Basically, it's someone who you look up to. Someone to help you when you have a problem.

Interviewer: How would you describe a teacher?

Student 1: It's someone who supports you in personal things. Someone you can talk over your problems with.

Student 2: A teacher is a person who's there mainly to help you, to be understanding. It's like a friend at a distance. Someone to help you with school and personal life.

2. Shaper of children's lives. Nine students indicated that they saw teachers as having a significant impact on the lives of the children in their care. Indeed, this facet of teaching was significant in attracting some students into the teacher education program.

Interviewer: Why did you choose teaching as a career?

Student 1: I've always wanted to be a teacher. I

just can't wait to get out there and show others what I want to say to them, and basically show them. I'll teach them what I know. I want to help them, help them with their future so they can go on and do what they want and help other people.

Student 2: I like the feeling of being able to help somebody better their education, and let them know what I know and share that with them. It makes me feel important that I can have that kind of influence over somebody. It just makes me feel good.

Four students saw teaching as preparing students for later life.

Interviewer: What do you think a teacher is?

Student: It's basically trying to get children a fair go in the world, because I feel that it's going to be more and more complicated to try and give them some sort of advantage for the time they have to move out into the workforce.

Three students saw teachers' influencing children through the development of "moral" understanding.

Interviewer: What is a teacher?

Student 1: It's someone who's like a guide to the children to teach them right from wrong and bring them up in a matter of speaking on an educated level. Make them more mature and let them know what's right.

Student 2: They act as a disciplinary factor in the child's life. They tell the child what's right and what's wrong and how to act. It's not necessarily hitting them or anything like that. They're just telling them how to act as an adult.

3. Authority and disciplinarian. Eight students mentioned discipline, authority or control as important in teaching.

Interviewer: Could you describe what you think a teacher is?

Student: Someone who teaches you academic stuff and how to sort of behave socially, like keep quiet, or get on with other kids, and they help you if you have a problem. They discipline you. They tell you to do stuff, and if you haven't done it you get into trouble and they say "Oh, you have to behave, keep quiet for this lesson."

Even though many of these students felt teaching was primarily concerned with nurturance, they

nevertheless felt that firm discipline was essential.

Interviewer: What are the characteristics of a teacher?

Student: I think firstly and most importantly they have to enjoy kids. You'd have to like kids. You'd have to be patient, caring and sometimes you have to be strong, to sort of control, otherwise if you're too kind to them they take advantage of it. So you know, caring, kind, strong, disciplined.

Many students resolved this dichotomy by indicating that teaching required a "balance" between warmth and discipline.

Interviewer: How do you see teachers? What's most characteristic about teachers as you see them?

Student: Most of them are very strong willed. Have a lot of patience. To me a teacher is somebody that you're on a level so that you know you can communicate with them but they're also above you. They're a figure to look up to ... they've got to have a sense of authority but also a sense that they're approachable. You know that they're just not figures to look up to and not to speak to.

One student felt that discipline should grow out of children's respect for the teacher.

Student: They'd have to be a friendly person, someone who deserves the respect of the student. Not someone who enforces a respect to be able to maintain discipline in the class.

Other students felt that discipline and control were not important aspects of teaching.

Interviewer: What kind of characteristics does a good teacher have?

Student: Someone who can get along well with their pupils without being, you know, too strict.

4. Presenter of Information. Eight students felt that teaching principally comprised the transmission of information to students.

Interviewer: What do you think a teacher is?

Student 1: A teacher is someone who expresses or gives their knowledge to the children and they bring out anything that the child might have that's worth bringing out.

Student 2: Somebody who passes on information to their students. Not so much to ram it down

their throats or anything but tries to challenge the students into remembering it for themselves.

These students indicated that an understanding of curriculum content forms the basis of teacher knowledge.

Interviewer: What sort of knowledge and skills do you think a teacher should have?

Student: Probably a basic grounding in everything, like maths, science, art, music, everything.

5. Facilitator of Thinking and Learning. The least frequently mentioned conception of teaching was that of facilitating thinking. Only two student teachers mentioned children's thinking, learning or understanding as important aspects of teaching compared with six students who saw teaching as the transmission of information.

Interviewer: How would you characterise a teacher?

Student: I've always thought that a teacher should encourage someone to think, think for themselves, to use logical processes and get through life like that rather than the teacher just teaching them to learn this sort of thing. The child should understand - "why should I learn this and how is this going to help me by learning it".

To encourage children to think and to learn is very important.

This orientation to teaching was also reflected in the students' understanding of what knowledge base teachers required.

Interviewer: What kind of knowledge and skills does a teacher need to have?

Student: Mostly to understand the mind of the child and what he or she may be thinking at the time.

Although many students indicated that a teacher had many characteristics, various conceptions appeared to cluster together. For example, all student teachers who saw teachers as nurturant helpers also considered teaching to exert an influence to shape and change children's lives. Seven of these student teachers also considered the exercise of discipline and control important.

Conversely, four student teachers stated that discipline was not important. All these students also saw teaching as the presentation of information.

One student teacher felt that discipline should be based on mutual respect and regard, another that it should arise from intrinsic interest in learning. Both these students conceived of teaching as the facilitation of children's thinking and learning.

Approaches to Learning

SPQ profiles were consistent with questionnaire responses for 18 students. Two students gave responses that reflected two different SPQ approaches and therefore were given multiple-classifications.

Nine students were categorised as having an achieving orientation to learning, six had a surface approach and three had a deep approach. One student was categorised as surface-achieving and one as deep-achieving.

Surface approaches were reflected in comments such as:

Student 1: I'm a night before the exam person. I just want to get by. I expect college work will be pretty dreary. I just want to pass.

Student 2: I don't enjoy studying. If I know it has to be done, then I'll do it. But I don't think 80% of people like studying.

Student 3: I've never really thought about it (how I study). I'm not sure. I don't want to fail. I do the assignments. That's about it.

Students who employed deep approaches tended to focus on enjoyment in learning and conceptual understanding.

Interviewer: Why do you study?

Student: I like it. I really do. I feel good when I'm learning. To me it's all interesting because it's all different.

Interviewer: How do you study?

Student 1: ... it's a lot of your own work. A lot of reading. Not just being told this is what you write down. Being able to sift information from lectures and tutorials. You need to get down what you feel are the important things and writing things down in the ways that you understand them rather than just writing down what someone has written on the blackboard - maybe not understanding it, maybe not thinking it's relevant, may not knowing what is relevant.

Student 2: I'm interested in what I'm doing so I

guess I'll be a good student.

Interviewer: So you're prepared to work at things you're interested in.

Student 2: And I've chosen this course because I feel it will be interesting.

Achieving approaches were characterised by a concern to perform well in assessment tasks through a regimen of organised effort.

Interviewer: How do you see yourself as a student?

Student: I try to make a plan, like a weekly timetable to allow me to have a social life and free time and study time and I try to stick as close as I can to that timetable.

Interviewer: Why do you study?

Student: Nothing comes natural, you have to work at it, you have to read, you have to write and you have to memorise sometime to get through. So you need to study. It's all out of work and study that you're going to do well. When you study you want to give it your best and you want to do more than to just pass.

Interviewer: Do you study to get through the exam and get good marks or do you study to better yourself in terms of becoming a teacher?

Student: You've got to get through the exam but you know the better you do in an exam, the better the teacher you'll be.

Interviewer: What if there's a conflict. Which option would you go for?

Student: I'd have to go for the marks.

Interviewer: What's your main goal when you study?

Student: Basically to do well in exams because it doesn't matter if you know everything about the subject. If you know 100 percent and went into an exam and wrote a lot of garbage it's not going to do you any good. People aren't going to look at what you know but what you've written on your test paper and your marks. Basically you go for the marks.

Interviewer: Is studying something that you enjoy? Do you enjoy getting your teeth into a subject?

Student: No. Not studying.

Relationship of Teaching and Learning

Students' various conceptions of teaching appeared to cluster together. Similarly, students' understandings of teaching were not spread evenly across students holding various under

standings of learning. Rather, students who had similar conceptions of learning, held similar conceptions of teaching. For example, students who had an achieving approach to learning had similar approaches to teaching. Deep students expressed corresponding conceptualisations of teaching, and surface learners showed some consensus in their notions of teaching. Students who had multiple learning classifications appeared to draw from a variety of conceptions of teaching. Table 2 indicates the number of students in each learning category mentioning each component of teaching conceptions.

Achieving learners.

Of the nine achieving learners eight included nurturing, caring or helping as part of their conception of teaching. However, the notion of nurturance which they conveyed was one of exercising influence over children in order to mould them in a particular fashion. This influencing role was also reflected in the number of achieving students who indicated that discipline and control was an important aspect of teaching.

Only one achieving student mentioned presentation of information as an aspect of teaching and no students mentioned facilitation of children's thinking and learning processes.

Table 2. Student Teachers Conceptions of Teaching and Learning

Conception of Teaching	Achieving	Conception of Learning			
		Surface	Deep	Deep/Achieving	Surface/Achieving
	N = 9*	6	3	1	1
Nurturant Helper	8	1	1	1	-
Shaper of Children's Lives	9	-	-	-	-
Preparation for Life	-	3	-	-	-
Developer of Morals	1	2	-	-	-
Authority and Disciplinarian	7	1	-	-	-
Discipline Not Important	-	4	-	-	1
Discipline through motivation	-	-	1	1	-
Respect or Regard	-	-	1	-	-
Presenter of Information	1	6	-	-	1
Facilitator of Thinking and Learning	-	-	2	-	-

* Some students discussed more than one characteristics

Surface learners. All surface learners indicated that the transmission of information is an important component of teaching. Additionally, five of these students saw teaching as preparing students for life outside the classroom and developing "moral" values.

In contrast to the achieving students, four of the six surface learners explicitly stated that discipline was not important.

Deep learners.

Two of the three deep learners mentioned the facilitation of children's thinking and learning as a fundamental aspect of teaching. One student mentioned helping students. However, this student's concept of nurturance appeared different from achieving students concepts of nurturance, in that it encompasses acting in ways consistent with the child's interests rather than imposing the teachers' definition of what is "right".

Interviewer: Can you tell me what a teacher is?

Student: I think a teacher should be a very caring person. I know how I'd like to be, and that's caring and having the best interests of the kids in mind.

For this student teacher it appeared that children's interests could be obtained through constant study and observation of the children.

Interviewer: What kind of things do you see as characterising the ideal teacher?

Student: Well I think a teacher should be someone who does not just leave in the whip or thinks of the children only during the hours of school. I think after school, you should just study the behavioural patterns of the children for example. You've got to allow hours outside actual teaching to really dwell on it and get more knowledge.

No deep learners mentioned discipline as control. One talked about teachers gaining the respect of children and one about maintaining classroom order through motivation.

DISCUSSION

The data suggest that there is substantial consistency between students' conceptions of learning and conceptions of teaching. It appears that a dominant theme emerges in students' conceptions of teaching when they are categorised according to their understandings of learning. Although these consistencies were not predicted before the data were collected, the themes that emerged are logically consistent. According to Biggs (1987) achieving students see learning as motivated by competition. The goal of learning is to receive the highest grade regardless of how interesting or valuable the information is to the student. Achieving students organise their time, space and strategies to maximise their outcome. The dominant theme of these students' conception of teaching appears to be the influence and control of children. They focus on the interpersonal and nurturant aspects of teaching as well as the need for teachers to maintain discipline and order. They see the knowledge necessary for teachers as consisting mainly of an understanding of interpersonal relationships, skills in communication and methods of behavioural control.

This conceptualisation of teaching is consistent with reports of student teachers' emphasis on humanitarian goals (Rathborne & Pierce, 1989) and caring interpersonal relationships (Weinstein, 1990). However, it is not clear why students who adopt an achieving orientation to learning should develop conceptions of teaching which focus on issues of control. Possibly as learners they have developed strategies which accede control of their own learning to the teacher. For these students, the teacher defines the content to be learnt and sets the assessment tasks which the student simply must master. Thus, their conception of teaching is one of exercising control and influence over others.

This suggests that some students may generate their conceptions of teaching as a reciprocal to their own patterns of learning and studying. A

similar pattern emerges with student teachers who adopt deep and surface personal learning orientations. Students who have deep approaches see teaching as providing encouragement of children's learning and thinking based on intrinsic motivation.

Surface learners are extrinsically motivated. They mainly focus on meeting the minimal requirements through the reproduction of teacher-provided information using rote learning. Not surprisingly, these students appear to see teaching primarily consisting of presentation of information. Interestingly, these students did not see discipline and control as a major issue. In fact, a number explicitly stated that discipline was not important.

The conception of teaching as presentation of information appears consistent with the understanding of a number of students studied by Hollingsworth (1989). These students also believed that learning was primarily the result of teacher provided information. Similarly, Feiman-Nemser et al., reported that many student teachers see teaching as performing the acts which they have observed teachers perform, while learning is reproducing what the teacher has presented. Lortie (1975) referred to the "apprenticeship of observation" which forms the basis of many students' understanding of teaching. This perspective assumes that student teachers take on the role of the teacher for themselves based on their classroom observations as students. Thus, teacher role-taking emerges from students' interpretation and adoption of the thoughts, feelings and motives of the teachers they have observed.

The data from this study suggests that some students' conceptions of teaching may be developed through a process of role-giving rather than role-taking. Thus, students assign thoughts and motives to teachers based on their own experiences and needs as students. From this perspective, conceptions of learning and conceptions of teaching are inextricably linked, so that one develops from the other. That is, some teachers' conceptions of teaching are embedded within their conceptions of learning based on their own experiences as students. This suggestion is supported by the difficulty some student teachers had in dissociating themselves from a student's perspective when describing a teacher. These prospective teachers' language indicated that their concept of a teacher was based on those attributes needed to meet their own student needs.

The suggestion that conceptions of teaching are derived through a process of student role-giving, has several implications for teacher education, particularly if teacher education seeks to facilitate the transition from teacher as "mimic" to reflective practitioner (Schon, 1983). If student classroom observation results primarily in teacher role-taking then as Feiman-Nemser and Buchmann (1987) suggest "prospective teachers must learn to look beneath the familiar, interactive world of schooling and focus on student thinking and learning. Perhaps most difficult is learning to shift attention from themselves as teachers or the subjects they are teaching to what others need to learn".

If however, conceptions of teaching often arise from a process of role-giving, which assigns to teachers those attributes which best complement the students' personal learning approach, then teacher education programs need to focus on student teachers' orientations to learning as well as their orientations to teaching.

Evidence suggests that student teachers' prior beliefs have a significant shaping influence on their perceptions of the teacher education experiences (Hollingsworth, 1989). There is also some evidence to suggest that when teacher education addresses only students understanding of teaching, some beliefs and practices seem very resistant to change. For example, Kagan & Tippins (1991) found that intensive instructional interventions were required to encourage student teachers to make the kind of transition which Feiman-Nemser and Buchmann (1987) describe. They found it extremely difficult to encourage students to disengage themselves from an egocentric focus in teaching and to critique their own lessons in terms of their pupils' responses. Korthagen (1988) found that some students' prior beliefs resulted in a failure to benefit from a reflective teacher education program. In fact, a number of students who held dissonant initial conceptions dropped-out of the program. Hollingsworth (1989) found that only five of 14 student teachers showed significant conceptual change during a one year preservice course. Nine of the student teachers retained beliefs about teaching and the nature of learning which were congruent with their initial pre-program beliefs.

If beliefs about teaching are embedded in beliefs about one's own learning then it appears reasonable to suggest that significant change in student belief structures may be facilitated through a comprehensive teacher education program which addresses both students' emerging understanding of teaching as well as their beliefs about their

own learning.

The data in this study suggest that students enter teacher education with a diversity of views about teaching and learning. Some students enter teacher education with a transmissive or reproductive orientation, some enter with an authoritarian orientation, and some enter with a reflective orientation. These students appear to be readily identifiable by their approaches to learning.

These findings suggest a number of questions about the impact and efficacy of teacher education programs. For example, to what extent can students with non-reflective (surface and achieving) orientations to learning and associated conceptions of teaching be encouraged to develop alternative conceptions and approaches? That is, are these conceptions resistant or amenable to change? Similarly, the relationship of conceptions of teaching and learning to classroom practice could provide an area of fruitful investigation.

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