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ABSTRACT

This study examined the role that perspective taking played in preservice teachers' perceptions and analysis of a video teaching case. Participants were 84 preservice teachers from various course levels (introductory courses, methods courses, and student teaching courses). The preservice teachers were asked to take the perspective of either the teacher or a student while watching a video case of a classroom science lesson. Next, they rated the teacher and discussed four factors influencing their rating (teacher's personality, teaching methods, classroom management, and student variables). Results indicated that changes in presentation method of teaching cases could affect the analysis of a case. There were no main effects for condition. There were significant effects for course level and for the interaction. Participants at the student teacher level rated the teacher significantly lower than did students in the other two levels. There were no differences between the students in the other two course levels. There were differences between student-perspective and teacher-perspective conditions. Participants in the student condition used more teacher personality, classroom management, and student variables to determine their ratings than participants in the teacher condition. The teacher-perspective participants used teaching methods variables more to determine their ratings. (Contains 9 references.) (SM)

The role of perspective taking in video case analysis by preservice teachers

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Purpose: The purpose of this study is to examine the role that perspective taking plays in preservice teachers' perceptions and analysis of a video teaching case. Subjects were asked to take the perspective of either the teacher or a student while watching a video case of a classroom science lesson. They were then asked to rate the teacher and list the factors influencing their rating.

Perspectives: Case-based instruction has been recognized as a valuable tool in developing what Schön (1986) labels "reflective practitioners." One result of case-based instruction is increased cognitive flexibility in relation to classroom experiences (Lundeberg, et al., Harrington, 1996). Perspective taking may be an important variable contributing to this flexibility. However, this reflection does not happen automatically; it is generally accepted that there is a need to structure the presentation and discussion of teaching cases to encourage thoughtful analysis (Herbert & McNergney, 1995). This study examines one possibility for structuring a case presentation to promote perspective taking during analysis. In addition, it adds to our knowledge of one variable that may affect students' perception and understanding of a teaching case.

Studies show that the background knowledge of students affects their perceptions and analysis of cases (Stephens, 1996; Moje & Wade, 1996; Mostert, 1996). This study looks at the possibility of using instructional methods to tap into and activate prior knowledge, such as one's own experience being a "student" in an elementary classroom. It also examines the effect that background knowledge gained through teacher preparation courses and practice-teaching experiences has on case analysis since others have found that experienced teachers analyze cases in different ways than do novices (Berliner, 1994; Moje & Wade, 1996).

Methods:

Subjects were 84 undergraduates in a 4-semester teacher preparation program. Subjects were from four classes: two introductory, foundations courses (semester 1), one methods course which followed a 90-hour practicum experience (semester 3), and one student teaching seminar course in which the students were practice teaching full-time for one semester (semester 4).

Subjects were given a printed sheet of directions. Half the subjects were randomly selected to

receive a sheet that told them to imagine that they are the classroom teacher while watching a video of a classroom sequence. The other half received sheets that told them to imagine they are a student in the classroom while watching the video.

The video segment, *The Properties of Air in First Grade Science*, taken from *Windows on Classrooms: Video Case Studies* (Merrill Education, 1997), shows 20 minutes of edited segments from a lesson. The lesson begins with a teacher-directed demonstration of how air takes up space when a glass is submerged upside down in a container of water. The students then try out this procedure in cooperative learning groups, then come together for a final, whole group summary. This video was chosen for its ambiguous nature; although the video shows a well-managed class, there are subtle issues of how much teacher control is used in scientific "discovery."

After the video was shown, subjects were asked individually to rate the teacher on a 1-7 Likert scale from poor to excellent, then to list the factors they used in determining this rating. Students did not discuss the case until all papers were collected.

Data Sources:
Two types of data were collected: Numerical ratings of the teacher and lists of factors influencing the ratings.

Teacher Ratings: Data were analyzed using a General Linear Model to examine the main effects of condition (Student Perspective or Teacher Perspective) and course level (1, 2, or 3), and the interaction of these variables. Post Hoc analyses were done to determine the direction of any differences.

Factors Influencing Ratings: Lists were made of each factor mentioned, then collapsed into four categories: Teacher's Personality, Teaching Methods, Classroom Management, and Student Variables. Each of these had various subcategories found in Table 1. Each factor mentioned was then counted once in one subcategory. Frequencies of responses for each category were determined across condition and course level and reported in percentages of number of overall factors listed.

Teacher's Personality	**Teaching Method**	**Classroom Management**	**Student Variables**
Respect/Fairness Pleasant Manner Calmness Enthusiasm/Confidence Eye Level with Children	Hands-on Materials Students Experimented Teacher Modeled Age-Appropriate Good Questions Group Work Introductory Discussion Closure/Summary Scientific Method Used	Management/Flow Planning/Preparation Emotional Environment Accepted All Responses All children participate Careful explanations	Motivated Interested Attentive Learned Goals Thinking Showed enjoyment

Table 1: Subcategories of factors subjects mentioned in determining teacher ratings.

Results

Analysis of Numerical Teacher Ratings:

No main effects for condition were found. Significant differences were found for course level ($F=3.43$, $p<.03$) and for the interaction ($F=3.44$, $p<.03$). Duncan's Multiple Range Test showed that level-three subjects (student teachers) rated the teacher significantly lower than the other two levels. There were no differences between the first two course levels. Examination of the means to determine the meaning of the interaction shows that the level-three subjects in the student-perspective condition rated the teacher in the video significantly lower than level-three subjects in the teacher-perspective condition.

Level of Course:	**Student-Perspective Condition**	**Teacher-Perspective Condition**	**Total Subjects from both conditions**
1-Foundations	6.17 (1.09) n=18	5.95 (1.13) n=22	6.05_a n=40
2- Methods	6.6 (.52) n=10	6.2 (.63) n=10	6.4_a n=20
3- Student Teaching	5.13_c (.99) n=14	6.1_d (.92) n=10	5.5_b n=24

Table 2. Means (and standard deviations) of ratings across condition and course level. Means with different subscripts are significantly different at $p<.05$.

Analysis of Factors Used to Determine Ratings:

Analysis of the factors used to rate the teacher showed differences between student-perspective and teacher-perspective conditions. Subjects in the student condition used more teacher personality, classroom management and student variables to determine their ratings than those in the teacher condition. The teacher-perspective subjects used teaching methods variables to determine their ratings more than the other condition. Percentages for each main category are presented in table 2.

	Student Condition	Teacher Condition	Course Level 1	Course Level 2	Course Level 3
Teacher Personality	8.8%	4.6%	11.3%	.9%	6.4%
Teaching Methods	53.1%	67.8%	56%	63.9%	61.8%
Classroom Manag.	23.2%	19.6%	20%	25%	20%
Student Variables	14.9%	8%	12.7%	10%	11.8%

Table 2. Factors used to determined ratings presented as percentages of the total number of factors in each category.

Importance of Study:

Results of this study show that changes in presentation method of teaching cases can affect the analysis of the case. Not surprisingly, background knowledge was again found to affect analysis. Subjects with the most classroom experience rated teachers differently depending on the perspective they took while watching the video case. Part of the process of reflection is the need to take multiple perspectives. It seems obvious that being able to put yourself in the place of the student in your class would help teacher effectiveness. In this study, subjects who were explicitly instructed to take the student's perspective "saw" the teaching sequence in a different way than those subjects who were not so instructed. They used a different "lens" to view the classroom dynamics (Wasserman, 1992). Being able to promote reflection that helps teachers view their classrooms through the lens of their students can be a useful tool in teacher education.

These results show the value of field experience in teacher preparation programs and the importance of structuring case instruction carefully for specific goals such as perspective taking. Many other aspects of the instructional context of case pedagogy need to be examined such as case complexity, case medium, integrating cases into instruction, format of discussions, etc. This study highlights the complexity of variables that affect the use of case pedagogy.

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