

# Beginning Inservice Teachers' Development of Instructional Decisions and Delivery Methods

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## Introduction & Theoretical Framework

To prepare teachers as agents for change in our nations schools, researchers must first understand the motivation and beliefs of preservice and beginning teachers (Pajares, 1992; Stuart & Thurlow, 2000). Teacher preparation programs cannot afford to ignore the beliefs (Pajares, 1992) and resulting practice (Simmons et. al., 1999) of entering beginning teachers. Beginning teacher beliefs and instructional decisions are influenced by their diverse and multiple life experiences. Intensive student teaching internships, and field experiences are widely used, both in the United States and other countries (Floden, 2001) to facilitate teachers' learning of instructional skills. The influence of university teaching methods courses and field experiences have been documented, but vary in their conclusive evidence. For example, Jones and Vesilind (1996) found that the influence of university courses was overturned by the influence of interactions with the preservice teachers' students, while Hill (2000) found that experience alone does not lead inevitably to learning, nor to improved practice of beginning teachers. In addition to the multiplicity of conclusions concerning preservice teacher field experiences, Floden (2001) documented in his chapter of the fourth edition of the *Handbook of Research on Teaching* that little research has addressed how entire programs of teacher education affect teacher education planning and implementation. This study strives to add to this particular body of knowledge.

## Purpose & Objectives

The purpose of the study was to describe beginning teachers' utility of learner-centered teaching methods during their initial years of inservice teaching experience. This study was a continuation of a longitudinal study following a cohort of career and technical education teachers from their teaching methods course through their student teaching internship and first semester of inservice practice. The specific objectives of this study were to: (1) explore beginning teachers' reflections of their teaching experiences in high school classrooms; (2) describe beginning teachers' understandings of teaching methods as they apply to student learning outcomes; and, (3) understand reasons why beginning teachers' chose the teaching methods they used during inservice teaching following teacher preparation instruction in learner-centered teaching methods.

## Methods & Procedures

Survey and interview methods were used for this phenomenological case study to understand the instructional decisions and professional development needs of these beginning teachers. The population of this study was three cohorts of beginning teachers who participated in the teaching methods and student teaching cohorts in agricultural education at the University of Illinois (2002-03 cohort = 13 third-year teachers; 2003-04 cohort = 7 second-year teachers; 2004-05 = 8 first-year teachers). All of the participants in this study taught high school agriculture in Illinois public schools. The participants were asked to provide consent by completing a mailed questionnaire. The five-part questionnaire assessed: (a) teaching style (40 items); (b) teachers' preferred learning style (20 items); (c) teachers' preference (18 items); (d)

teaching methods used (12 items); and (e) demographics (4 items). All items used in the questionnaire were from existing questionnaires that had established face and content validity and reliability. Participants were contacted up to five times regarding the questionnaire, yielding a 57% response rate (N = 16). Data were analyzed using the Statistical Package for the Social Sciences (SPSS). Subscales were aggregated into composite scores before analyzing the data. Participants whose responses were incomplete were excluded automatically by SPSS in the data analyses procedures. Descriptive statistics were used to analyze the data because the study was a census. Population means and population standard deviations were calculated and rounded to the nearest 1/100th.

Within two weeks after the participants received the questionnaire, they were asked to participate in a structured phone interview with probing to uncover deeper meanings and examples. The participants were asked seven questions and the interviews were approximately 20 minutes. Participants provided verbal consent and interviews were audio-recorded and transcribed. The researcher collected and interpreted the interview data from a post-positivist stance. A word processor was used to help create organizers to code and summarize the qualitative data. Open coding was used to analyze the qualitative data. Using grounded theory (Charmaz, 2000), the transcribed interviews were analyzed for concepts, themes, and patterns. This approach provided insight in how the teachers described teaching and learning based on their teaching experiences. The researcher created a coding scheme of the central ideas and related responses (Glesne, 1999). Trustworthiness and believability was established through the use of data source, investigator, and theory triangulation (Denzin, 1984); direct quotes, peer debriefing, an audit trail, and a reflexive journal (Donmoyer, 2001; Lincoln & Guba, 1985).

## Results

The researchers sought to explore beginning teachers' reflections of their teaching experiences in high school classrooms. Career and technical education teachers in this study were all first, second, or third year teachers. All of the beginning inservice high school teachers in this study were first hired at the school in which they were still teaching. Of the sample of 28 possible beginning teachers, the researchers were able to contact and interview 14 teachers. This response rate was mainly due to the busyness of the inservice agricultural teachers.

To meet the purpose of objective 1, beginning teachers were asked a series of three questions to garner experiences for the researchers to analyze. The following questions were asked in a semi-structured way with probing: (1) "How would you describe yourself as a teacher?" (regarding: program goals, teacher role, planning, delivery, and community interactions); (2) "Please, describe a specific example of a method of instruction you felt most comfortable"; and (3) "Could you please describe a specific example of a method of instruction you felt your students gained the most benefit or learned the most."

**Interview Question 1:** Beginning teachers described their teaching style, instructional goals, and content objectives in general terms. In the real world career and technical teachers were able to easily articulate their program goals and curriculum goals (N = 13). For example, respondents communicated their agricultural education curriculum to be driven by the following goals/objectives: career opportunity experiences (N = 4); consumer orientated (N = 3); career skills (N = 2); career skills & science credit (N = 1); pre-engineering & agricultural math (N = 1); subject matter knowledge (N = 1); citizenship skills (N = 1); no data (N = 1). Examples of

direct quotes include: “welding, small engines, constructional electricity...they are focused toward careers” (Gabe); “our job as an AG department is to prepare students who are going into the workforce” (Wade); “my program goals are to prepare these students um for whatever lies ahead of them” (Kiley); “my program goals [are] preparing student for whatever future that they choose” (Jacob); “my main goal for my program is to teach kids how to be beneficial or decent members of society...teaching life skills” (Karen).

**Interview Question 2:** All inservice beginning agricultural education teachers were able to give a clear example of a time in the classroom when they felt very comfortable teaching. In the framework of this study this question was used to help identify the current personal epistemology of the practicing teacher. Philosophically speaking, knowledge is a particular belief being seen as true in the eye of the beholder. In the case of teachers, the truth attachment of their knowledge about teaching and learning is an important part of learning to teach and designing instruction through reflective practice. Epistemology or nature of their knowledge filters what they are experiencing in a real-world teaching environment. Table 1.1 shows the responses of all interviewed teachers in the study.

Table 1.1

Comfortable Teaching Scenarios

Name	Comfortable Teaching Situation
Gabe	Small engines project-based class where Ss must refurbish old engine
Patrick	Individual student driven project making model grain dust explosion simulation
Wade	Livestock evaluation with “celebrity judging” interest approach
Todd	Simulation of double entry accounting using educational game
Kiley	T modeled oral reasoning with immediate Ss application
Cathy	Cooperative learning review game “I was the moderator/group facilitator”
Bethany	Demonstration of mastitis testing & science lab activities
Kenny	Project-based building project. Class built “mock room” and electrically wired room
Bill	Landscape design project around school building
Lisa	PowerPoint on horse breeds “which I do very often”
Cheryl	Notes and lecturing with discussion “giving them the knowledge”
Jacob	Subject matter that “I have 110% grasp on” plant or animal science
Jackie	Interest approach with “random stuff” rubric for landscaping design project
Karen	Lecturing “kids don’t really enjoy it...I don’t really enjoy it...but its easy”

\*Note: Ss = students; T = teacher.

**Interview Question 3:** Most beginning inservice CTE teachers (N = 13) were able to give an example of a class period or instructional event in which “the kids really gained or they’re still talking about the time when...” All the examples that were given explained a time when students achievement was clearly visible and instructional methods were real-world active learning. Table 1.2 shows the responses of all interviewed teachers in the study.

Table 1.2

“Students Learned the Most” Teaching Scenarios

Name	Students Learned Teaching Situation
Gabe	TLC ‘Dirty Jobs’ video followed by active dog grooming & small animal care
Patrick	Distilling ethanol science experiment
Wade	Electrical wiring project lead to Ss using skill to fix outlet at home
Todd	Inquiry project. Ss received dissimilar shaped metal but end product must be same
Kiley	Scavenger hunt for ingredients of “international cookie”. Used Spanish teacher
Cathy	Nutrition labels lesson lead to Ss questions about eating disorders & weight gain
Bethany	Real simulation of growing, marketing, weighing, filleting Tilapia fish
Kenny	Electrical bill and analyzed cost of running each appliance
Bill	Small engines simulation & real world “connecting rod broke” problem in lab
Lisa	No data – could not think of an example
Cheryl	Animal rights debate
Jacob	Project on credit, financial statements, saving money, time value of money
Jackie	Plant experiment project: plants in dark, covered with petroleum jelly
Karen	Reproduction unit. Teacher simulated “little sperm swimming” around classroom

\*Note: Ss = students; T = teacher.

In addition to asking the participants to give examples of times in their teaching experience when students really learned, the teachers were also asked to give an estimate of how often they planned active learning activities and projects. Table 1.3 shows the responses of all the inservice teachers interviewed.

Table 1.3

Teacher Reported % of Active Learning in Classroom

Teacher Name	Percent of Active Learning
Gabe	66%
Patrick	“try to hit” 30-50%
Wade	40-50%
Todd	60%
Kiley	80%
Cathy	40-60%
Bethany	75%
Kenny	70-75% “tying to real world”
Bill	50%
Lisa	No data
Cheryl	35%
Jacob	80%
Jackie	25-40%
Karen	“not often enough”

**Teaching and Learning Survey:** In addition to interviewing beginning inservice teachers a survey was also employed to help triangulate the data. The first section of the survey asked the

teachers about their personal epistemology of teaching and learning. Eleven questions were designed to determine if the participants' personal epistemology more closely aligned with teacher-directed teaching. Sample questions included: (a) "What I say and do models appropriate ways for students to think about issues in the content;" (b) "What I have to say about a topic is important for students to acquire a broader perspective on the issues in that content area;" (c) "Lecturing is a significant part of how I teach each of the class sessions;" (d) "Students might describe me as a "storehouse of knowledge" who dispenses the facts they need". The participants were asked to select a number based on a four point Likert Scale (1 = strongly disagree; 2 = moderately disagree; 3 = moderately agree; 4 = strongly agree). Table 1.4 demonstrates the responses from 16 inservice teachers.

Table 1.4

Teaching Style: Teacher-Directed Teaching Style

Teacher Name	Total of Teacher Directed Responses	Average of Teacher Directed Responses
Karen	26	2.4
Kristen	38	3.5*
Bethany	35	3.2
Sam	28	2.6
Lisa	36	3.3
Cathy	42	3.8*
Kenny	35	3.2
Catherine	43	3.9*
Todd	33	3
Jackie	31	2.8
Bill	37	3.4
Gabe	30	2.7
Cheryl	29	2.6
Kiley	30	3.5*
Jacob	29	3.5*

\* Denotes tallies that indicate participate strongly agrees with teacher-directed principles.

Also in the first section of the survey, another fourteen questions were designed to determine if the participants' personal epistemology more closely aligned with learner-centered teaching. Sample questions included: (a) "Activities in my class encourage students to develop their own ideas about content issues;" (b) "Small group discussions are employed to help students develop their ability to think critically;" (c) "I guide students' work on course projects by asking questions, exploring options, and suggesting alternative ways to do things;" (d) "Developing the ability of students to think independently is an important goal". The participants were asked to select a number based on a four point Likert Scale (1 = strongly disagree; 2 = moderately disagree; 3 = moderately agree; 4 = strongly agree). Table 1.5 demonstrates the responses from 16 inservice teachers.

Table 1.5

Teaching Style: Learner-Centered Teaching Style

Teacher Name	Total of Learner-Centered Responses	Average of Learner-Centered Responses
Karen	32	2.3
Kristen	44	3.1*
Bethany	43	3.1*
Sam	34	2.4
Lisa	44	3.1*
Cathy	42	3
Kenny	45	3.2*
Catherine	37	2.6
Todd	38	2.7
Jackie	34	2.4
Bill	40	2.9
Gabe	37	2.6
Cheryl	35	2.5
Kiley	44	3.1*
Jacob	40	2.9

\* Denotes tallies that indicate participate moderately agrees with learner-centered principles.

Survey participants were also asked to rate how frequently they used a particular teaching strategy or approach. The list of teaching strategies included: (1) lecture; (2) in-class discussion lead by teacher; (3) laboratory based learning; (4) cooperative learning / group learning; (5) project based learning; (6) case study method / problem solving; (7) simulations; (8) instructional games; (9) teacher lead demonstration; and (10) multi-media use – watching TV, videos, slide shows. Participants were asked to select a number based on a five point Likert Scale (1 = not at all; 2 = very little; 3 = some ; 4 = quite a bit; 5 = always). Table 1.6 demonstrates the responses as a group from the 16 inservice teachers surveyed.

Table 1.6

Teaching Methods/Strategies Use

Teaching Method	Average Percent of Usage for Group	Rank of Method*
Lecture	3.1	1 <sup>st</sup>
In-class Discussion lead by teacher	2.9	3 <sup>rd</sup>
Laboratory Based Learning	2.9	3 <sup>rd</sup>
Cooperative Learning	2.9	4 <sup>th</sup>
Project Based Learning	3	2 <sup>nd</sup>
Case Study Method	2	7 <sup>th</sup>
Simulations	1.9	8 <sup>th</sup>
Instructional Games	2.4	6 <sup>th</sup>
Teacher Lead Demonstrations	2.7	5 <sup>th</sup>
Multi-Media Use	2.7	5 <sup>th</sup>

## Discussion & Recommended Action for Improving Practice & Further Research

This research is currently in the preliminary stages of data analysis and should be considered a work in progress. Due to the amount of data and the longitudinal nature of this entire project teacher education project, it should be understood that disseminating the results of this project should be communicated with care. We do know that beginning teachers in career and technical education need professional development and support to help them be successful teachers. This study has helped the researchers and CTE in Illinois to follow longitudinally the progression of a group of teachers from their undergraduate teaching methods course through their first, second, and third year of inservice teaching. In the future, we plan to deliver two more products in addition to this summary report: (1) conference paper; and (2) journal article. Over the long run this research program seeks to improve and positively impact CTE in Illinois in two ways: (1) interacting with beginning teachers to engage in reflecting on their teaching practice and how it influences student learning; and, (2) identifying professional development needs focused on teaching practices and how teaching impacts student learning. This program specifically seeks to impact CTE in Illinois by continuing the relationship between teacher education and beginning teachers to understand their needs to improve preservice teacher development, and develop reflective practitioners who engage students through learner-centered teaching methods. We believe that disseminating the impacts (or barriers of adoption) of a learner-centered undergraduate/graduate teaching methods class on the inservice practice of beginning agriculture teachers through a professional conference and a peer-reviewed research journal will assist teacher educators, school administrators, and cooperating teachers to better prepare new teachers for future challenges regarding diversity and cultural pluralism. This study strives to better understand and appreciate the diverse needs and talents of all students thereby creating an enhanced curriculum to better serve the professional development needs of preservice and inservice career and technical teachers in Illinois.

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