

Running head: CHANGE IN PRE-SERVICE TEACHER ATTITUDES

Change in Pre-service Teacher Attitudes toward Contemporary Issues in Education

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Abstract

Pre-service teacher education is concerned with producing graduates who move into the field able, in terms of both skills and attitudes, to implement research-based conclusions that may not always coincide with the attitudes of previously trained teachers. We sought to assess attitudes and attitude change regarding contemporary issues in education (i.e., grade retention, inclusive education, learning strategies instruction, cooperative learning, and classroom management), among students ($N = 124$) enrolled in a second-year educational psychology course. Comparison of pre- and post-course Likert ratings indicated that these pre-service teachers modified their attitudes regarding grade retention, inclusive education, and classroom management but not with regard to learning strategies instruction and cooperative learning. It would appear that pre-service teacher attitudes, in some cases, are amenable to change in a relatively brief time.

Change in Pre-service Teacher Attitudes toward Contemporary Issues in Education

Pre-service teacher education is concerned with the development of specific instructional competencies but it is also focused on promotion of teacher attitudes that facilitate effective instructional practice (Andrews, 2002; Reinke & Moseley, 2002). Because the upcoming generation of teachers is often viewed as a primary mechanism of curriculum reform (Erickson, 2002), pre-service teacher education focuses on current research and contemporary interpretation of best practices in school organization and classroom instruction (Weinstein, 1999). In the context of pre-service teacher education, then, post-secondary pedagogy is concerned with producing graduates who move into the field able, in terms of both skills and attitudes, to implement research-based conclusions that may not always coincide with the attitudes of previously trained teachers (Weisman & Garza, 2002).

Teacher Attitude and Attitude Change

An attitude is the sum of a person's inclinations and feelings, prejudices and bias, preconceived notions, ideas, fears, and convictions regarding any specific topic (Mueller, 1986). Attitudes are formed by direct experience as well as by implicit learning and may reflect personality (Zimbardo & Lieppe, 1991). Attitudes are typically conceptualized as having three related components: cognitive (i.e., the idea or assumptions upon which the attitude is based), affective (i.e., feelings about the issue), and behavioural (i.e., a predisposition toward an action that corresponds with the assumption or belief) (Wood, 2000). Attitudes are functional in as much as they simplify complex subjects, express fundamental values and beliefs, and mediate or guide behaviour (Brock & Shavitt, 1994).

When a teacher assumes a stance on an educational issue, it is rendered in terms of an attitude (Kennedy & Kennedy, 1996). Certain teacher attitudes are extremely important because

of the relationship between attitude and action. Teacher attitudes often translate into specific classroom and instructional practices which in turn affect student behavioural and learning outcomes (Cook, 2002). In this regard, the formation, manifestation, and modification of teacher attitudes are particularly important areas of education research (Weisman & Garza, 2002).

Education can be characterized by pedagogical controversies that reflect polarized attitudes (Goodman, 1998). For some instructional issues, prevailing teacher attitudes may not correspond with research-based conclusions. Teacher attitudes that may require conceptual and practical modification in order to correspond with current notions of best practices in education include those concerning *grade retention*, *inclusive education*, *learning strategies instruction*, *cooperative learning*, and *classroom management responsibility*.

Grade retention refers to the practice of requiring a student who has been in a given grade for a full school year to remain at that level for a subsequent school year (Kelly, 1999). Evidence does not support the use of grade retention as an intervention for academic underachievement or socio-emotional adjustment problems (Jimerson, 2001; Jimerson, Anderson, & Whipple, 2002; Reynolds, Temple, & McCoy, 1997; Roderick, 1995; Shepard & Smith, 1989). *Inclusive education* is defined as the provision of appropriate instruction for pupils with special needs in regular classrooms (Johnson, 1999; McLeskey, Henry, & Hodges, 1999; Meijer, Pijl, & Hegarty 1997). As with most educational reforms, the effectiveness of inclusive education is largely dependent upon instructional variables which are influenced by teacher attitude (Fox & Ysseldyke, 1997; Reinke & Moseley, 2002). *Cooperative learning* is an instructional arrangement in which students work in mixed-ability groups and are rewarded on the basis of the success of the group (Johnson, 1998). There is cumulating evidence that a cooperative instructional orientation is more effective than competitive approaches in facilitating

student learning outcomes (Johnson & Johnson, 1999; O'Donnell & O'Kelly, 1994; Slavin, 1995). Teacher implementation of cooperative learning techniques requires an attitudinal commitment toward democratic classrooms that emphasize cooperation and minimize competition among students (Bouas, 1996).

Learning strategies are "procedures or techniques that learners can use to facilitate a learning task" (Chamot, Barnhardt, El-Dinary, & Robbins, 1999, p. 2). The current popularity of cognitivism and information processing models has resulted in a shift toward teaching memory and learning strategies in conjunction with factual types of information (Johnson, 1998; Mayer, 1996). Thus, the upcoming generation of teachers will need to interpret curriculum in terms of student monitoring of learning, application of learning strategies, and generalization of learning devices (Schunk, 2000). Finally, *classroom management* concerns those activities "that create a positive classroom climate within which effective teaching and learning can occur" (Martin & Sugarman, 1993, p. 9). Highly effective teachers see themselves as the ultimate influence on student behaviour and learning within the context of the classroom (Evertson, Emmer, & Worsham, 2000; Tauber, 1999; Weinstein, 1999). The attitude prerequisite to effective classroom management is full acceptance of management responsibility -- that is, the fundamental assumption that the teacher is entirely responsible for the management of student behaviour and that student misbehaviour most often reflects bad teaching and not bad students (Charles, 2002).

Given the extent to which attitudes influence behaviour, considerable research effort has been directed toward determining and modifying counterproductive pre-service teacher attitudes (Kennedy & Kennedy, 1996). Haberman and Dill (1993) argued that since the practice of grade retention is historically rooted in public education and shrouded in misinformation, a

fundamental modification in attitude is required in order for the upcoming generation of teachers to implement more legitimate strategies to ameliorate student achievement deficits and behavioural difficulties. In the same vein, teachers who are inexperienced and untrained in adapting instruction for students with special needs often voice the opinion that children with disabling conditions are best served by special educators in the context of special placements (Cook, Tankersley, Cook, & Landrum, 2000; Johnson, 1998). Consequently, the development of skill in adapting instruction must be accompanied by the development of personal attitudes that support inclusion (Cook, 2002; Scruggs & Mastropieri, 1996). Shade and Stewart (2001) reported improved pre-service teacher attitudes toward inclusion following one course that specifically addressed the topic. Leyser and Abrams (1983) demonstrated enhanced attitudes in support of inclusive education following training in mainstreaming instructional practices. Reinke and Moseley (2002) reported that both elementary and secondary pre-service teacher attitudes became progressively more positive toward inclusion from the beginning to the end of their coursework.

Since it is not unusual for university students to report negative experiences with cooperative learning activities (McCaslin & Good, 1996), developing positive attitudes toward such instructional arrangements constitutes a pedagogical challenge for pre-service teacher educators. A course on cooperative learning (Veenman, van Benthum, Bootsma, van Dieren, & van der Kemp, 2002) and methods courses that emphasize a cooperative paradigm (Bouas, 1996) were reportedly effective in modifying pre-service teacher attitude toward such instructional practice. Finally, there is recent evidence that pre-service teacher attitudes toward classroom management are modifiable during teacher education (Sokal, Smith, & Mowat, 2002; Whitney, Golez, Nagel, & Nieto, 2002).

To date, no study has examined several attitudes related to current issues in education and determined the extent to which such attitudes change during the preliminary stage of pre-service teacher education. The current investigation examines pre-service teacher attitudes concerning grade retention, inclusive education, learning strategies instruction, cooperative learning, and classroom management responsibility and the extent to which such attitudes are modified during the course of one university term. The goal of the study is to measure education student attitudes at the beginning and at the end of the academic term, and thus to quantify attitude change over the course of a term. Specifically, we attempt to answer the questions: What attitudes do pre-service teachers hold in relation to current issues in education? Do pre-service teacher attitudes change over the course of one university term? What is the magnitude of attitude change related to each contemporary instructional issue?

Method

Participants

One hundred and sixty-nine students in a second-year educational psychology course were invited to participate. One hundred twenty-four students satisfied research requirements sufficiently to be included in data analysis (16 students officially withdrew from the course, 7 had missing identification numbers on the pre- or post-course measure and thus their attitude ratings could not be aligned for data analysis, 17 did not complete the post-course measure because they were absent or late the last day of class, and 5 chose not to participate). The mean age of participating students was 21 years (range 17 to 40 years). Slightly more than 90% of the sample was female. With regard to intended plans for Bachelor of Education degree completion, 63% of participants were focused on elementary education, 32% on secondary education, 4% were undecided, and data were missing for 1% of the students. In the context of the participating

college, teacher education begins in the second-year of university studies. Because of this, participating students in the second-year course would not likely have had previous post-secondary instructional exposure to controversies and issues in education.

Measures

Pre-Course and Post-Course Attitude Ratings. The pre-course measure contained demographic questions (i.e., age, sex, intended education specialization) and Likert rating items, scaled from 1 (not at all) to 7 (absolutely), which assessed pre-service teacher attitudes toward grade retention, inclusive education, learning strategies instruction, cooperative learning, and classroom management (refer to Table 1 for a complete list of unabbreviated rating items). The scale measured attitudes as opposed to knowledge by directing participants to “circle the number on the scale that best describes your personal thoughts and feelings.” The post-course measure included the same Likert rating items and instructions as the pre-course measure.

Procedure

During the fall term, all students in three sections of a second-year educational psychology course were invited to participate. Data were collected on the first day of class (i.e., pre-course measure) and the last day of class (i.e., post-course measure). The course is a survey of basic topics such as child and adolescent development, major theories in education, student diversity, and classroom and instructional practice. The course included assignments that involved analyzing case studies related to each of the five contemporary issues in education that were the focus of the attitude ratings. So as not to influence student responses in the pre-course measure, limited information was provided with regard to the purpose of the study. Following completion of the post-course measure, participants were debriefed.

Results

Table 1 presents mean student ratings on the pre- and post-course items concerned with pre-service teacher attitudes toward grade retention, inclusive education, learning strategies instruction, cooperative learning, and classroom management. Correspondingly, mean change in ratings of each item from pre- to post-course is indicated, as well as the significance and magnitude of such change. At the beginning of the academic term, education students were inconsistent in their attitude toward grade retention, neutral in their view toward inclusion, in favor of the teaching of learning strategies, moderately supportive of cooperative approaches to classroom practice, and neutral in their interpretation of the teacher's role in classroom management. Post-course ratings indicated no significant mean change on items concerned with learning strategies instruction and cooperative learning. Significant pre- to post-course rating change was apparent for one grade retention item, both inclusive education items, and both classroom management items. In all cases of significant attitude change from pre- to post-course ratings, change occurred in the desired direction as indicated in the best educational practices literature. The ten pre- and post-course rating items were combined (after reverse-scoring the first item in each pair of items listed in Table 1) in order for one score to reflect the total pre-course mean (4.36 , $SD = 0.43$), post-course mean (4.79 , $SD = 0.55$), and mean change (0.43 , $SD = 0.51$). The mean combined attitude change across all five contemporary educational issues was significant, $t(120) = 9.16$, $p < .001$, and yielded a large effect size (Cohen's $d = .88$). Finally, none of the demographic variables correlated significantly with pre-service teacher attitudes or attitude change.

Discussion

Teacher attitudes are an important variable in classroom application of new ideas and novel approaches to instruction (Reinke & Moseley, 2002). Methods must be established that facilitate the development of teacher attitudes that support contemporary instructional applications of research conclusions and that correspond with best practices in education (Kennedy & Kennedy, 1996). Considerable effort has been directed toward determining pre-service teacher attitudes that may impede application of best practices and toward modifying such attitudes during teacher education. Such efforts, however, have generally targeted a single attitude and have typically taken the form of a university course or set of pre-service learning experiences aimed specifically and directly at modifying that attitude, for example and perhaps most notably, in the case of inclusive education (Andrews, 2002).

The pre-course measure established the baseline attitudes of our pre-service teacher sample toward five contemporary educational issues. In general, at the beginning of the term, the pre-service teachers appeared in favor of retaining students who had not mastered the curriculum. Participants appeared neutral with respect to the most appropriate educational setting for students with disabilities. Pre-service teachers were largely in favor of instruction in learning strategies and somewhat positive in their collective interpretation of the value of cooperative learning techniques. At the beginning of their first term in a teacher education program, the sample of pre-service teachers appeared neutral regarding teacher responsibility in classroom management.

The present study revealed attitude change among pre-service teachers during the course of one university term. Using pre-course to post-course rating change as the metric of attitude modification, pre-service teachers demonstrated significant change in attitude in three of the five

measured areas. Pre-service teachers moved away from endorsement of the practices of grade retention and segregated, as opposed to inclusive, education. Additionally, pre-service teacher attitudes revealed a shift toward defining classroom management and student misbehaviour as matters of teacher responsibility.

Although pre-service teacher attitudes changed on five of the ten items, the change was rather modest. Shift in Likert scale ratings were often of small magnitude and continued to reveal less than ideal pre-service teacher attitudes toward the assessed contemporary issues in education. For example, the post-course measure revealed that pre-service teachers were not strongly opposed to grade retention for students who had not mastered the curriculum and that they retained their previous slightly favorable attitudes toward advancing students who were immature. While improved attitudes toward inclusive education, the sample of pre-service teachers did not strongly endorse inclusive principles in the post-course ratings. Likewise, the underlying assumption that student misbehaviour reflects poor teaching was only at the scale midpoint in the post-course attitude measure. Given that approximately three months separated the pre- from post-course measure, such modest attitude movement might be interpreted within the context of limited exposure to progressive educational thought and corresponding research and practice in education.

Pre-service teacher attitudes did not demonstrate significant change on those pre- and post-course rating items concerned with the reinterpretation of curriculum in terms of learning strategies instruction and the use of cooperative approaches to learning. One explanation for such lack of change is the relatively favorable pre-course ratings on these items. On the pre-course measure, pre-service teachers highly endorsed the teaching of learning strategies and largely supported the use of cooperative instructional approaches thereby making further endorsement

less likely. Indeed, the correlation between the overall pre-course attitude ratings and the mean attitude change, $r(119) = -.32, p < .001$, shows that the more positive the initial attitude, the smaller the change in attitude. In this regard, the more an education student's attitude conflicted with current educational interpretation of best instructional practices, the greater the change in their attitude as the university term progressed. Additionally, with further coursework in education, student teaching experiences, and additional years to reflect and grow as professionals, subsequent improvement in attitudes toward cooperative learning techniques and learning strategies instruction may occur.

Our non-experimental research design, which assessed attitudes before and after an educational psychology course, does not establish that the attitude change was due to the impact of the course, let alone any specific course component (e.g., the case study analysis assignments related to the educational issues assessed in our attitude ratings). Research designs employing a pre- and post-assessment do not rule-out alternative reasons for the attitude change observed, such as history, maturation, and repeated testing. A further limitation of the current study is the use of attitude items that have unknown psychometric properties, necessitated by the lack of availability of such measures given our focus on specific, contemporary issues in education. Relatedly, it would be advantageous for future research to include a greater number of attitude items per issue such that reliability analyses could be conducted and to include the assessment of additional variables that may attest to the validity of the self-reported attitudes (e.g., behavioural choices engaged in during role-playing of education-related scenarios).

Ambiguity regarding sources of influence on attitude change does not negate the relevance of the current findings concerning important targets of attitudinal change among pre-service teachers and the modifiability of such attitudes. For example, attitudes toward inclusive

education shifted almost an entire rating on the seven-point scale. Such changes may reveal attitudes that are most readily and thus most effectively modified. Attitudes towards classroom management and grade retention also substantially changed over the term; however, these attitudes remained more neutral than might have been anticipated, suggesting that attitude-change attempts may require further development in these areas. The present study also revealed specific areas in which education students may already possess attitudes prerequisite to effective implementation of novel educational practices (i.e., learning strategies instruction and cooperative learning), such that attitude-change attempts may not be necessary. A broad survey of pre-service teacher attitudes toward a full-range of current issues in education could facilitate the targeting of those attitudes that interfere with subsequent implementation of best educational practices. There is, in education, no shortage of contemporary controversies and divided opinion on the mechanism of change as schools move toward implementation of best practices. Currently and for example, there is discussion and exploration of the relationship between teacher attitudes and the instruction of students of ethnic diversity (Weisman & Garza, 2002), the educational implementation of technology (Albion & Ertmer, 2002), the role of the school in the prevention of violence (Kandakai & King, 2002), and the place of popular culture in the curriculum (Lambirth, 2003).

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Table 1

Questionnaire Items For Each Case Study Topic and Corresponding Pre- and Post-Course Mean Ratings and Mean Change in Ratings

Case Study Topic and Pre- and Post-Questionnaire Items ^a	Pre-Course <i>M (SD)</i>	Post-Course <i>M (SD)</i>	Mean Change ^b	Significance of Change		
				<i>df</i>	<i>t</i>	Cohen's <i>d</i>
Grade Retention						
Children who are immature should repeat a grade in school	2.64 (1.45)	2.52 (1.26)	+0.12	122	0.83	
Children who have not mastered the curriculum should be promoted to the next grade	2.00 (1.00)	2.89 (1.36)	+0.89	123	6.48*	.74
Inclusive Education						
Children with disabilities should be educated in special classes and special schools	3.26 (1.70)	2.73 (1.38)	+0.53	123	3.73*	.34
Children with disabilities learn best in regular classrooms with non-disabled peers	3.70 (1.52)	5.06 (1.47)	+1.36	121	8.34*	.91
Learning Strategies Instruction						
Teaching knowledge and facts is more important than teaching learning strategies	2.50 (1.14)	2.53 (1.10)	-0.03	123	0.29	
Teaching methods can influence a student's capacity to remember information	6.31 (0.94)	6.40 (0.81)	+0.09	123	0.91	
Cooperative Learning						
Competition between students increases student learning in school	4.26 (1.56)	4.27 (1.53)	-0.01	123	0.05	
When I am teaching, I will put my students in groups to work on projects	5.27 (1.29)	5.51 (1.35)	+0.24	123	1.85	
Classroom Management						
Controlling a child's behaviour in school is the parent's responsibility	3.94 (1.30)	3.41 (1.13)	+0.53	123	4.25*	.43
Poor teaching is the cause of student misbehaviour	2.92 (1.47)	3.61 (1.54)	+0.69	123	4.63*	.46

^aItem rating scale: 1 = not at all; 7 = absolutely.

^bSign indicates pre- to post-course questionnaire item rating movement in desired (+) or undesired (-) direction, as indicated by research and best practices literature.

* $p < .05$ (familywise α ; two-tailed testwise $\alpha = .05/10 = .005$).