Reflective, Humanistic, Effective Teacher Education: Do Principles Supported in the *Deans' Accord* Make a Difference in Program Outcomes?

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This study examines two Canadian teacher education programs in relation to reflection-based principles identified in the Association of Canadian Deans of Education's *Accord on Initial Teacher Education*. In one program, data analysis indicated a strong link between the practice and beliefs of pre-service teachers: they became more humanistic and their practices were more authentic. In the other program, the relationship between practice and beliefs was weak; practice tended to become more imitative of custodial mentor teachers, more accurately described as inauthentic. The study concludes that when reflection-enhancing practices are prominent, teacher education programs more likely generate humanistic and authentic effective outcomes consistent with reflection-based *Accord* principles.

Key Words: beliefs about education, authentic practice, pupil control ideologies, educational effectiveness paradigms, reflective practice.

Dans cet article, les auteurs analysent deux programmes de formation à l'enseignement canadiens en lien avec les principes – axés sur la réflexion – mis de l'avant dans l'*Accord sur la formation initiale à l'enseignement* de l'Association canadienne des doyens et des doyennes d'éducation. Pour l'un des programmes, l'analyse des données indique un lien étroit entre la pratique et les croyances des futurs enseignants, leur approche devenant plus humaniste et leurs pratiques étant plus authentiques. Pour l'autre programme, la relation entre la pratique et les croyances était ténue ; leur pratique avait tendance à imiter davantage les mentors et pourrait être décrite comme inauthentique. Les auteurs en concluent que lorsque des pratiques favorisant la réflexion jouent un rôle important, les programmes de formation à l'enseignement sont plus susceptibles de donner des résultats humanistes et authentiques et ce, dans la logique des principes de l'Accord axés sur la réflexion.

Mots clés : croyances au sujet de l'éducation, pratique authentique, idéologies quant au contrôle des élèves, paradigme en matière d'efficacité pédagogique, pratique réflexive.

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The Association of Canadian Deans of Education's (ACDE) *Accord on Initial Teacher Education* (*Accord*) (ACDE, 2006) supports 12 principles of effective initial teacher education in Canada. The introductory wording of each of the *Accord*'s principles (i.e., "An effective initial teacher education program demonstrates. . ./envisions. . ./encourages. . ./. . .") gives evidence of its intent to ascribe specific dimensions to effectiveness in the context of initial teacher education. These principles are identified in Appendix A.

Interpretations of *effective* have been a source of vociferous and protracted dispute throughout the school effectiveness and improvement literature. In the *International Handbook of School Effectiveness Research*, Teddlie and Reynolds (2000), both leading effectiveness scholars with strong ties to the International Congress of School Effectiveness and Improvement (ICSEI), confirm the "'schizophrenic' . . . nature of . . . effectiveness research" (p. 42) as characterized by *humanist* and *scientist* views of effectiveness. The humanist view focuses on democratic classroom environment, inclusive school climate, positive relationships, and open communication among all organizational levels. The scientist view focuses on the measurement of processes and products, and ranks teacher-school interaction, climate, and context issues as relatively unimportant.

Following on the heels of a succession of early-twentieth century organizational behaviour phases, including *scientific management*, closely associated with the work of Taylor (1911) and the *human relations movement*, grounded in the work of Mayo (Roethlisberger & Dickson, 1939), several mid-century organizational behaviour theories emerged that clarified the bifurcated conceptual foundation of *effectiveness*. McGregor's (1960) Theory Y, describing managers' expectations of employees to be self-motivated, responsibility-taking, and trustworthy, the Ohio State Studies' (Halpin, 1956, 1966) interpretation of effective leadership within the context of democratic consideration of an employee's interests, and Willower, Eidell, and Hoy's (1967) depiction of humanistic pupil control

ideologies (PCI) as facilitating trusting and empowering interactions between teachers and students seem to align with Teddlie and Reynolds' (2000) humanistic category. McGregor's Theory X describing managers' expectations of employees to be unmotivated and untrustworthy, the Ohio State Studies' autocratic, task-oriented *initiating structure*, and Willower et al.'s custodial pupil control ideologies focusing on regimented classrooms and teacher-centred learning seem to align with Teddlie and Reynolds' scientist category.

In relation to these opposing views of effectiveness, we, the authors of this study, acknowledge our *humanistic effectiveness orientation*. We have been influenced by a subjectivist philosophy of science (Burrell & Morgan, 1979), a classic view of teaching and learning (Smith, 1998), a progressivist view of the classroom (Dewey, 1938/1963), a humanistic approach to interaction between teachers and learners (Willower, Eidell, & Hoy, 1967), and a constructivist approach to child development (Piaget, 1955). Although it is impossible for researchers to be truly unbiased, we have guarded against any bias in procedure or reporting of outcomes in this study. The intent of the study is to identify differences in outcomes of two teacher education programs (custodial in Program 1, humanistic in Program 2), to identify a factor (reflection) prominent in its presence or absence in relation to these outcomes, and to subsequently address practices associated with humanistic reflective outcomes identified in Program 2. We acknowledge that other confounding factors remain unexamined in this study that may play a role in influencing the programs' outcomes. We further acknowledge that findings associated with Program 2 should not be generalized: This is a task better left for subsequent research that is not limited to a small sample, as is the case with Program 2.

Readers of the *Accord* (2006) may perceive its humanistic effectiveness orientation, as evidenced in its discourse: "democratic," "inclusive, equitable, and sustainable," "nurtur[ing],"and "human development and social change" (p. 1). Within this humanistic effective-ness orientation, six *Accord* principles promote various aspects of reflec-tion that should be prominent in effective teacher education programs. Korthagen, Loughran, and Russell (2006) suggested that the reflective approach to teacher education is important in preparing pre-service teachers to

resist purely imitative responses to bureaucratic socialization pressures that often characterize practicum situations (Hoy, 2001). Imitative responses are closely associated with the tendency for pre-service teachers to become less humanistic and more custodial during their initial teacher education program.

Teacher educators are generally aware of the prominence in recent years of principles of reflection in vision and mission statements and program descriptions of teacher education programs. Although this construct has been embedded in program materials, the level to which it has been actively promoted has varied, as have outcomes across a variety of programs.

Kagan (1992), Rideout and Morton (2007), and Silvernail (1992) have identified various aspects of reflection that are relevant in this context, including (a) testing and reframing of image of self-as-teacher, (b) knowledge of self, and understanding of one's beliefs about education, including the role of a teacher, (c) the role of a student, (d) the function of curriculum, (e) delivery methods, and (f) purposes of education.

Aspects and outcomes of reflection supported by *Accord* (2006) principles include:

- *The transformative power of learning* (Principle 1),
- *Observation, discernment, critique, assessment, and appropriate response in the classroom* (Principle 2),
- *Responsibility to school-university partnership, learners, schools, colleagues, and communities* (Principle 4),
- *Interweaving of theory, research, and collaboration with teachers to develop effective practices* (Principle 5),
- *Opportunities to investigate own practices* (Principle 11),
- *Thoughtful, considered, and deliberate program innovation* (Principle 12).

PURPOSE OF THE STUDY

Perhaps in the interests of a pithy document, the *Accord* (2006) does not position its principles as emergent from the literature on pre-service teacher education. In this study, the literature-based foundations of effective, teacher education program criteria over the past decade or so that are foundational to the six humanistic, reflection-oriented, effectiveness principles have been identified. Following this, outcomes of two teacher

education programs are examined in light of this literature and *Accord*-supported, reflection-oriented principles.

In keeping with its humanistic orientation, the *Accord* (2006) carefully avoids prescription regarding the application of its effectiveness principles. It acknowledges that such applications will vary from site to site, and will depend "on the nature and context of the member institution" (p. 2). Similar to the non-prescriptive approach taken by ACDE, researchers of teacher preparation programs over the past couple of decades have also focused on principles instead of applications, but for different reasons. Kagan (1992) and Korthagen et al. (2006) indicated that there was a lack of research arising from program applications of effectiveness principles identified in the literature. Goodlad (1990) suggested that despite the presence in the literature of powerful accounts of the shortcomings of teacher education, teacher preparation programs appear not to have responded in meaningful ways. With a somewhat more optimistic tone, Brouwer and Korthagen (2005) suggested that future research concerning the guiding principles identified by the body of research on effective teacher preparation may lead to clear, identifiable outcomes in such programs.

These statements by Kagan (1992), Korthagen et al. (2006), and Goodlad (1990) highlight the absence of research identifying humanistic, reflective outcomes of teacher education programs. Another body of literature indicates the types of outcomes that are prevalent in teacher education programs. This literature overwhelmingly indicates that pre-service teachers tend to become more custodial during their early teaching experiences. Hoy (2001) cited a number of studies that demonstrate this shift. Hoy and Woolfolk pointed out the custodializing socialization pressure that comes from pre-service teachers' knowledge that they must demonstrate their abilities in the classroom under the eye of associate teachers, who tended to be custodial (as cited in Hoy, 2001; Sergiovanni & Starratt, 1998). In a study of 146 pre-service teachers, Lunenburg (1986) reported that pupil control ideology (PCI) scores were more custodial after the practicum. Lunenburg suggested that the pre-service teachers' shift towards a more custodial PCI was an indication of the socialization pressure placed on pre-service teachers to conform to the dominant custodial approach in schools if they wished to ascend into the ranks of

these schools. Huffman, Holifield, and Holifield (2003) reported a similar shift to a more controlling, teacher-centred classroom approach once preservice teachers began the practicum.

In this study, then, an examination of outcomes of two teacher education programs has been undertaken to determine whether their outcomes might be associated with *reflective*, humanistic, effective teacher education principles prominent in the *Accord* (2006) and supported as the preferred approach in the literature, or with *imitative*, custodial principles more frequently identified in the literature. There is no pretence of offering a 'principles and applications quick fix' for teacher education. Program principles and application have been examined with the understanding that "views of knowledge and learning," "qualities of staff and organization," and "theoretical and methodological approaches" contextualize responses to such principles and applications (Cochran-Smith & Zeichner, 2005; Korthagen, Loughran, & Russell, 2006). Nonetheless, as outcomes associated with reflective, humanistic effectiveness are identified, it is hoped that further research across the spectrum of effective teacher education practices will identify principles and applications that might be associated with such outcomes.

The following research questions guided this study:

1. Are the outcomes between Program 1 and Program 2 different or similar?
2. How might this difference/similarity be explained?
3. If one program is identified as having a more reflective humanistic set of outcomes, what program principles and practices might be associated with these outcomes?

TERMINOLOGY

Silvernail (1992) identified three set of beliefs about education based on (a) the role of the student, (b) the role of the teacher, (c) the function of curriculum, (d) best delivery methods, and (e) the purpose of education. Willower et al. (1967) conceptualized two pupil control ideologies: humanistic and custodial. An examination of the relationship of the independent "beliefs about education" variable cluster to the dependent variable, pupil control ideology, is central to this study.

Traditionalist beliefs about education centre on learning a set of pre-determined facts and skills, whose knowledge of and ability to perform are in the possession of an elite group. The school transmits essential knowledge and perpetuates the predominant culture. Drill and practice, strong authority roles for teachers, and passive roles for students are valued. Learning, administered in an externally controlled manner, produces pre-determined quantifiable outcomes.

Progressivist beliefs about education allow students to discover 'facts' through 'logical' inquiry, learning those facts and using those skills that are most relevant to them in their relationship to the world as they are taught to perceive it. School fosters the intellectual process, the inquiry method of learning, and active student involvement. Teachers guide, while keeping the learning of facts and skills within a predefined framework. The purpose is to produce outcomes in the affective and behavioural as well as cognitive domain.

Romanticists direct attention onto the child. They believe that children should be free to experience themselves and society around them by being fully involved in choosing the direction of any program or evaluation. Schools are sources of new social ideas and individual self-awareness. Knowledge is created for each individual through understanding how current social issues relate to him or her. Teachers guide the natural development of each student. Effectiveness may not be a linear function of input and process factors (Silvernail, 1992).

Willower et al.'s (1967) pupil control ideologies categorize interaction between teachers and students. Humanistic orientation is evident in an "educational community" atmosphere, where students learn through interaction and cooperation with others. Psychology and sociology are prominent in understanding the processes of learning and behaviour. Self-discipline replaces strict teacher control. A democratic atmosphere leads to flexibility in status and rules, interpersonal sensitivity, open communication, and an increase in student self-determination.

Custodial orientations are typified by the presence of a rigid and highly controlled classroom atmosphere. Fastidious attention to order, neatness, and quietness epitomize a well-run class. Custodial teachers understand schools to be autocratic, hierarchical organizations with the flow of power and communication downwards to students. Student

misbehaviour is taken personally and controlled through punishments because students are generally perceived as irresponsible and undisciplined.

REVIEW OF LITERATURE

Many studies from the 1980s and 1990s have identified common deficiencies in teacher education programs, including an absence or undervaluing of reflective processes. For instance, as substantiated below, preservice teachers were not enabled or empowered to reflect on (a) their beliefs about education, (b) the theory/practice link, (c) the value of cognitively dissonant situations, (d) problems associated with inauthentic, imitation-based responses to practicum situations, and (e) their image of self-as-teacher.

McDaniel (1991) and Weinstein (1990) found that pre-service teachers' prior beliefs were largely unaffected by course content and field work. McLaughlin (1991) and Pigge and Marso (1989) found little evidence at the conclusion of a practicum experience of reflection on or change in prior beliefs and attitudes about teaching.

Eisenhart, Behm, and Romagnano (1991), studying eight middle-school mathematics teacher candidates, who were completing a two semester practicum, observed and interviewed participants during their first semester of student teaching. They found that many pre-service teachers were expected to solve their own problems, relate theory to practice without sufficient guidance, and use advanced instructional techniques and classroom strategies without proper orientation. The overwhelming nature of these expectations led to insufficient time for reflection. This feeling of being ill-equipped to deal with routine classroom tasks also led to many novices falling back on the culture of their adopted schools, which in some cases was pedagogically contrary to what was taught in their university courses.

Griffin (1989) studied 93 elementary and secondary pre-service teachers, 88 cooperating teachers, and 17 university supervisors to describe and assess the student teaching experience. Griffin reported that there was no knowledge base regarding beliefs among study participants and little commonality of policy across the practicum placement sites. Griffin concluded that this lack in knowledge base resulted in classroom

experiences that were most often unrelated to university course work and more related to the idiosyncratic nature of the relationship between a pre-service teacher and a mentor teacher.

Bullough (1990) pointed to the resulting oversimplification of the teacher preparation processes that arose from emphasis on skill development and performance rating. Bullough encouraged, instead, an emphasis on pre-service teachers' life experiences, personal situation, and images of self-as-teacher. He wrote: "The problem of finding oneself as a teacher, of establishing a professional identity, is conspicuously missing from most lists of beginning teachers problems" (p. 357). Bullough observed that pre-service teachers who did not have a clear image of self-as-teacher tended to blindly imitate their cooperating teacher and had little lasting acquisition of classroom skill.

In a meta-analysis of the research from this period, Kagan (1992) recommended a series of changes for teacher education programs to improve the reflective abilities of pre-service teachers. Firstly, procedural knowledge should take the upper hand over pure theoretical knowledge in teacher education. Kagan indicated that pre-service programs should provide more procedural knowledge and promote routines that integrate classroom management with classroom instruction, since pre-service teachers need to understand what works and why it works. Kagan reported that pre-service teachers put more time and effort into planning engaging multi-activity lessons at the beginning of their practica. By the end, they were more concerned with lessons that maintained control.

Secondly, self-reflection is crucial to professional growth. Kagan (1992) concluded that inward reflection on ones' own beliefs, behaviours, and image of self-as-teacher are key to success in the classroom. Pre-service teacher education programs should engage in guided reflection and the development of biographical histories to allow novices to examine their prior experiences in classrooms and with authority figures, for example.

Thirdly, extended interaction with pupils is important. Kagan (1992) concluded that pre-service teachers need to acquire sufficient knowledge of pupils, including their aptitudes, interests, and problems. This awareness can be facilitated through a combination of extended practica and structured "research projects" that allow for reflection and analyses of

classroom realities. In other words, professional growth among pre-service teachers took place when they possessed a multidimensional knowledge of pupils and saw themselves as intimately connected to pupils' problems.

Fourthly, Kagan (1992) found that pre-service teachers need to encounter cognitive dissonance. Pre-service teachers need to confront their own beliefs and to determine whether they need to change or adjust their understanding of teaching. This self-examination could take the form of placing pre-service teachers in schools or classrooms where practices were at odds with their beliefs. In this case, cooperating teachers would need to welcome discussion rather than enforce conformity, and the pre-service teacher would need to understand the benefits of reflectively addressing, analyzing, and resolving such dissonance. Kagan concluded that learning among pre-service teachers remained shallow and imitative in the absence of cognitive dissonance.

In summary, Kagan (1992) reported that pre-service teacher education programs lacked a systematic, reflective approach to encourage pre-service teachers to surface and explore their beliefs and images, or to compare experiences of the practicum with these pre-existing images. There appeared to be no effort to assist the pre-service teacher in the construction of standardized routines, or to develop new images of oneself as teacher. Kagan concluded that, in the place of reflective integration of theory and practice, teaching practica were more likely to facilitate mentor teacher-imitating responses from the pre-service teacher based on relationship and contextual factors.

The principles and issues that Kagan (1992) identified were not limited to that era. Hoy (2001) reported that during practica, pre-service teachers resorted to imitating their mentor teachers' practices. Some four years later, Willemse, Lunenberg, and Korthagen (2005) indicated that there was still little evidence to support a link between university classroom theory and in-school practice. As a means to address this theory-practice disconnect, Goodreau and Fredua-Kwarteng (2006) re-emphasized the importance of reflection, application, contextualization, and internalization of knowledge and values in teacher preparation programs.

Korthagen et al. (2006) analyzed the "effective" features of three, similarly structured, pre-service teacher education programs in Australia, Canada, and The Netherlands. They identified several principles of effective teacher education, each grounded in reflection. Firstly, meaningful collaboration among all involved parties is required to develop good practice. Pre-service teachers should not be searching for "the" way to teach but should be learning how to recognize and respond to competing and conflicting demands of the classroom.

Secondly, pre-service teacher programs should build community and facilitate close working relationships among novice peers. This conclusion is consistent with recommendations of various researchers over the previous 20 years. Chickering and Gamson (1987), Putnam and Borko (1997), and Greene (2005) reported that pre-service teachers need to construct their emergent roles and approaches to their teaching practice within the context of supportive learning communities in order to ensure professional growth and authentic practice. McIntyre and Hagger (1992) noted that "collegiality has been demonstrated to be a critical factor in helping individual teachers develop their classroom practise" (p 276).

Thirdly, Korthagen et al. (2006) identified the presence of cohort groups as a strength within teacher education programs because they give a sense of public accountability and facilitate the psychological and personal enablement of pre-service teachers. They observed that the past norms of most school experiences have been based around working and being assessed as individuals with little emphasis on working with peers. When a program emphasizes peer learning and working, then pre-service teachers will more likely enact such values in the classroom. Fourthly, Korthagen et al. (2006) indicated that writing tasks and research to foster self-reflection are important. Anecdotes encourage reflection, and through sharing them, pre-service teachers may be able to confront some of their preconceptions about teaching and open themselves up to new views and understandings. To facilitate such reflection, they suggested that students need to engage in research of their own situation and their own practice. In doing so, they will be able to perceive distinctions between theory and practice, and better understand aspects of their own socialization.

THE STUDY

As noted above, most teacher education programs provide conceptual support for the principle of reflection. Consistent with this, foundational documents of both programs examined for this study supported the construct of reflective practice. Program 1 "promotes the professional and scholarly growth of teachers at all levels as reflective, caring, competent and innovative educators." Program 2 states that teaching abilities of program participants ". . . must be further developed through a rigorous program of study, practice and self-reflection . . . and perhaps most important of all, [through] clarity about your vision for teaching."

Analysis of data from Program 1 and Program 2 revealed a meaningful difference between these two programs with regard to reflection-related outcomes. It logically followed that an explanation of this difference would be vital in the context of these two programs, and possibly in the larger sphere of teacher education practice. This conclusion led to a subsequent examination of particular components of Program 2 and of their potential alignment with the reflective principles identified in the *Accord* (2006) and supported in the literature.

Participants

All pre-service teachers enrolled in the primary/junior and junior/intermediate levels (grades JK-10) of a Canadian, after degree, one-year teacher education program (Program 1) were invited to complete three questionnaires at the beginning of the program and at the completion of the number of practicum days required for provincial certification. There were 616 eligible participants of whom approximately 70 per cent were female and 30 per cent male. Three hundred sixty-nine participants or 60 per cent completed the questionnaires for both data gathering periods, of whom approximately 70 per cent were female and 30 per cent male.

Twenty-seven pre-service teachers (one cohort) enrolled in an elementary (grades K-8) after degree, two-year, Canadian teacher education program (Program 2) were invited to complete the survey questionnaires at the beginning and at the end of their major 11-week practicum. Of the 25 participants (93%) who completed the questionnaires for both data gathering periods, 80 per cent were female and 20 per cent male.

Instruments

Silvernail's (1992) 20 Likert-scale item *Educational Beliefs Questionnaire* (EBQ) facilitated the identification of teachers' beliefs about education. The EBQ was the continuation of a process grounded in decades of research (Kerlinger & Kaya, 1959; Ornstein & Hunkins, 1988; Sirotnik, 1979; Stone & Schneider, 1965). The sets of beliefs were labeled as traditionalist, progressivist, and romanticist. Details of these orientations and the concepts of education on which they are based have been defined above. Silvernail (1992) presented a review of the historical, conceptual, and statistical validity of EBQ. The construct validity of the EBQ was considered using factor analysis. All 20 items have loadings over .35, with a minimum difference of .20 in loading between factors. Calculations for internal consistency estimates yielded an alpha coefficient of .73 (Silvernail, 1992).

Willower et al. (1967) developed the 20 Likert-scale item *Pupil Control Ideology Form* as a means to locate educators' pupil control ideologies on a humanistic-custodial continuum. Gaffney and Byrd-Gaffney (1996) reported that the instrument represented a bipolar continuum identifying ideological extremes or ideal types at its extremes; however, scores are more likely to fall in the 40-60 range. Lower scores are more humanistic and higher scores are more custodial (Hoy & Jalovick, 1979; Jones, 1982).

Much work has been done regarding the validity and reliability of the PCI Form. Willower et al. (1967) reported split-half reliability coefficients in two samples of .95 (N = 170) and .91 (N = 55) using the Spearman-Brown prediction formula. Gaffney and Byrd-Gaffney (1996) provided relevant information regarding the continued validity of the original PCI Form, including Enochs, Scharmann, and Riggs' (1995) Chronbach's alpha coefficient of .75 utilizing a sample of pre-service elementary teachers.

A brief demographic questionnaire was also administered, asking respondents to indicate their gender, marital status, age, country of birth, and highest degree achieved. This was a modified version of the "Information Sheet" attached to Willower et al.'s (1967) *Pupil Control Ideology Form*.

Procedure

Program 1 data were collected during regular class periods prior to (T1) and at the end of (T2), the practicum period required by the provincial Ministry of Education. T1 data for Program 1 were analysed to identify pre-service teachers' PCI at the beginning of the teacher education program, and the amount of variance in PCI scores accounted for by the pre-service teachers' "beliefs about education" variable cluster, as discussed in the section *Terminology*. T2 data collection enabled the identification of the direction and degree of the shift in PCI during the pre-service program, and the relationship of beliefs about education to that shift.

Based on the findings arising from the data analysis of Program 1, it was considered important to examine a second approach to teacher education. As a result, changes in PCI and the relationship of that change to beliefs about education were subsequently examined in the context of a separate teacher education program (Program 2).

Program 2 was chosen purposefully because of the authors' awareness of "its potential to illuminate areas in need of further study, not to represent a larger population" (Andrade & Du, 2007, p. 163). Although the size of the Program 2 sample limits the generalizability of the findings, it was believed that it was important to gain insight into the experiences of a program that followed a different structure and format, including a two-year time-frame, longer practicum, and cohort-based programming.

For both Program 1 and Program 2, ethics review board approval was received. Participants were informed of the voluntary nature of their participation, their right to withdraw from the study, and the confidentiality of their responses.

In order to examine PCI change and predictive relationship with respect to Program 2, T1 and T2 data were collected. Program 2 was a two-year (four-semester) pre-service teacher education program incorporating two practicum placements for each student. The first practicum, which occurred during the second semester, was more focused on observation, with some teaching duties. T1 data were collected after a regular class period at the end of the third semester, which immediately preceded the major practicum semester. T2 data were collected during the

concluding seminar week, which occurred at the end of the major practicum.

With regard to the use of two data collection periods (T1 and T2), this format was chosen in the interests of feasibility. More fine-grained understandings arising from multiple data collection periods may have been useful, but the reduced participation levels likely to result from more frequent data collections may have limited the data analysis and the meaningfulness of findings.

Program 2 T1 and T2 data served three purposes. Firstly, they facilitated the identification of changes in PCI from the beginning to the end of the Program 2 practicum. Secondly, they assisted in developing an understanding of the differences in outcomes between Program 1 and Program 2. Thirdly, they highlighted the importance of examining the reflective activity that may have been associated with this change in Program 2. The data were analyzed using t-tests, correlation coefficients, multiple regression analyses, and ANOVAs.

Limitations

As noted earlier, the difference in sample sizes between Program 1 and Program 2 limits the generalizability of findings in this study. The demographics, experiences, and beliefs of the members of the cohort invited to participate in the Program 2 study may be less representative than a larger sample.

Gray and Guppy (1994) identified limitations that are commonly associated with research questionnaires. For example, participants were unable to ask follow-up questions, and some students to whom questionnaires were distributed chose not to complete or return them. There is no evidence to suggest that these limitations would have significantly affected the representativeness ("match[ing of] the distributions derived from your sample with known distributions of the population", p. 162) of the data, based on a comparison of participation by gender.

FINDINGS

This research attempted to answer three questions. The first question focused on differences and similarities that might exist in relation to outcomes of Program 1 and Program 2, as manifested by pre-service teach-

ers' humanistic or custodial PCI. To address this question, the data analysis identified changes to PCI over time in each program. In both cases, one-sample *t*-tests indicated changes in participants' PCI scores between T1 and T2. In Program 1 at T1, participants tended to be in the lower range of custodial scores (*M* = 50.25, *SD* = 7.16). These participants became more custodial during the teacher education program (*M* = 52.99, *SD* = 8.03), *t* (336) = 128.68, *p*<.001. The data from Program 2 indicated that at T1, participants tended to be in the humanistic range (*M* = 45.52, SD = 6.51). These participants were slightly more humanistic (*M* = 45.04, *SD* = 4.83) at T2, *t* (25) = 46.66, *p*<.001.

Independent-sample *t*-tests indicated a difference in PCI scores between participants in Program 1 and Program 2 both at T1 and T2. For T1 in Program 1, the mean score for participants (50.25) was higher than for participants in Program 2 (45.52), *t* (335, 25) = 3.45, *p* <.01. For T2, the mean score for participants in Program 1 (52.94) was higher than for participants in Program 2 (45.04), *t* (335, 25) = 4.83, *p*<.001.

Because this study compares the experiences of pre-service teachers in two teacher education programs, two Spearman's rho correlation coefficients were computed to determine whether participants' PCI scores at T1 and T2 were meaningfully correlated with their program affiliation. There were significant correlations between mean PCI scores (as reported above) and the program in which they were enrolled at T1 (*r* = -.175, *p* < .001, *N* = 360) and at T2 (*r* = -.274, *p* < .001, *N* = 360). Although the correlations were significant at both T1 and T2, it is interesting to note that the correlation between participants' PCI scores and program affiliation increased at T2.

The second research question focused on how to explain difference/similarity between the programs. To address this question, a series of multiple regression analyses were used to identify the strength of the beliefs about education variable cluster with respect to the explained variance of the dependent variable, PCI at T1. For Program 1, the beliefs about education variable cluster appeared to be a significant predictor of PCI, R^2 = .229, *F*(3, 324) = 31.62, *p* < .001. Beliefs about education variables (romanticist, progressivist, traditionalist) appeared to account for 22.9 per cent of the PCI score variance. (See Appendix B for Beta values).

With regard to Program 2, a multiple regression analysis was conducted, with the beliefs about education variables as the independent variables, and PCI at T1 as the dependent variable, R^2 = .368, $F(3, 27)$ = 4.46, $p < .01$. It appeared that these variables accounted for 36.8 per cent of the variance in PCI scores. (See Appendix B for Beta values).

Following from these T1 findings, it was important to examine the relationship in both programs between the participants' PCI at T2 and the beliefs about education variables. To this end, two multiple regression analyses were computed, with the T2 PCI scores as the dependent variables, and the beliefs about education variables as the independent variables. The R^2 coefficients indicated strength of the variable cluster with respect to explained variance.

In relation to PCI for Program 1 at T2, R^2 = .137, $F(3, 324)$ = 18.15, $p < .001$. Beliefs about education appeared to account for 13.7 per cent of the variance in PCI scores in Program 1. For Program 2 at T2, R^2 = .503, $F(3, 25)$ = 7.06, $p < .01$. Beliefs about education appeared to account for 50.3% of the variance in PCI scores in Program 2. (See Appendix B for Beta values).

Secondary Analysis of Program 2

The third research question focused on program principles and practices that might be associated with reflective humanistic outcomes. As noted, the literature indicates that the dominant shift in pre-service teacher education programs tends to be towards a more custodial PCI. Based on the Program 2 anomalous findings (of a humanistic, reflective shift), a secondary analysis of Program 2 was conducted. This secondary analysis followed the primary (quantitative data) analysis that identified the prominence of reflection in Program 2, and specifically sought to identify prominent practices in the program, and whether these practices might be associated with reflective behaviour. This analysis consisted of open-ended interviews/conversations with six sessional and tenure-track faculty members directly involved with Program 2 students. Conversations with faculty took place in either the primary researcher's or the faculty member's office. Additionally, open-ended interviews/conversations were held with approximately 25 per cent of the Program 2 participants. Student participants tended to be those who were most engaged

with the program, and interested in entering into more detailed discussions of the program. These conversations were initiated by asking the participant to identify prominent practices common throughout the program. Conversations with students took place in the classroom following classroom lectures or in the primary researcher's office. Principles of Glaser and Strauss's (1967) grounded-theory approach guided the data analysis, which resulted in the identification of six key program elements.

These elements were seen as consistent with the Program 2 anomalous outcomes.

1. Students were required to provide written reflective responses throughout the program.
2. The program focused on purposeful integration of procedural and theoretical knowledge.
3. Pre-service teachers were given ample opportunity to develop meaningful interactions with pupils.
4. Pre-service teachers were encouraged to identify, welcome, and address situations that may give rise to cognitive dissonance.
5. There were carefully planned opportunities for collaboration within mentor teacher, faculty advisor, and pre-service teacher triads.
6. Group work, peer collaboration, and sense of community actively were encouraged throughout Program 2.

DISCUSSION

In practice, it appeared that in Program 1, pre-service teachers responded to in-school practicum situations in a less reflective, more imitative manner (Hollingsworth, 1989; Korthagen, Loughran & Russell, 2006), as evidenced by the weak relationship between practices and beliefs. This finding was consistent with the literature regarding the custodializing shift in pre-service teachers' PCI, as noted earlier. Practice tended to become more imitative of custodial mentor teachers, and might be accurately described as inauthentic. Bauch and Goldring (1998), Bobek (2002), and Wiley (2000) identified long-term costs associated with such an inauthentic approach to the practice of teaching, including lowered self-esteem, depression, low job satisfaction, increased likelihood of illness, and a high rate of teacher attrition. It appeared that in Program 2, pre-

service teachers became more humanistic and their practices more authentic as determined by the level of consistency between their beliefs about education and classroom practice (Cranton, 2001; Spivey, Collins, & Bishop, 2003).

As earlier noted, Brouwer and Korthagen (2005), Kagan (1992), and Korthagen et al. (2006) have indicated that research to demonstrate the relationship between reflection-oriented teacher education programs and particular outcomes is scarce. Cochran-Smith and Zeichner (2005) contend in their American Educational Research Association (AERA) supported meta-analysis of North American teacher education programs that effectiveness in such programs did not seem to be impacted by any particular approach. They also raised the question of whether teacher effectiveness is even related to teacher education programs. The examination of Program 1 and Program 2 T1 and T2 PCI scores and their relationship to elements of reflection appears to challenge such contentions.

Participants in Program 1 tended to shift towards a more custodial PCI in their interactions with students in practicum classrooms, while those in Program 2 became more humanistic. The Program 1 shift was consistent with the historical trend in teacher education programs reported by a number of researchers (Hoy, 2001; Huffman, Holifield & Holifield, 2003; Jones, 1982; Lunenburg, 1986).

In Program 1 the variance in PCI scores accounted for by beliefs decreased from 22.9 per cent at T1 to 13.7 per cent at T2. In Program 2, it increased from 36.8 per cent at T1 to 50.3 per cent at T2. Based on these T2 findings, it seems reasonable to conclude that in Program 1, pre-service teachers' practices were less associated with their ability to reflect on the role of the teacher, the role of the student, the purpose of schooling, and so on, and were more likely an imitation of their mentor teachers, who tended to be custodial (Hoy, 2001; Sergiovanni & Starratt, 1998). In Program 2 the kinds of practicum-classroom practices that pre-service teachers tended to develop were more likely to be accounted for by their ability to reflect, and less likely to be purely imitative of the mentor teacher.

For T1, Program 2 PCI scores (45.52) were significantly more humanistic than those of Program 1 (50.25), t (335, 25) = 3.45, p <.01. Further, their relationship to the beliefs about education variables were signifi-

cantly stronger than those of Program 1 at T1 (Program 1 R^2 = .229, Program 2 R^2 = .368). These differences might be accounted for by the fact that Program 2 T1 data were collected at the beginning of the major practicum, after three semesters of a program in which reflection-enhancing practices, as identified above, were prominent. It appears that Program 2 participants were manifesting before their major practicum a more reflective, humanistic, effective approach. Their T1 humanistic approach might be partially accounted for by a variety of factors, including the application of these reflection-enhancing practices in these earlier semesters before Program 2 pre-service teachers began their major practicum. It might also be partially accounted for by other conceptual, structural, and organizational program factors such as length of program, cohort structure, or practicum configuration. Although data were not collected and analyzed to ascertain the predictive value of such factors in relation to this T1 humanistic approach, it may be reasonable to assume that such contextual factors supported the framework within which reflection-oriented practices were fostered. As such, these contextual factors do not appear to provide grounds for a separate rationale with regard to the T1 humanistic approach that is unconnected to the *reflection principles* rationale.

Program 2 Prominent Practices

Six Program 2 prominent practices were identified as consistent with its anomalous outcome. The following paragraphs discuss the consistency or application of each of these prominent practices with one or more of the reflection-oriented *Accord* (2006) principles identified at the beginning of this article. (Also, see Appendix A.) Readers will also note the concurrence of these prominent practices with principles identified by Kagan (1992), Korthagen et al. (2006), and others in the literature on effective teacher preparation programs.

Students were required to provide written reflective responses throughout the program. Reflection was a required element of all practicum journal postings (Principle 11). During practica, students were required to complete a number of research assignments to look more closely at their own biographical histories, school and classroom culture and climate, teacher routines, and personal and mentor teacher curriculum

orientation (Principles 1, 2), for example. In each of these assignments, students were required to reflect on their existing and changing images of self and beliefs about education (Principles 2, 5) in relation to each of these items.

The program focused on integration of procedural and theoretical knowledge. Program 2 used Master Teachers (current classroom teacher specialists in curriculum/discipline areas) to deliver nine methodological modules. These modules offered practical insight into integration of subject matter with administration and classroom management (Principle 2). Additionally, all full-time faculty were involved in practicum supervision, and as such tended to steer their advisees through reflective integration of theory they had taught at the university and practice, based on real-life classroom encounters (Principle 5).

Pre-service teachers were given ample opportunity to develop meaningful interactions with pupils. They participated in both five and 12 week practica, each practicum in one classroom with one mentor teacher. Pre-service teachers got to know the aptitudes, interests, and problems of their students as a result of these extended practica (Principle 2). Each was required to write a descriptive and reflective account of one child compiled over several observations. As part of a required Psychology of Exceptional Children and Adolescents course, all pre-service teachers also experienced extended student interactions due to the 40-hour, in-school observation and student interaction component. Optionally students could also take a corrective reading course in which 40 per cent of the course evaluation was based on a six-week (one hour per week) in-school placement with a student (Principles 2, 4).

Pre-service teachers were encouraged to identify, welcome, and address situations that might give rise to cognitive dissonance (Principles 2, 11). Curriculum units addressed important aspects concerning beliefs about education, and a specific schema for identifying, understanding, and comparing sets of beliefs about education. Curriculum units also addressed changes that tended to occur during teaching practica in relation to pupil-teacher interactions, and in particular in relation to the shift from a more humanistic to a more custodial PCI that typifies many teacher education programs. A variety of factors associated with such shifts, such as gender, undergraduate major, location of elementary edu-

cation, and beliefs about education were addressed (Principle 12). Such theoretical preparation facilitated ongoing constructive critique of self-as-teacher and approaches to the classroom, and provided pre-service teachers with a framework within which they could respond reflectively instead of in a purely imitative manner to classroom situations in which situational reality and personal beliefs do not necessarily align.

There was meaningful collaboration within mentor teacher, faculty advisor, and pre-service teacher triads. In each practicum placement, this triad was actively involved in the professional growth of the pre-service teacher. This was evidenced in the completion of formative assessments after each practicum observation by the faculty advisor, by regular face-to-face meetings that often included all three members of the triad, and in the formative and summative assessments completed by both mentor teacher and faculty advisor (Principle 5). Most noteworthy is the summative assessment of the faculty advisor, who carried the responsibility of determining the final grade, based on feedback from the mentor teacher received during a final meeting during the last practicum observation.

Group work, peer collaboration, and sense of community were evident throughout Program 2. Many in-class scholarly activities and demonstrations of learning were completed collaboratively, in groups ranging from two to six. During the major practicum, bi-weekly large-group sessions were held to allow students to share their triumphs, challenges, dissonances, and learning face-to-face. Additionally, through an online learning management system, pre-service teachers interacted on a small group basis with each others' daily descriptive and reflective postings. All students participated in posting reflective responses and interactions concerning the "question of the week" (Principle 1, 4). A previous study (Rideout, Bruinsma, Hull, & Modayil, 2007) reported that students rated these activities as being highly correlated with the sense of community among themselves that existed in the program.

SUMMARY

Evidence of a Program 1 shift towards a more custodial PCI during the pre-service teacher education program is consistent with the literature. A reduction in the predictive power of beliefs about education in relation to PCI at the end of the pre-service program was also identified. Program

2 manifested an anomalous outcome: Participants did not become more custodial; in fact they became more humanistic. Program 2 incorporated a number of prominent practices that resonated with one or more of the reflective principles espoused in the *Accord* (2006). Although this study does not provide direct statistical evidence that Program 2's reflection-oriented outcomes are associated with these prominent practices, pre-service teacher educators may find these outcomes and the prominent practices useful as they weigh program changes consistent with the *Accord*'s reflective humanistic orientation. Further research concerning the *Accord* principles in a variety of contexts may identify a path to more effective teacher education.

The final *Accord* (2006) principle states: "An effective initial teacher education program supports *thoughtful, considered, and deliberate* innovation to improve and strengthen the preparation of educators" (emphasis added). The evidence accounting for outcomes of Program 2 (humanistic approaches to the classroom associated with evidence of reflection) is an example of this principle. It is hoped that on-going research in this field will continue to challenge Cochran-Smith and Zeichner's (2005) contentions regarding the disconnect between teacher effectiveness and teacher education programs.

CONCLUSION

As Korthagen et al.(2006) have pointed out, effective change in teacher education is contingent on, among other things, coherence among "program structures and specific practices" (p. 16). The findings of this study provide a positive framework upon which practicum-hosting mentor teachers, faculty of education personnel (including program leaders, facilitators, and professors), and pre-service teachers themselves can continue to prioritize and operationalize reflection both in *structures* and in *practice* as a means to encourage humanistic, authentic outcomes in teacher education. These findings should be further elaborated in future research that compares programs that are more similar, and that vary only in PCI-related outcomes. Together with the present study, such research will continue to build a knowledge base which may influence the future direction of teacher education.

The next challenge is to determine whether such authentic, reflective, effective program outcomes actually affect how program graduates conduct the teaching and learning affairs of their own classroom as they continue their professional development. The *Accord* (2006) recognizes the importance of supporting these longer term outcomes: "Essential to that development is a form of induction into the profession. . . . An effective initial teacher education program commits to preparing teachers for their continuing professional development."

In the same manner, then, as pre-service and beginning teachers' reflective responses are encouraged, stakeholders in the teacher education domain must also continue to demonstrate a *"thoughtful, considered, and deliberate"* approach in their own practices. Stakeholders must continue to identify elements in teacher education that will result in reflective, humanistic principles and practices at the program level. Children will ultimately be the beneficiaries.

REFERENCES

Andrade, H., & Du, Y. (2007). Student responses to criteria-referenced self-assessment. *Assessment and Evaluation in Higher Education, 32*(2), 159-181.

Association of Canadian Deans of Education. (2006). *Accord on initial teacher education: The context for teacher education in Canada*. Retrieved September 29, 2008, from http://www.csse.ca/ACDE/TeacherAccord.pdf

Bauch, P., & Goldring, E. (1998). Parent-teacher participation in the context of school governance. *Peabody Journal of Education, 73*(1), 15-35.

Bobek, B. (2002). Teaching resiliency: A key to career longevity. *The Clearing House, 75*(4), 202-205.

Brouwer, N., & Korthagen, F. (2005). Can teacher education make a difference? *American Educational Research Journal, 42*(1), 153-224.

Bullough, R.V., Jr. (1990). Supervision, mentoring and self discovery: A case study of a first year teacher. *Journal of Curriculum and Supervision, 5*(4), 338-360.

Burrell, G., & Morgan, G. (1979). *Sociological paradigms and organizational analysis: Elements of the sociology of corporate life.* London, UK: Heinemann Educational.

Chickering, A.W., & Gamson, Z. F. (1987). Seven principles for good practise in undergraduate education. *American Association for Health Education Bulletin, 39*(7), 3-7. Retrieved November 22, 2009, from http://honolulu.hawaii.edu/intranet/committees/FacDevCom/guidebk/teachtip/7princip.htm

Cochran-Smith, M., & Zeichner, K. M. (Eds.). (2005). *Studying teacher education: The report of the AERA Panel on Research and Teacher Education.* Mahwah, NJ: Lawrence Erlbaum Associates.

Cranton, P., (2001). *Becoming an authentic teacher in higher education*. Malabar, FL: Krieger Publishing Company.

Dewey, J. (1963). *Experience and education.* New York: Collier Books.Eisenhart, M., Behm, L., & Romagnano, L. (1991). Learning to teach: Developing expertise or rite of passage. *Journal of Education for Teaching, 17*(1), 51-71.

Enochs, L., Scharmann, L., & Riggs, I. (1995). The relationship of pupil control to preservice elementary science teacher self-efficacy and outcome expectancy. *Science Education, 79*(1), 63-75.

Gaffney, P., & Byrd-Gaffney, S. (1996). *An investigation into the test reliability of the Pupil Control Ideology Form.* (ERIC Document Reproduction Service No. ED397098). Retrieved November 23, 2009, from the Educational Resources Information Center (ERIC) Web site: http://www.eric.ed.gov/ERICDocs/data/ericdocs2sql/content_storage_01/0000019b/80/14/98/e4.pdf

Glaser, B., & Strauss, A. (1967). *The discovery of grounded theory: Strategies for qualitative research*. Chicago, IL: Aldine de Gruyter.

Goodlad, J. I. (1990). *Teachers for our nation's schools.* San Francisco, CA: Jossey-Bass Publishers.

Goodreau, J., & Fredua-Kwarteng, E. (2006). *Integrating equity and social justice into teacher preparation (Draft - Read-only).* Retrieved May 14, 2007, from OISE/UT, Centre for Leadership and Diversity (CLD) Web site: http://www.oise.utoronto.ca/research/cld/events.htm

Gray, G., & Guppy, N., (1994). *Successful surveys: Research methods and practice.* Toronto: Harcourt, Brace, & Company.

Greene, H. (2005). Creating connections: A pilot study on an online community of learners. *Journal of Interactive Online Learning, 3*(3). Retrieved November 23, 2009, from http://www.ncolr.org/jiol/issues/PDF/3.3.3.pdf

[This URL is from the University of Windsor library and is not available without a library login.]

Griffin, G. A. (1989). A descriptive study of student teaching. *The Elementary School Journal, 89*(3), 343-364.

Halpin, A. (1956). *The leadership behavior of school superintendents: The perceptions and expectations of board members, staff members, and superintendents.* Columbus, OH: College of Education, Ohio State University.

Halpin, A. (1966). *Theory and research in administration.* New York: Macmillan.

Hollingsworth, S. (1989). Prior beliefs and cognitive change in learning to teach. *American Educational Research Journal, 26*(2), 160-189.

Hoy, W. (2001). The pupil control studies: A historical, theoretical, and empirical analysis. *Journal of Educational Administration, 39*(5), 424-441.

Hoy, W., & Jalovick, J. (1979). Open education and pupil control ideologies of teachers. *Journal of Educational Research, 73*(1), 45-49.

Huffman, S., Holifield, M., & Holifield, A. (2003). Student management: Teacher interns wrestling with assumptions. *Education, 124*(1), 120-125. Retrieved November 23, 2009, from the BNET Web site: http://findarticles.com/p/articles/mi_qa3673/is_1_124/ai_n29032700/

Jones, D. (1982). The influence of length and level of student teaching on pupil control ideology. *The High School Journal, 65*(7), 220-225.

Kagan, D. (1992). Professional growth among preservice and beginning teachers. *Review of Educational Research, 62*(2), 129-169.

Kerlinger, F., & Kaya, E. (1959). The construction and factor analytic validation of scales to measure attitudes towards education. *Educational and Psychological Measurement, 19*(1), 13-29.

Korthagen, F., Loughran, J., & Russell, T. (2006). Developing fundamental principles for teacher education programs and practices. *Teaching & Teacher Education: An International Journal of Research and Studies, 22*(8), 1020-1041.

Lunenburg, F. (1986). The influence of experience on the student teacher. *The High School Journal, 70*(Feb./March), 214-217.

McDaniel, J. E. (1991, April). *Close encounters: How do student teachers make sense of the social foundations?* Paper presented at the annual meeting of the American Educational Research Association (AERA), Chicago, IL.

McGregor, D. (1960). *The human side of enterprise.* New York: McGraw-Hill.

McIntyre, D., & Hagger, H. (1992). Professional development through the Oxford internship model. *British Journal of Educational Studies, 40*(3), 264-283.

McLaughlin, H. J. (1991). The reflection on the blackboard: Student teacher self evaluation. *Alberta Journal of Educational Research, 37*, 141-159.

Ornstein, A. C., & Hunkins, F. P. (1988). *Curriculum: Foundations, principles, and issues.* Englewood Cliffs, NJ: Prentice Hall.

Piaget, J. (1955). *The child's construction of reality* (M. Cook, Trans.). London, UK: Routledge & Kegan.

Pigge, F. L., & Marso, R. N. (1989, March). *A longitudinal assessment of the affective impact of preservice training of prospective teachers.* Paper presented at the annual meeting of the American Educational Research Association (AERA), San Francisco, CA.

Putnam, R. T., & Borko, H. (1997). Teacher learning: Implications of new views of cognition. In B. J. Biddle, T. L. Good, & I. Goodson (Eds.), *International handbook of teachers and teaching* (pp. 1223-1296). Boston, MA: Kluwer Academic Publishers.

Rideout, G., Bruinsma, R., Hull, J., & Modayil, J. (2007). Online learning management systems (LMS) and sense of community: A pre-service practicum perspective. *Canadian Journal of Learning and Technology, 33*(3). Retrieved November 23, 2009, from http://www.cjlt.ca/index.php/cjlt/article/view/165/161

Rideout, G., & Morton, L. (2007). Pre-service teachers' beliefs and other predictors of pupil control ideologies. *Journal of Educational Administration, 45*(5), 587-604.

Roethlisberger, F., & Dickson, W. (1939). *Management and the worker: An account of a research program conducted by the Western Electric Company, Hawthorne Works, Chicago.* Cambridge, MA: Harvard University Press.

Sergiovanni, T. J., & Starratt, R. J. (1998). *Supervision: A redefinition* (6th ed.). New York: McGraw-Hill.

Silvernail, D. (1992). The educational philosophies of secondary school teachers. *The High School Journal, 76*(February/March), 162-166.

Sirotnik, K. (1979). *Instrument development and psychometric analysis of major scales utilized in a study of schooling* (A Study of Schooling Technical Report No.

4). Los Angeles, CA: University of California, Laboratory in Schools and Community Education.

Smith, F. (1998). *The book of learning and forgetting.* New York: Teachers College Press.

Spivey, R., Collins, L., & Bishop, H. (2003). Opening doors with a new set of keys. *Electronic Journal for the Integration of Technology in Education, 2*(2). Retrieved November 23, 2009, from http://ejite.isu.edu/Volume2No2/Spivey.pdf

Stone, J., & Schneider, F. (1965). *Foundations of education: Commitment to teaching.* New York: Thomas Y. Crowell.

Taylor, F. (1911). *The principles of scientific management.* New York: Harper & Row.

Teddlie, C., & Reynolds, D. (Eds.). (2000). *The international handbook of school effectiveness research.* New York: Falmer Press.

Weinstein, C., (1990). Prospective elementary school teachers' beliefs about teaching: Implications for teacher education. *Teaching and Teacher Education, 6*(3), 279-290.

Wiley, C. (2000). A synthesis of research on the causes, effects, and reduction strategies of teacher stress. *Journal of Instructional Psychology, 27*(2), 80-87.

Willemse, M., Lunenburg, M., & Korthagen, F. (2005). Values in education: A challenge for teacher educators. *Teaching and Teacher Education, 21*(2), 205-217.

Willower, D., Eidell, T., & Hoy, W. (1967). *The school and pupil control ideology.* University Park, PA: Pennsylvania State University.

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APPENDIX A
Principles of Initial Teacher Education

ACDE supports the following principles for initial teacher education in Canada:

- An effective teacher education program demonstrates the transformative power of learning for individuals and communities.
- An effective initial teacher education program envisions the teacher as a professional who observes, discerns, critiques, assesses, and acts accordingly.
- An effective initial teacher education program encourages teachers to assume a social and political leadership role.
- An effective initial teacher education program cultivates a sense of the teacher as responsive and responsible to learners, schools, colleagues, and communities.
- An effective initial teacher education program involves partnerships between the university and schools, interweaving theory, research, and practice and providing opportunities for teacher candidates to collaborate with teachers to develop effective teaching practices.
- An effective initial teacher education program promotes diversity, inclusion, understanding, acceptance, and social responsibility in continuing dialogue with local, national, and global communities.
- An effective initial teacher education program engages teachers with the politics of identity and difference and prepares them to develop and enact inclusive curricula and pedagogies.
- An effective initial teacher education program supports a research disposition and climate that recognizes a range of knowledge and perspectives.
- An effective initial teacher education program ensures that beginning teachers understand the development of children and youth (intellectual, physical, emotional, social, creative, spiritual, moral) and the nature of learning.
- An effective teacher education program ensures that beginning teachers have sound knowledge of subject matter, literacies, ways of knowing, and pedagogical expertise.
- An effective initial teacher education program provides opportunities for candidates to investigate their practices.
- An effective initial teacher education program supports thoughtful, considered, and deliberate innovation to improve and strengthen the preparation of educators.

APPENDIX B
Beta Values for 'Beliefs about Education' Variables

	Standardized Coefficients Beta for …			
Variable	Program 1, Time 1	Program 1, Time 2	Program 2, Time 1	Program 2, Time 2
Romanticist beliefs	-.159	-.068	-.179	-.657
Progressivist beliefs	-.224	-.205	.236	.136
Traditionalist beliefs	.434	.360	.522	.550