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Editorial

The meaning of research as inquiry for discovery and educational improvement

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The articles in this issue of Brock Education: A Journal of Educational Research and Practice feature innovative educational inquiries that are designed to explore answers to sets of problems that if better understood stand to improve the quality of educational experiences for both students and educators. For example, a theme consistent across the articles is commitment to sustained research inquiry. Albeit within a broad range of educational contexts. Nonetheless these research articles make known the fact that the educational issue they each tackle requires sustained inquiry to arrive at meaningful discovery that makes a difference.

In their coauthored article, Savage and DiBiase highlight the negative psychosocial outcomes highly relationally aggressive female middle school students, so-called 'mean girls', face. Using a multistage statistical clustering procedure, the researchers identified a group of highly, yet almost exclusively, relationally aggressive female students. They then compared this group of students to a matched group of non-aggressive female students on a variety of behavioural, social, psychological and personality variables. The authors report that high levels of relational aggression in these female students, even in the absence of physical and verbal aggression, are correlated with numerous maladaptive behaviours, personality patterns and social functioning deficits. Savage and DiBiase discuss the possible interventions for this group of young women but caution a condition that should be met includes recognition on the part of the individual that the intervention is in their best interest. The implications of their research include a call for longitudinal studies to begin in early childhood and continue to adulthood to give an accurate picture regarding the stability of high levels of relational aggression.

According to Lock et al, in the second article of this Brock Education Journal issue, co-teaching holds many positive benefits for instructors in higher education. Supported by institutional funding for research design based on the Scholarship of Teaching Learning (SoTL) the team of instructors documented their investigation of coteaching a 'Nurse as Educator' course, over a period of two years. The notion was the instructors were to model their co-teaching practices so nursing students could apply that understanding to their own co-teaching assignment. The train the trainer approach held possibilities for nursing instructors to grow professionally through critical dialogue with their colleagues regarding their own teaching practice. As the coauthors argue, "the strength of co-teaching informs educators' understanding of their own teaching practice and fosters a rediscovery of their passion for teaching." The inquiry produced four recommendations for practice and two implications for educational development and administration.

In their coauthored contribution, featured as the third article, Portelance, Caron and Martineau examine collaboration between student teacher trainers, the cooperating teacher, and the university supervisor. They argue that these relationships involve sharing of respective knowledge through interprofessional collaboration and collaborative dialogue but they need specific competencies. Their investigation poses searching questions such as, "Does their discourse reflect sharing and co-elaboration, or even co-construction of knowledge?" The

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authors explain that the study is informed by the Quebec Government policy to prioritize collaboration between stakeholders in educational setting. However, it is the perceived importance of that collaboration that impacts on the quality of training provided. They believe that, "it is vital for both trainers to position themselves as co-trainers of the future teacher and as professionals who work together and support one another. Their comments, suggestions, and questions greatly influence the student's professional development." Their research is particularly useful in gaining insight into collaborations that demonstrate commitment toward assisting the student teacher in the development of their professional abilities. They further recommend that action research be instated in the collaborations in order to dialogue between student teacher co-trainers.

Hallman and Meineke's research article, featured fourth in this issue, is informed by a US based nationwide survey of English language arts teacher educators. The coauthors conducted focus group interviews with a sub-section of the participants in a follow-up to the survey. The purpose of their focused study was to gauge how English language arts teachers view teaching ELLs as part of related disciplinary fields. The inquiry is important because while national census has projected that by 2030 over 40% of the K-12 population in U.S. schools will be children whose first language is not English; teacher education programs have differing views on how best to include ELLs. Some programs include the teaching of ELLs in separate coursework, others believe knowledge about how to teach ELLs should be infused in content areas (e.g. English language arts). Using the work of Nagle (2013) the authors embed a teaching learning framework for effective teaching of ELLs within the questions that form their inquiry as well as the analysis of the data from the focus group interviews. The coauthors align their inquiry with Nagle's work because it acknowledges the importance of professional development that will enhance teacher educators understanding of teaching ELLs. The findings from their research provides a set of overarching themes regarding teacher educators' views on teaching ELLs in teacher education programs.

Niemczyk research article is fifth in this issue. It closely examines the three national funding research agencies in Canada; the Social Sciences and Humanities Research Council of Canada (SSHRC), the Natural Sciences and Engineering Research Council of Canada (NSERC), and the Canadian Institutes of Health Research (CIHR) to ascertain how each conceptualizes the role of educational institutions in providing research assistantship opportunities to graduate students as a vehicle for cultivating succeeding generations of new researchers. Niemczyk's study included semi-structured interviews with three groups of participants—13 doctoral students, five research supervisors, and two administrators and makes known the challenges and constraints embedded within institutional structures that limit part-time students' access to research assistantships positions relative it full-time graduate students. Niemczyk's study, "offers quality recommendations to improve full- and part-time students' access to RAships within and beyond the program under investigation." According to Niemczyk, "the findings may help students understand access to RAships, assist academics in hiring research assistants, and inform administrators and academic program committees about possible organizational changes to be made."

In the sixth and final article for this issue, Pounder discusses research he conducted over two academic years at the University of the West Indies with entrepreneur educators. The article investigates the teaching practices of leading entrepreneur educators to provide a discussion about the variety of quality teaching approaches that support the learning needs of students. Pounder's argument regarding the importance of studying entrepreneurship education fits within

current debate that has shifted from questioning if entrepreneurship can be taught toward questions on how entrepreneurship can best be taught. Pounder's article contributes to the shift in thinking among researchers.

Together the articles provide multiple lens through which to appreciate the scope and aims of Brock Education Journal with its "interest in the research and practice of teaching, teacher education and teacher development." Even more broadly using a variety of perspectives the research articles in this issue support the main purpose of the journal with its intention "to foster practitioner inquiry (in schools, post-secondary institutions and beyond) and promote a deeper understanding of the experiences of educators and learners." Readers both nationally and internationally stand to gain from the careful research on educational concerns that have consequences for educators and students broadly.

Maladaptive Personality and Neuropsychological Features of Highly Relationally Aggressive Adolescent Girls

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Abstract

The maladaptive personality and neuropsychological features of highly relationally aggressive females were examined in a group of 30 grade 6, 7, and 8 girls and group-matched controls. Employing a multistage cluster sampling procedure, a group of highly, yet almost exclusively, relationally aggressive females were identified and matched on a number of variables to a group of nonaggressive females. Parents of the students in both groups completed the Coolidge Personality and Neuropsychological Inventory, a 200-item DSM-IV-TR aligned, parent-as-respondent, standardized measure of children's psychological functioning. It was found that high levels of relational aggression, in the absence of physical and verbal aggression, were associated with symptoms of DSM-IV-TR Axis I oppositional defiant disorder and conduct disorder. The highly relationally aggressive group also exhibited a wide variety of personality traits associated with DSM-IV-TR Axis II paranoid, borderline, narcissistic, histrionic, schizotypal, and passive aggressive personality disorders that were not exhibited by the matched controls. Implications of these findings are discussed.

Keywords: Maladaptive personality, relational aggression, adolescent girls, personality disorder, psychopathology

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Over the past several years there has been increasing concern over how young females are developing socially and behaviorally (Cote, Zoccolillo, Tremblay, Nagin, & Vitaro, 2001). This concern is reflected in the empirical research being conducted on the negative trajectories of females (e.g., Cote et al., 2001; Moffitt, Caspi, Rutter, & Silva, 2001) as well as in the media attention they have been receiving. The latter has largely been fueled by dramatic and tragic events that have involved adolescent girls, such as the brutal death of Reena Virk (Tafler, 1998). Teachers, juvenile justice workers, and mental health professionals who work with these troubled girls argue that the risk factors, characteristics, and outcomes for disruptive behaviors may differ in males and females (Chamberlain & Reid, 1994). Therefore a better understanding of the sex differences in antisocial behavior should be a priority, especially as they relate to their interpersonal relationships.

Some researchers, such as Crick and Grotpeter (1995), propose that the sex differences in the rates of antisocial behaviors may be explained by males' propensity to use greater amounts of physical aggression and females' tendency to use relational aggression to express anger or inflict harm. Crick et al. (1999) defined relational aggression as "behaviors that harm others through damage (or the threat of damage) to relationships or feelings of acceptance, friendship or group inclusion" (p. 77). Relational aggression involves interpersonally manipulating others rather than causing bodily harm through physical attacks (Crick & Grotpeter, 1995). Crick, Casas, and Nelson (2002) outlined that these manipulative behaviors include social exclusion, social alienation, rejection, and direct control. Several studies have found that these relationally aggressive behaviors are more commonly found in females than males (Bjorkqvist, Lagerspetz, & Kaukiainen, 1992; Crick & Grotpeter, 1995) and are perceived as more harmful by females than males (Crick, 1995).

A recent study conducted by Salmivalli and Kaukiainen (2004) investigated whether females were more relationally aggressive than males. Their sample included 272 girls and 274 boys from 22 school classes in Finland. The participants were from three grade levels and were aged 10, 12, and 14 years. Salmivalli and Kaukiainen found that girls were generally nonaggressive compared to boys, but that girls who were highly aggressive rarely used all the forms of aggression to any great extent. In fact, Salmivalli and Kaukiainen found a group of highly aggressive females who used relational aggression almost exclusively. This was in direct contrast to highly aggressive males who were found to favor physical and verbal aggression or to employ high levels of all forms of aggression. Salmivalli and Kaukianen did not find any highly aggressive males who almost exclusively used relational aggression. From these findings it appears that there are a group of females in the population who are highly aggressive but who employ relationally aggressive behaviors almost exclusively in order to inflict harm.

Unfortunately, we know very little about girls and women who are highly aggressive but whose aggression is almost exclusively relational in nature. Few studies have examined the relationship between high levels of relational aggression, antisocial behaviors, and personality dimensions. Several studies conducted on children and adolescents have found that high levels of relational aggression are positively correlated with maladaptive personality features and externalizing behaviors (Crick, 1996; Crick & Grotpeter, 1995; Prinstein, Boergers, & Vernberg, 2001). The limitation of these particular studies is that the more overt forms of aggression were not controlled for when analyzing the behavioral and personality correlates of relational aggression. As a result, the participants in these studies also regularly engaged in other forms of aggression (e.g., physical) as well as being relationally aggressive.

Frick, Cornell, Barry, Bodin, and Dane (2003), Marsee, Silverthorn, and Frick (2005), and Essau, Sasagawa, and Frick (2006) found a strong correlation between high levels of relational aggression and callous-unemotional personality traits and antisocial behaviors in females. Interestingly, this relationship was found only in females, not in males. The limitation of these studies is that the researchers used an alternate conception of personality pathology and antisocial behavior than the one used by the diagnostic standard, the DSM-IV-TR (American Psychiatric Association [APA], 2000). As a result, these findings have no diagnostic utility for clinicians, as the callous-unemotional personality traits and antisocial behaviors defined by Frick et al. and Marsee et al. are found scattered throughout numerous DSM-IV-TR Axis I and Axis II diagnostic categories. Specifically, these two studies demonstrate that the study of personality traits, particularly those characteristic of personality pathology, are important for understanding the development of antisocial and aggressive behaviors in females. Thus, it would be particularly salient to examine the association between highly, almost exclusively, relationally aggressive girls with DSM-IV-TR clinical syndromes (Axis I), personality disorders (Axis II), neuropsychological dysfunction, and other psychopathological behaviors so that the association would have some diagnostic utility.

The purpose of this study was to examine the association between females who are highly, yet almost exclusively, relationally aggressive with DSM-IV-TR (APA, 2000) clinical syndromes (Axis I), personality disorders (Axis II), neuropsychological dysfunction, and other clinically relevant psychopathological behaviors. The purpose was initiated in order to ascertain whether females who were highly, almost exclusively, relationally aggressive were manifesting a symptom of underlying psychopathology.

The four research questions this study sought to answer were: (a) Do females who are highly relationally aggressive also exhibit behaviors that are associated with Axis I disorders found in the DSM-IV-TR (APA, 2000); (b) Do these relationally aggressive females have personality traits typically associated with any of the DSM-IV-TR (APA, 2000) personality disorders?; (c) Do highly relationally aggressive females have high levels of neuropsychological behavioral impairment?; (d) Do highly relationally aggressive females exhibit other clinically relevant psychopathological behaviors?

Method

Instrumentation

Three instruments were used in this study. The first was the Direct and Indirect Aggression Scales (Bjorkqvist, Lagerspetz, & Osterman, 1992). This is a self- and peer-report instrument that measures physical, verbal, and relational aggression. It consists of 24 items assessed using a 5-point Likert scale, ranging from (0) *never* to (4) *very often*. Five items measure physical aggression, 7 items measure verbal aggression, and 12 items measure relational regression. Factor analysis has confirmed the construct validity of the three subscales (Lagerspetz, Bjorkqvist, & Peltonen, 1988; Toldos, 2005). High levels of internal consistency have been found, ranging from 0.80 to 0.96, in subsamples that have used this instrument in a variety of cultural settings (Bjorkqvist et al., 1992; Owens, Daly & Slee, 2005; Salmivalli & Kaukiainen, 2004; Toldos, 2005).

The second instrument used was the Coolidge Personality and Neuropsychological Inventory (Coolidge, 1998). This is a standardized measure of children's and adolescents' (aged 5-17 years) psychological functioning. The 200-item parent-as-respondent CPNI assesses (a) nine Axis I

syndromes from DSM-IV-TR (APA, 2000; conduct disorder, oppositional defiant disorder, attention-deficit hyperactivity disorder, depression, general anxiety disorder, separation anxiety disorder, gender identity disorder, anorexia nervosa, and bulimia nervosa), (b) nine personality disorders and their features (avoidant, borderline, dependent, histrionic, narcissistic, obsessive-compulsive, paranoid, schizoid, schizotypal) according to the criteria on Axis II of the DSM-IV-TR, and two personality disorders in its appendix (passive-aggressive and depressive; note that antisocial personality disorder is not assessed by the CPNI because it requires an age of 18 years to be diagnosed), (c) four neuropsychological-behavioral syndromes including mild neurocognitive disorder (in the appendix of DSM-IV-TR), postconcussion disorder, general neuropsychological dysfunction, and executive function deficits (and its three subscales: decision-making, metacognitions, and social judgment), and (d) 13 clinical scales: dangerousness, aggression, emotional lability, apathy, paranoia, psychotic thinking, emotional coldness, social anxiety, social withdrawal, self-esteem problems, sleep disturbances, antisocial triumvirate symptoms, and disinhibition.

The CPNI uses a 4-point Likert scale ranging from (1) *strongly false* to (4) *strongly true.* The CPNI normative sample consists of 780 children, aged 5-17 years old. The 11 personality disorder scales have a median internal scale of reliability of 0.67 and a median test-retest reliability of 0.81 (4- to 6-week interval). The nine Axis I scales have a median internal scale reliability of 0.81 and a median test-retest reliability of 0.87. The four neuropsychological scales have a median internal scale reliability of 0.91 and a median test-retest reliability of 0.83. The 13 clinical scales have a median internal scale reliability of 0.64 and a test-retest reliability of 0.70.

The general construct validity of the CPNI scales has been demonstrated in a variety of clinical and nonclinical empirical studies (Coolidge, DenBoer, & Segal, 2004; Coolidge, Segal, Stewart, & Ellet, 2000; Coolidge, Thede, & Jang, 2001; Coolidge, Thede, & Jang, 2004). Coolidge, Thede, Stewart, and Segal (2002) provide a summary of the CPNI reliability and construct validity studies.

The final measure used was the Demographic Information Form. It asked for the participants' birth month and year, grade, and ethnicity. The measure included questions that sought to elicit general socioeconomic status indicators from the parents, including mother's and father's highest education level achieved and approximate total annual family income. This measure was used to describe the sample and to provide variables on which to match the targeted and control groups.

Participants and Procedure

This study employed a multistage cluster sampling procedure. In the first phase female students in grade 6, 7, and 8 in 12 elementary schools located in a medium-sized city in southern Ontario, Canada, and their parents were selected to participate in this study. Clearance by Brock University's Research Ethics Board was obtained prior to recruitment. Once permission was obtained from the school board and each individual principal, the researcher travelled to each site, convened the potential participants, delineated the study to the potential participants, and disseminated letters of information and consent.

During the initial recruiting procedure, 560 information and consent packages were distributed. Informed consent was received for 365 participants (65.2%). These female students became the initial sample. Approximately 1 week after the informed consent forms were retrieved, the researcher returned to the schools and gathered together all the students whose parents allowed them to participate in the study in a location that was convenient for the school

staff (the library, an empty classroom, the cafeteria, etc.). At this time they were asked to independently fill out the self-report version of the Direct and Indirect Aggression Scales (Bjorkqvist et al., 1992). The female students used this to evaluate their own behavior when dealing with a conflict with a classmate. The participants were not permitted to talk to each other during the administration of the DIAS, but the researcher read each item aloud to the assembled group and answered any questions they had regarding the items. It took them approximately 10 minutes to fill out the questionnaire. All of their responses were anonymous; they did not indicate their names on the questionnaires.

When the participants had completed the questionnaire they returned the questionnaire to the researcher. The researcher then gave the participant an envelope with a unique number on it. These tracking numbers were used so the researcher could preserve the anonymity of the participants while still being able to match the measures for data analysis.

Included in the envelope the students took home was a copy of the Coolidge Personality and Neuropsychological Inventory (Coolidge, 1998), and the Demographic Information Form. The parents/guardians then filled out both forms, which took them approximately 25 minutes to complete. The responses on both forms were anonymous; the parents did not indicate their names on either form. Once the CPNI and the demographic data forms were filled out they were put into the provided envelope, sealed, and returned to the school. The researcher returned approximately 1 week later to retrieve the envelopes. The researcher then scored the measures and the scores were inputted into SPSS 15.0.

To obtain the final sample, the raw scores from the self-report DIAS measure were converted to standard z-scores. SPSS K-means cluster analysis was performed with the standardized self-reported scores on the three aggression scales as criterion variables for forming the clusters. Five clusters with different aggression profiles were identified. The standardized mean scores on the aggression variables of the participants in each of the five clusters and the number of participants in each cluster are presented in Table 1.

A one-way analysis of variance was conducted in order to ensure the members of each of these clusters differed significantly from each other on self-reported physical [$F(4, 360) = 111.511$, $p = .000$], verbal [$F(4, 360) = 149.907$, $p = .000$], and relational aggression [$F(4, 360) = 200.429$, $p = .000$].

The 30 female students who made up Cluster 1, the highly, almost exclusively, relationally aggressive cluster became the target sample. The target sample consisted of 11 grade 6 students (36.7%), 10 grade 7 students (33.0%) and 9 grade 8 students (30.0%). They ranged in age from 11.4 years to 14.3 years ($M = 12.7$ years, $SD = 0.91$ years).

The target sample was then matched for age, grade, school, ethnicity, mother's highest achieved education level, father's highest achieved education level, and approximate total annual family income with participants in Cluster 5, the nonaggressive cluster. This became the matched control group. Identical to the target sample, the control group consisted of 11 grade 6 students (36.7%), 10 grade 7 students (33.3%) and 9 grade 8 students (30.0%). They ranged in age from 11.4 years to 14.3 years ($M = 12.8$ years, $SD = 0.89$ years).

In order to ensure that the target sample and the control group did not differ significantly on any of the matching variables the categorical variables were quantified (e.g., *Caucasian* = 1, *Mixed Ethnicity* = 2, etc.), and a Mann-Whitney U test was conducted. The results indicated that the groups were evenly matched on age ($Z = -.081$; 2-tailed Asymp. Sig. = .935), school ($Z = .000$; 2-tailed Asymp. Sig. = 1.000), grade ($Z = .000$; 2-tailed Asymp. Sig. = 1.000), ethnicity ($Z = -.043$; 2-tailed Asymp. Sig. = .966), mother's/female guardian's education level ($Z = -.061$; 2-

tailed Asymp. Sig. = .952), father's/male guardian's education level (Z = .994; 2-tailed Asymp. Sig. = .994), and approximate total annual family income (Z = -.108; 2-tailed Asymp. Sig. = .914).

Results

To examine the symptoms of underlying psychopathology, highly, yet almost exclusively, relationally aggressive females exhibited descriptive and inferential statistics were used. The raw scores on each of the CPNI's (Coolidge, 1998) 50 scales were converted to standard T scores using the means and standard deviations of the normative sample, as outlined in the CPNI Manual (Coolidge, 1998).

Descriptive statistics in the form of means and standard deviations were calculated for both the relationally aggressive group and the control group on each of the CPNI's (Coolidge, 1998) scales in order to examine the direction of differences between the two groups.

Clinical (Axis I) Scales

A MANOVA was performed on the six Axis I–Internalizing disorders scales for the main effect of group (relationally aggressive and controls). The MANOVA was not statistically significant, approximate $F(6,53) = 1.32$, $p = 0.265$.

A MANOVA was also conducted on the three Axis I–Externalizing disorders scales. The MANOVA was significant, approximate $F(3,56) = 16.53$, $p = 0.001$. To examine this further post hoc t tests with a modified Bonferroni correction (Holm, 1979) were conducted. The post hoc tests revealed that scores on the conduct disorder and oppositional defiant disorder scales were significantly elevated in the relationally aggressive group. The effect sizes for these differences were large. The attention deficit/hyperactivity scale was not significant (see Table 2).

Inspection of the relationally aggressive group indicated that 20% of the students were clinically elevated, which Coolidge defines as $T \geq 60$ (Coolidge, 1998), for the conduct disorder scale, and 60% were clinically elevated for the oppositional defiant disorder scale.

Personality Disorder (Axis II) Scales

A MANOVA was performed on the CPNI's (Coolidge, 1998) 11 personality disorder scales. The MANOVA was significant, approximate $F(11,48) = 6.80$, $p = 0.001$. Post hoc t tests, with the modified Bonferroni correction, revealed that the paranoid personality disorder, borderline personality disorder, schizotypal personality disorder, narcissistic personality disorder, histrionic personality disorder, and passive-aggressive personality disorder scales were significantly different between the two groups (See Table 2).

Neuropsychological Scales

A MANOVA was performed on the CPNI's (Coolidge, 1998) four neuropsychological problems scales. The MANOVA was significant, approximate $F(4,55) = 8.2$, $p = 0.001$. To further examine this difference, post hoc t tests with the modified Bonferroni correction were performed on the four neuropsychological problems scales and their subscales. The t tests revealed that the scores on the postconcussion disorder scale, emotional dysfunction subscale, and social inappropriateness subscale were significantly different between the highly relationally

aggressive group and the nonaggressive group (see Table 2).

Other Clinical Scales

A MANOVA was performed on the CPNI's (Coolidge, 1998) 13 clinical scales. The MANOVA was significant, approximate $F(13, 46) = 5.46$, $p = 0.001$. Post hoc t tests with the modified Bonferroni correction revealed that the highly relationally aggressive group was significantly elevated on the emotional coldness, emotionally labile, aggression, apathy, and dangerousness scales (see Table 2).

Discussion

The first research question was concerned with associations between high levels of relational aggression and DSM-IV-TR (APA, 2000) Axis I clinical syndromes. Contrary to findings reported by Werner and Crick (1999), who found relational aggression to be related to increases in self-harm behaviour, affective features of depression, and bulimic symptoms in their female participants, we found no significant differences between the relationally aggressive female students and their nonaggressive peers on measures of internalizing disorders. A possible reason for the discrepancy in findings is that Werner and Crick's participants were much older than the participants in this sample, as they were all young adults enrolled in a postsecondary institution. It is possible that as they grow older the relationally aggressive females who participated in this study may also develop internalizing problems.

Yet, the highly relationally aggressive group was significantly elevated on symptoms associated with conduct disorder and oppositional defiant disorder compared to the nonaggressive controls in the current study. Furthermore, 20% of the relationally aggressive group were clinically elevated on the conduct disorder scale, and 60% of the relationally aggressive female students were clinically elevated on the oppositional defiant disorder scale. These findings are consistent with previous studies that found highly relationally aggressive females to be more likely to experience externalizing symptoms associated with conduct disorder and oppositional defiant disorder than females who were not as relationally aggressive (Keenan, Coyne, & Lahey, 2008; Prinstein et al., 200l). A key difference between this study and those conducted previously, however, is that this study did not statistically control for physical and verbal aggression but rather only examined female students who were highly, yet almost exclusively, relationally aggressive. This indicates that females whose aggression is almost exclusively relational seem to be at a substantial risk for developing externalizing behaviour problems. High levels of physical and verbal aggression as well as relational aggression are not required for the risk to be present.

The second research question was concerned with determining if high levels of relational aggression in female students were associated with any personality traits typically connected with DSM-IV-TR (APA, 2000) Axis II personality disorders. The current study found that the highly relationally aggressive females were significantly elevated on traits associated with paranoid personality disorder, borderline personality disorder, schizotypal personality disorder, narcissistic personality disorder, histrionic personality disorder, and passive-aggressive personality disorder. The strongest associations were found with traits typically characteristic of individuals suffering from narcissistic, histrionic, and passive-aggressive personality disorders.

To better understand which specific personality traits the relationally aggressive female students were manifesting, individual personality items from the CPNI (Coolidge, 1998) were

examined. What emerged were 20 personality traits that distinguished the highly relationally aggressive group from their nonaggressive peers. Consistent with Werner and Crick (1999), we found that the highly relationally aggressive females exhibited affective instability, anger problems, and a degree of impulsivity, all of which are features of borderline personality disorder.

Similar to previous research (Frick et al., 2003; Marsee & Frick, 2007) we found that the highly relationally aggressive group exhibited traits that have been identified as being characteristic of the psychopathy construct. Such traits include narcissistic traits such as taking advantage of other children, exaggerating abilities and accomplishments, rapidly shifting, shallow emotions, and acting like they are better than others. Moreover, they also include callous-unemotional traits such as hiding emotions or being unemotional and lacking empathy. Furthermore, they include impulsive traits evidenced by not thinking ahead. Consistent with previous findings (Marsee & Frick, 2007; Marsee et al., 2005) this study found that the highly relationally aggressive females exhibited all of the psychopathic traits listed above, while the nonaggressive controls did not.

Frick et al. (2003) and Kruh, Frick, & Clements (2005) have found that psychopathic traits, particularly the callous-unemotional traits, seem to be uniquely associated with a severe pattern of aggression characterized by proactive aggressive acts. In females only, callous-unemotional traits have been found to be associated with high levels of relational aggression and serious delinquent acts (Chamberlain & Moore, 2002; Frick & Marsee, 2006; Frick et al., 2003; Marsee et al., 2005).

The link we found between high levels of relational aggression and psychopathic traits is especially important due to the finding that the presence of psychopathic traits, particularly callous-unemotional traits, seems to designate a distinct developmental pathway in females to serious conduct problems that is associated with a temperamental style characterized by reduced emotional reactivity to the distress of others (Frick, 2007). The fact that high levels of relational aggression, in the absence of high levels of verbal and physical aggression, were found to be associated with a lack of empathy and a general lack of affect (callous-unemotional traits) further supports the importance of relational aggression in studying the development of antisocial tendencies in females.

The third and fourth research questions were concerned with the association between high levels of relational aggression in females and neuropsychological behavioural impairment and other psychopathological behaviours. In the current study the relationally aggressive group was significantly elevated on the postconcussion disorder scale compared to the nonaggressive controls. This finding requires some clarification, however, as further analysis of the individual items that make up the postconcussion disorder scale revealed that the relationally aggressive females were significantly higher than their nonaggressive peers only on items that had to do with regulating emotion such as quickly changing moods, irritability, touchiness, quick temper, and rapidly shifting, shallow emotions.

Complementing the above finding, analysis of the individual items on the social inappropriateness subscale evinced that that the highly relationally aggressive students possessed shallow, rapidly shifting emotions and a tendency to not think ahead. The analysis of the individual items on the social inappropriateness scale also revealed the highly relationally aggressive females were significantly elevated on the item that measured a lack of empathy. Furthermore, the relationally aggressive group was found to be significantly elevated on the emotional dysfunction subscale.

Taken together these findings appear to indicate that the relationally aggressive group exhibits an emotion regulation deficit, which would imply that their high levels of relational aggression are in reaction to anger due to a perceived provocation or threat. This is consistent with Marsee and Frick (2007), who found in their detained female sample that reactive relational aggression was associated with poorly regulated emotion. Adding further support to this interpretation, in the current study the relationally aggressive students were significantly elevated on the emotionally labile and aggression scales, both of which measure elements of emotional dysregulation, compared to nonaggressive controls. This supports Conway's (2005) assertion that highly relationally aggressive individuals may feel high levels of distress in relational conflict situations and that they reactively relationally aggress in order to attempt to regulate their emotions.

The difficulty is that this hypothesis is in direct opposition to this study's finding that the highly relationally aggressive group was significantly higher on the clinical emotional coldness and apathy scales, indicating a pronounced lack of empathy, a lack of care, and inhibited affect. Previous studies (Chamberlain & Moore, 2002; Frick & Marsee, 2006; Frick et al., 2003; Marsee et al., 2005) have found strong associations between a lack of empathy and inhibited affect (callous-unemotional traits) and relational aggression in females.

One possible explanation for these apparently contradictory findings is that there are two subgroups of highly relationally aggressive females. One subgroup would use relationally aggressive behaviours as a strategy to regulate their emotions. This group would primarily use reactive relational aggression in order to maintain control over their social status and relationships when they felt their position in the social hierarchy was being threatened or when they were angered. They would be the females who exhibited high levels of emotional dysfunction. The other subgroup would use high levels of relational aggression more proactively in order to achieve social and material gains. These females would be the ones who exhibited a lack of empathy and inhibited affect, the callous-unemotional traits. Marsee and Frick (2007) provide some empirical support for this hypothesis, as they found reactive relational aggression was associated with emotional dysregulation, while proactive relational aggression was associated with callous-unemotional traits and positive outcome expectations for aggression.

Implications for Research, Policy, and Practice

Future research could focus on these potential differences as it is possible that proactive and reactive relational aggression represent unique pathways to antisocial behaviour, each with its own characteristics and outcomes. These two pathways may require drastically different treatment approaches (Marsee & Frick, 2007). For example, treatments for females who engage in more reactive relational aggression perhaps should focus on better emotion regulation and anger management skills. Interventions for the group that proactively use relational aggression could be more effective if they included a component to address these females' emphatic lack of concern for others. Moreover, the proactively relationally aggressive females would benefit from a cognitive-behavioural component that addressed perceptions of the usefulness of aggression for obtaining their social and material goals. It appears to be very important that before any intervention is undertaken in this group that the proactively relationally aggressive students are convinced it is in their best interest to apply the strategies they are taught; otherwise the intervention will not be effective (Frick, 2007).

The current study was unique in that it examined a community sample of highly, yet almost

exclusively, relationally aggressive females and found them to exhibit a range of symptoms characteristic of DSM-IV-TR (APA, 2000) Axis I and Axis II disorders. Longitudinal studies need to be conducted in order to determine how stable high levels of relational aggression and the maladaptive personality traits and antisocial behaviours associated with them are. These studies should, ideally, begin in early childhood and continue into adulthood in order to give an accurate picture of the stability of these traits and behaviours.

This study has several limitations which must be acknowledged. The first is that the participants' aggression profiles were created exclusively from self report data. By exclusively using self reports to measure aggression it was assumed that the participants could accurately evaluate the type of aggression they used as well as how frequently they used aggressive behaviors. It was also assumed the participants would be willing to report their aggressive tactics honestly. This may not be the case. It is possible that they over or under estimated their aggressive behaviors or that they did not report their use of aggression honestly. Future studies should augment the self-reports with peer and teacher reports of aggressive behaviors. This would make any findings more robust. Another limitation is that only personality traits associated with personality pathology were examined. Future studies should also examine normal personality traits in this population of females. The study would also have been enhanced if both parents/guardians, where possible, could have filled out the CPNI or if clinical interviews could have been conducted. A final limitation is the current sample size is small so the results should be considered preliminary.

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Appendix A: Table 1

The Aggression Clusters With Their Average Standardized Scores on the Three Aggression Scales

Cluster	N	Physical	Verbal	Relational
1.High relational aggression group	30	-.46	-.22	1.54
2. Average aggression group	100	.46	1.22	.94
3. High direct aggression group	7	2.87	1.11	-.30
4. Extreme aggression group	5	3.91	2.22	1.68
5. Nonaggressive group	223	-.34	-.58	-.68

Appendix B: Table 2

Means, T Scores, t Values, and Correlation of Effect Size for Relationally Aggressive Group and Nonaggressive Group on the CPNI
*** Significant according to modified Bonferroni correction ***

	T scores	*T*	*p*	*r***	
	Relationally aggressive group (SD)	Nonaggressive group (SD)			
Axis I – Externalizing					
Conduct Disorder	52.7 (9.9)	42.7 (3.5)	5.3	0.001*	0.56
Oppos. Defiant Dis.	60.9 (4.7)	39.8 (7.7)	7.0	0.001*	0.67
ADHD	43.8 (8.4)	40.7 (7.7)	1.5	0.141	0.19
Axis II					
Paranoid PD	50.4 (11.5)	42.6 (10.9)	2.7	0.009*	0.33
Borderline PD	47.1 (9.8)	39.0 (10.6)	3.0	0.003*	0.36
Obsessive-compulsive PD	41.4 (11.8)	40.6 (10.1)	0.3	0.776	0.04
Dependent PD	36.4 (10.9)	37.0 (6.9)	-0.3	0.779	0.03
Schizotypal PD	48.3 (7.8)	42.9 (6.3)	3.0	0.004*	0.36
Schizoid PD	44.5 (10.3)	42.7 (11.3)	0.6	0.522	0.08
Narcissistic PD	55.1 (12.8)	40.8 (8.0)	5.2	0.001*	0.56
Avoidant PD	40.2 (8.3)	44.4 (9.9)	-1.8	0.082	0.08
Passive-aggressive PD	54.1 (10.5)	41.9 (8.0)	5.1	0.001*	0.55
Depressive PD	45.0 (9.7)	43.7 (9.8)	0.5	0.625	0.07
Neuropsychological scales					
Mild neurocognitive disorder	42.7 (8.0)	42.2 (8.0)	0.2	0.818	0.03
Postconcussion disorder	53.5 (8.5)	42.8 (9.9)	4.5	0.001*	0.50
Executive function deficits	43.5 (9.4)	40.0 (8.1)	1.6	0.124	0.20
Decision-making problems	39.2 (8.5)	40.9 (8.0)	-0.8	0.430	0.10
Metacognitive problems	44.6 (8.5)	41.5 (7.8)	1.4	0.155	0.19
Social Inappropriateness	50.0 (11.2)	39.8 (7.4)	4.1	0.001*	0.47
Neuropsych. Dysfunction	43.0 (8.1)	41.6 (8.0)	0.6	0.525	0.09
Emotional dysfunction	56.5 (9.0)	43.2 (10.4)	5.3	0.001*	0.56
Neurosomatic complaints	46.1 (10.2)	44.5 (8.6)	0.6	0.538	0.08
Language problems	45.7 (7.2)	44.4 (5.0)	0.8	0.400	0.10
Memory difficulties	43.1 (7.9)	41.6 (6.3)	0.8	0.403	0.10
Learning problems	45.7 (6.9)	44.4 (7.8)	0.7	0.516	0.09
Perceptual-motor problems	42.4 (6.4)	42.7 (5.8)	-0.2	0.870	0.02
Subcortical problems	44.7 (4.4)	45.3 (4.2)	-0.5	0.619	0.07
Delayed maturation	44.2 (3.4)	46.3 (10.5)	-1.0	0.430	0.13
Other clinical scales					
Emotional coldness	60.7 (16.5)	43.3 (5.5)	5.5	0.001*	0.58
Sleep disturbances	46.9 (9.8)	45.2 (6.7)	0.8	0.429	0.08
Emotionally labile	59.4 (12.5)	43.0 (8.6)	6.0	0.001*	0.61
Disinhibited	46.0 (9.1)	42.5 (6.8)	1.7	0.097	0.21
Aggressive	49.4 (11.0)	35.4 (6.7)	5.9	0.001*	0.36
Apathetic	58.2 (15.2)	43.2 (6.1)	5.0	0.001*	0.54
Paranoid	50.8 (11.3)	45.8 (8.4)	1.9	0.057	0.24
Dangerousness	55.7 (11.8)	38.8 (6.8)	6.8	0.001*	0.66
Antisocial Triumvirate	46.0 (3.1)	45.3 (1.8)	1.0	0.310	0.14
Psychotic thinking	45.5 (6.5)	43.8 (5.6)	1.0	0.309	0.13
Social anxiety	42.1 (8.2)	43.9 (9.3)	-0.8	0.429	0.10
Social withdrawal	44.9 (9.7)	43.8 (10.2)	0.4	0.689	0.05
Self-esteem problems	43.9 (8.9)	44.9 (7.8)	-0.4	0.676	0.06

r = correlation of effect size; small = 0.100, medium = 0.243, large = 0.371.

In order to determine which specific personality traits the relationally aggressive females, as a group, were manifesting, independent *t* tests were performed on the standardized *T* scores of the individual items that make up the CPNI's (Coolidge, 1998) Axis II personality disorder scales. In order to minimize Type I error, $\alpha = 0.001$ for all the analyses. The *t* tests revealed the relationally aggressive group was significantly elevated on 20 personality disorder items. The mean *T* scores, *t* values, and correlation of effect size for the significant items are presented in Table 3.

Appendix C: Table 3

Means, T scores, t Values and Correlation of Effect Size for Relationally Aggressive Group and Nonaggressive Group on Significant Individual Items from the CPNI's Axis II Personality Disorder Scales

	T scores	t	p	r*	
	Relationally aggressive group (SD)	Nonaggressive group (SD)			
1. My child takes advantage of other children.	56.0 (10.7)	44.0 (3.8)	5.8	0.001	0.60
2. I think my child exaggerates her emotions.	54.9 (8.5)	45.1 (9.1)	4.3	0.001	0.49
3. My child pouts and argues.	54.6 (8.0)	45.4 (9.7)	4.0	0.001	0.46
4. My child's moods change quickly.	53.5 (9.2)	46.5 (9.7)	2.9	0.006	0.35
5. My child seems to exaggerate her abilities and accomplishments.	53.0 (10.5)	47.0 (8.6)	2.4	0.018	0.30
6. My child's emotions shift rapidly and seem to be shallow.	56.3 (9.7)	43.7 (5.3)	6.2	0.001	0.63
7. My child criticizes or puts down authority figures.	55.1 (10.5)	44.9 (6.2)	4.6	0.001	0.51
8. My child has an anger problem.	54.2 (10.4)	45.8 (7.7)	3.5	0.001	0.42
9. My child uses physical attractiveness to draw attention to herself.	55.5 (9.7)	44.5 (6.7)	5.1	0.001	0.55
10. My child resents, resists, or refuses to do things when asked.	54.6 (9.5)	45.4 (8.3)	4.0	0.001	0.46
11. My child bears grudges for a long time.	54.5 (9.9)	45.5 (7.9)	3.9	0.001	0.45

Table 3 Continued

	T scores		*t*	*p*	*r**	
	Relationally aggressive group (*SD*)	Nonaggressive group (*SD*)				
12. My child demands lots of praise or admiration.	52.6 (9.8)	47.4 (9.7)	2.0	0.046	0.26	
13. My child gets jealous and resents it when good things happen to others.	53.8 (11.5)	46.2 (6.4)	3.2	0.002	0.38	
14. My child is unemotional.	55.6 (11.8)	44.4 (10.0)	4.2	0.001	0.46	
15. My child lacks empathy and is not able to understand how others feel.	55.5 (11.4)	44.5 (3.5)	5.0	0.001	0.55	
16. My child is envious or jealous of others and feels they are envious or jealous of her.	53.8 (10.8)	46.2 (7.5)	3.2	0.002	0.38	
17. When hurt or insulted by others my child is quick to get angry or counter-attack.	53.9 (9.7)	46.2 (7.5)	3.3	0.002	0.39	
18. My child has hurt herself or caused trouble for herself more than once because she did not think ahead.	52.8 (11.3)	47.2 (7.7)	2.2	0.032	0.28	
19. My child has a style of speech that is dramatic but vague.	53.2 (9.9)	46.8 (9.2)	2.6	0.013	0.31	
20. My child acts like she is better than others.	54.7 (11.7)	45.3 (4.5)	4.1	0.001	0.47	

* *r* = correlation of effect size; small = 0.100, medium = 0.243, large = 0.371.

The Lived Experiences of Instructors Co-teaching in Higher Education

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Abstract

The strength of co-teaching informs educators' understanding of their own teaching practice and fosters a rediscovery of their passion for teaching. Instructors bring their skills and competencies to the co-teaching relationship in ways that create an instructional dynamic greater than can be achieved individually. From a qualitative research design, instructors' focus group interview data were examined with regard to identifying elements that influence successful co-teaching experiences, factors that impact the development and sustainability of the co-teaching relationship, and challenges that need to be addressed to avoid a breakdown in the co-teaching relationship. Drawing on the literature and the data, four recommendations for co-teaching practice are shared. Further, implications for educational development and administrative support are discussed in relation to co-teaching practice in higher education.

Keywords: Co-teaching, higher education, teaching, learning

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In higher education, faculty members are often collaborators in research, but not necessarily collaborators in teaching. Co-teaching that involves simultaneous instruction in one classroom over a semester is not common, as compared to this practice in K-12 educational settings. From the literature (Kerridge, Kyle, & Marks-Maran, 2009; Minardi & Riley, 1991; Shepherd & Ashley, 1979), it is evident that there are advantages to co-teaching that contribute to the richness of the student learning experience. However, studies examining the practice of co-teaching in higher education are in the early stages and often report on reflective accounts by faculty members (Seymour & Seymour, 2013).

The purpose of this article is to identify and examine factors that influence the dynamic nature of the co-teaching relationship from the experience of three instructors within a professional program in higher education. The article begins with a critical review of the literature to examine the nature of co-teaching in higher education and its advantages, challenges, and strategies. A description of the research design and findings are shared with regard to three instructors' experiences and insights into co-teaching with each other through three iterations of an undergraduate nursing course. In conclusion, by drawing on the findings and the literature, four recommendations for practice are offered to foster the pedagogical relationship among instructors who are assigned to co-teach. The article concludes with a discussion of two implications for educational development and administration.

Defining Co-teaching

There are various ways to define co-teaching. Sometimes it is referred to as team teaching or teaming. Co-teaching according to Wenzlaff et al. (2002) is described as "two or more individuals who come together in a collaborative relationship for the purpose of shared work…for the outcome of achieving what none could have done alone" (p. 14). Within teacher education, Heck, Bacharach, and Dahlberg (2008) defined co-teaching as the cooperating teacher and student teacher in which the two "collaboratively plan and deliver instruction" (p. 1). In this relationship, at the beginning the cooperating teacher makes explicit the instructional decisions, and over time this instructional pair "seamlessly alternate between assisting and/or leading the planning, teaching and evaluation" (p. 1). This co-teaching relationship involves a transition of power and a change in roles that occurs over time rather than being mutual between the two people.

The following are six types or approaches of co-teaching practice that is both responsive to student learning needs and fosters purposeful instruction:

1. *One teach, one observe* - Instructors determine what information is to be gathered through observation, one observes and the other teaches, and together they analyze this information.
2. *Station teaching* - Each teacher has specific content to be taught to one group and then repeats teaching the content to the second group. The third station is where students work on their own.
3. *Parallel teaching* - Two teachers divide the class and provide simultaneous instruction of the same content. The goal is to increase student participation and allows for differentiation of instruction.

4. *Alternative teaching* - One instructor is responsible for teaching a large group and the other works with a small group of students for such purpose as enrichment or additional support.
5. *Teaming* - Both instructors are involved in delivering the same content to a group of students through lecturing and providing opposing perspectives in debate or two processes for problem solving.
6. *One teach, one assist* - One instructor has the responsibility to teach the large group while the other provides individual assistance in the classroom. (Friend, Cook, Hurley-Chamberlain, & Thrasher Shamberger, 2010)

For the purpose of this article, co-teaching is defined as two instructors who team teach by providing simultaneous instruction to a large group of students in a course over a period of time (e.g., a semester). Both instructors mutually engage in a collaborative relationship involved in simultaneous planning, instruction, and assessment throughout the instructional time. A key component is the intentionality and purposefulness in the creation of the co-teaching relationship.

Co-teaching relationships are not simple and "[i]t cannot be assumed that co-teaching or team teaching relationships occur naturally or evolve in a healthy manner" (Clancy, Rosenau, Ferreira, Lock, & Rainsbury, 2015, p. 73). According to Yanamandram and Noble (2005), successful co-teaching collaboration requires an investment of time and effort. Co-teaching, according to Rytivaara and Kershner (2012) is "a genuinely peer-learning relationship in which communication shifts between different contexts within and beyond the classroom" (p. 1001). Adding to this, Laughlin, Nelson, and Donaldson (2011) argued that co-teaching is more than pairing two instructors together. Rather, they believed successful co-teaching requires "careful preparation" (p. 12). At the heart of this definition, co-teaching is about developing a relationship in which two instructors react and respond to each other and to the class. In effective co-taught lessons, there is

an invisible flow of instruction with no prescribed division of authority. Both teachers are actively involved in the lesson. From the students' perspective, there is no clearly defined leader – both share the instruction, are free to interject information, and available to assist students and answer questions. (Bacharach, Heck, & Dahlberg, 2008, p. 11)

Rationale for Co-teaching in Higher Education

Co-teaching, by its very nature, exposes students to alternate perspectives and a variety of teaching methods within a course. Different perspectives and teaching methods are opportunities that have been linked to greater student interest, an increase in their critical thinking, and greater class attendance (Gaytan, 2010; Yanamandram & Noble, 2005). For example, co-teachers of a writing class for K-12 teachers found that students viewed instructor differences as assets and that they contributed to greater student interest, motivation, and learning (Anderson & Speck, 1998).

From an instructor's perspective, there are numerous advantages for having a co-teaching experience. For example, Laughlin et al. (2011) noted such advantages as diversity of teaching and learning philosophies shared by instructors, the opportunity to mentor new instructors, creating an environment for the sharing of planning, organizing and presenting styles, opportunities for co-instructors to learn *with* and *from* each other to inform their teaching practice, and a forum to share

successes and challenges based on their shared experiences.   Another advantage within an interdisciplinary instructional context, co-teachers are able to "learn about lesser-known fields and thereby grow intellectually" (p. 15). This provides an opportunity to learn discipline knowledge while sharing the teaching experience.

Co-teaching also provides an opportunity for instructors to model best practices of this approach to teaching to each other and to their students. Harris and Harvey (2000) recommended that co-teaching in higher education create opportunities for modeling different approaches to teaching, as well as how to respond to tensions and conflict that may arise in the classroom. From their research of pre-service teachers, Stang and Lyons (2008) found that all students in their study acknowledged the value to learning through observing co-teaching. Further, Plank (2011) argued that students observing "their teachers learn from each other and even disagree with each other models for students how scholars and informed citizens within a community of learning can navigate a complex and uncertain world" (p. 5). This modeling helps students to develop an appreciation for collaboration and the nature of negotiation in collaborative relationships that form part of their professional workplace context.

Co-teaching provides a professional learning opportunity for the instructors. From their study, Bacharach et al. (2008) reported co-teaching experience supported the utilization of different teaching strategies, enhanced their teaching practice, allowed co-instructors to be more reflective with regard to their teaching given the required negotiation of decisions with each other, and the "co-teaching experience provided an energizing opportunity for faculty to renew their passion for their profession" (p. 15). It also provides a forum for their own educational development. According to Ferguson and Wilson (2011) co-teaching provides instructors with opportunities for professional growth and development, and at the same time offers students various instructional strategies, along with different alignments of teaching philosophies in practice "

If higher education embraces more co-teaching, then careful consideration needs to be given to preparing instructors for this experience. It cannot be assumed that co-teaching is the same as teaching on one's own. Co-teaching, as noted by Plank (2011), involves "messiness" that "moves beyond the familiar and predictable and creates an environment of uncertainty, dialogue, and discovery" (p. 3). In part, this messiness arises from instructors' underlying cultural differences as well as their different approaches to work ethic, organizational skills and problem-solving perspectives (Ploessl, Rock, Schoenfeld, & Blanks, 2010). Expectations and assumptions need to be checked and managed by the instructors. There is a mindfulness both in going into the relationship and developing a healthy rapport, as well as in the maintenance of a co-teaching relationship that positively impacts student learning.

Co-teaching requires careful attention in the development and in the fostering of the collaborative relationship, as well as a commitment on the part of the co-teachers to design and facilitate robust learning experiences for students. From the literature, it is evident that there are various advantages, strategies, and guidelines to support co-teaching in higher education. What is not common practice is for co-teachers to intentionally carry out a joint reflective process and then report on those reflections.

Context and Design of the Study

Funded through a university scholarship of teaching and learning (SoTL) grant, a two-year mixed methods study (Creswell, 2012) was conducted to investigate co-teaching in a *Nurse as Educator* course within a Bachelor of Nursing program. A major component of the research was to investigate the benefits and challenges of co-teaching in higher education. Both students and instructors in the course were invited to participate in the study. The study involved the following data collection: pre- and post-student surveys, end-of-semester and four month later individual interviews with students, artifacts of student learning (philosophy statement and reflection on peer teaching) and focus group interviews with instructors. Given the focus of this article is on instructors' experiences and insights into co-teaching, only the qualitative findings from the study's focus group interviews with the three instructors are shared and discussed. Other data from the larger mixed methods study are reported elsewhere.

The *Nurse as Educator* was a *s*enior-level course designed to engage nursing students in exploring principles of teaching and learning in relation to the development of their nursing practice. The course was taught in the final year of the four-year program. A critical element of the course was for nursing students to observe the co-teaching role modeling provided by their instructors. It was hoped that such demonstration of practice would provide an example for students to follow in their co-teaching assignment and in their future professional practice. The co-teaching assignment involved students working in pairs to plan a three-hour nursing lab and then to co-teach the lesson to their junior peers.

From 2014 to 2015, this course was co-taught three times and involved three instructors (n=3) with various experience teaching this course. One instructor taught all three sections and had taught it previously with a fourth instructor. The second instructor taught with the first instructor twice and had co-taught the course once before. The third instructor taught the course once with the first instructor and during the study this was the second time she had co-taught the course.

The rationale for using a focus group interview was to provide an opportunity for the instructors to engage in a guided conversation regarding their co-teaching practice. As each responded to questions, there was additional reciprocal elaboration. Often one instructor's response would initiate further discussion on the topic.   The two focus group interviews, which were 25 to 30 minutes in length, were conducted by a lead faculty member of the research team, who was not an instructor nor a member of the Faculty in which the course was taught.

Two instructors participated in each focus group interview. The focus groups occurred at the end of the first two times the course was taught. This provided an opportunity for the second and third instructors to be interviewed once and the first instructor participated in both focus group interviews. During the interviews, the instructors were asked to define co-teaching and its attributes, to describe the process of how the co-teaching unfolded in the course identify strengths in modelling a co-teaching approach, and also to share the challenges of co-teaching.

Saldaña's (2013) two cycles of coding were used. In the first cycle, it provided a way to "initially summarize segments of data" (Miles, Huberman, & Saldaña, 2013, p. 86). Initially the data were hand-coded by the same member of the research team who had conducted the interviews.

In the second cycle, it provided "a way of grouping those summaries into a smaller number categories, themes, or constructs" (p. 86). Through this analysis process, the pattern codes included 1) "[c]ategories or themes"; 2) "[c]auses/explanations"; and 3) "[r]elationships among people" (p. 87). Following the second cycle, member checking occurred when the instructors reviewed the coded data. The analysis were reviewed by all members of the research team, which also included three instructors and an independent research associate.

Discussion of the Findings

Five themes emerge from the focus group interview data from the instructors. First, the instructors identify key elements of co-teaching. Second, we explore how previous professional relationships impact on the development of the co-teaching relationship. Third, we examine attributes of what is required to nurture a collaborative pedagogical relationship. Fourth, the instructors share insights into what they learned with and from each other through the co-teaching experience. Fifth, challenges to co-teaching are identified and discussed in terms of how to address these issues.

Elements of co-teaching. From the two focus-group interviews, the instructors (n=3) were asked to provide three words or phrases that capture what is at the heart of their co-teaching. They shared such elements as trust, respect, self-respect, mutuality, and collaboration. In terms of trust, they reported how they trusted the knowledge they brought to the lesson, as well as how they brought it to life in relationship with the students and their learning. It was not a matter of rehearsing or second guessing each other's responses or movements. Rather, the dynamic is fluid (Barcharah et al., 2008; Rytivaara & Kershner, 2012). This notion of fluidity is supported by having both instructors in the room simultaneously. In cultivating the sense of relationship in the classroom, there is no substitute for time. When students are new to the instructors, they need to learn to trust the co-teaching approach, to trust the experience, and then become active members of the learning community.

One instructor spoke of the need to trust oneself but also to trust the other person. As technical as an instructor is in the planning, the experience of how it is lived out cannot be anticipated. The co-instructors have to appreciate and embrace the uniqueness of each co-teaching moment. There is no re-creation, given the nature of co-teaching. There are elements that make it unique. It is the matter of being in the moment and responding well to the given experience. As noted by another instructor, "you have to authentically know who you are. You have to value that … you have to be willing to enter into that relationship and share all of those pieces of yourself with somebody else and allow them to be authentic and trust you."

Another element they acknowledged was "openness to vulnerability." In co-teaching, their planning, instruction and assessment are in a public space where they are negotiating decisions, observations and interactions with each other and providing feedback. They needed to trust in each other. Here is how one instructor described her insight into vulnerability:

> …..recognition of what the other person has to risk or feel vulnerable about is really
> significant because there were times when I really felt vulnerable. But, I had to really say

that I'm trusting that she's not going to hang me out to dry in front of these students... You have to be very open to vulnerability ... to do this together has some different kinds of discomfort…in the long run we can share if we feel safe to. And I often said to her I'm not understanding this, please help me understand this piece. I think what I learned about vulnerability was humbling… it was good because it reminds me that to feel too comfortable is not a good place to be either.

The three instructors described how they co-taught the course. What emerged from this data was three-fold. First, they appreciated that they had similar approaches and values with regard to student learning (e.g., student-centred). Yet, they were comfortable in using different teaching approaches and creative ways to support student learning within the co-taught lessons. This approach was noted by an instructor who spoke of "developing the course to meet the curricular needs and honour the work of the second instructor." Second, they acknowledged that "co-teaching is a process" where the relationship evolves over time.   What they found was that each time they co-taught with the other instructor the relationship evolved. A good example was reflected by the instructor who taught with another instructor twice. In the first teaching, she said she wanted to create an environment and space for the novice instructor to find her way. As a result the senior instructor reported holding back and noted that "didn't really make things flow." However on the second occasion of co-teaching with the novice instructor, the senior instructor noted the need to honour who she was and trust that the novice instructor would "come alongside that we're going to make this work." Third, time needs to be given to the relationship development. The newest instructor to co-teaching described the "process is creating time to come together, not just the first day of class but even before that. In order to engage in a co-teaching relationship, you have to get to know who you're working with and identify strengths. I think talk about explicitly what each person's understanding is of co-teaching." Further, the instructors also shared how they took time to debrief the lessons and talk about the teaching.

Previous relationship impact on co-teaching. As nursing educators, the three instructors had co-taught at least once in the undergraduate nursing program over the past five years. These instructors had a professional relationship prior to entering into the co-teaching of the *Nurse as Educator* course. They acknowledged their teaching styles were different, yet their philosophical perspectives are grounded in the similar values and beliefs about teaching and learning (e.g., student-centered, value student past learning experiences, experiential learning and the co-creation of knowledge). As recommended by Cook and Friend (1995), co-teachers need to discuss their beliefs about teaching and classroom practices and routines for this leads to the ability to negotiate compromises and to be proactive in addressing difficult situations.

One of the instructors spoke to the importance of "recognizing the evolution of the relationships because our co-teaching dynamic is different this time and the relationship is different this time around than the first time." From the instructors, they acknowledged that each time they taught the course, it was a new experience which influenced the nature of the relationship. As such, care needed to be given to dynamics of the co-teaching partnership. Further, the newest instructor in the co-teaching experience, shared the following description of the change that occurred over time

that impacted how she engaged in the relationship:

> There is rhythm now…which we didn't have a year ago…I certainly waited for you to call the shots. I was the newbie and I was there to learn from you and learn with you. And this time, I'm feeling a little bit more confident around my competence in relation to the content of the course…I'm not afraid to go up and have a voice and speak my mind.

Ongoing, open communication is a necessity both in terms of the development of the relationship and in terms of the day-to-day teaching practice. There is a need to develop trust so as to allow for rich dialogue, as well as to accommodate discussions about what is working, but also to address what is not working and why.

Nurturing a collaborative pedagogical relationship. Each of the instructors has co-taught with other colleagues in the faculty. In forging new co-teaching partnerships, they had to negotiate and establish a new understanding of the relationship and how the practice would unfold from the relationship. In the formation of the new relationships, they have had to recognize and develop a new co-teaching identity. The co-teaching relationship is different given their new partners and new negotiated co-teaching values and beliefs that guide the teaching practice. For example, the newest instructor shared how she relied on the experienced co-instructor to lead given her uncertainty of the vision with regard to co-teaching of the course content. She remarked, "I had that year to grow and to really understand what the vision was for the course. Every opportunity I have had this past year has helped me to understand the value of co-teaching."

Between the creation of the course and the planning for the first class, a shift occurred from an individual perspective to that of a partnership. The co-instructors had a vested interest in the course, and worked to create a mutual understanding of the intent of the learning and the delivery of the course.   As noted by one instructor, "We showed up together and we left together". It was reported that at first in a new co-teaching relationship the teaching of the lesson was somewhat structured, ensuring that each instructor presented her own parts, and quietly waited until the other had completed their section of the lesson. As the course continued however, the rapport and interaction between and amongst the co-instructors became more fluid and dynamic. They continued to plan who was going to deliver what aspect of the content, yet they began to trust one another. They found they were able to engage in a conversational approach, supporting yet challenging one another and the students during class discussion. Through this seemingly natural transition in their approach, they came to appreciate co-teaching on a deeper level.

One of the key strengths identified by the instructors was being open to each other's views, perspectives and experiences. The diversity of knowledge and experience that each instructor brings to the class adds to the richness of the learning experience for the students. As noted by an instructor, "one of the strengths is being able to draw on the diversity of our own backgrounds, and draw from that our students." Adding to this, one instructor remarked that if her colleague was in a discussion with a student, "I could watch and think what little thing are they struggling with here. And what can I do here to offer as additional insight and to complement what she just said." They reported that drawing on their diverse experiences helps to make the abstract more concrete for their students.

Learning from the co-teaching experience. As part of fostering the collaborative relationship, the instructors acknowledged the need for self-reflection. As co-instructors, they needed to be reflective of their practice and the student experience as part of nurturing the collaborative pedagogical relationship. Similar to what Crow and Smith (2005) concluded from their research in that "[t]he trusting and empathetic relationship we had developed meant that we could share our intra-reflections and through the process of reflective conversation move from understanding to attempting change in practice" (p. 500).

The focus group interviews with the instructors revealed it was through reflective practice that co-instructors began to deconstruct what was required to be successful collaborators when working in a co-teaching relationship in nursing education. With purposeful after class debriefing sessions, they identified for themselves what factors were influencing their co-teaching and how these items were intentionally or unintentionally embodied in their everyday co-teaching practice. They talked about the work and their practice as part of a professional collegial discourse designed to enhance their practice. Out of the reflections and discussion of the lessons, they were learning with and from each other what influenced their next steps in their teaching (e.g., their next lesson).

According to van Manen (1990) it is the lived experience of an individual that gives meaning to a phenomenon. Phenomenology, therefore, is an attempt to reveal and describe the internal meaning structures of a lived experience evolving from everyday practical concerns. Phenomenology is characterized as attentive thoughtfulness, a caring attunement, and mindful wondering of what it means to live a life (van Manen, 1990). Through the sharing of and reflection on their lived experiences of co-teaching, the instructors sought to cultivate a thoughtfulness and attune to their practice in a manner that revealed the phenomenon of co-teaching.

Identifying and addressing challenges of co-teaching. Identifying and addressing challenges were a critical component of what makes for a successful co-teaching relationship. From the study, the instructors identified three key challenges they encountered. First was the challenge of providing a space for new partnerships in the co-teaching relationship. A senior co-teaching instructor noted how comfortable she was co-teaching with another instructor. Yet, when she co-taught the course with a third instructor, she "didn't have that and it was very constraining...It was difficult." The third instructor was new to the course and to the co-teaching relationship. As a novice it can be a difficult to enter into the co-teaching relationship when the other instructor has experience and expectations from previous collaborative co-teaching. The third instructor, the novice of co-teaching, talked about the change over the year. Nurturing the relationship of novice into being an equal partner in the relationship takes time and support. It requires a conscious effort on the part of the other instructor to create opportunities for sharing and allowing the novice to lead. It is through such practices that the two instructors will establish a strong pedagogical relationship and engage in a balanced co-teaching approach.

Second, is the difficulty of "monitoring the air". One of the instructors reported that she was exceptionally passionate and shared the following example of how she kept herself from dominating the lesson: "I would just let go and talk. I would sometimes just need to catch myself...I would stop in mid-thought and there would be silence and I'd say [*instructor's name*] is there

anything you'd like to add?" Along with this is the notion of "turn taking". One example the instructors shared was how a person might take the lead on an activity and then next time the other would take the lead. This taking turns provided a mechanism to navigate through the work of the course.

Third, immediate decision-making may be a challenge given it takes time to consult. One instructor spoke of it as "a waiting game." She went on to say, "You always have to consult with each other…If you're going into this as a pair or as a team, all decisions have to be made as a team." This is especially important in terms of what was communicated to the students. As the senior instructor commented, "it wouldn't matter whether it was me or [instructor name] meeting with the student, we would probably be on the same page." Effective co-teaching relies on trust and establishing a strong rapport (Crow & Smith, 2005; Laughlin et al., 2011; Lester & Evans, 2009). Through respecting each other's perspective and teaching approach, the instructors were able to create an open communication that enabled them to build a common understanding of the course, and gain a certain level of comfort moving into the classroom as co-instructors. Further as co-teachers, they worked collaboratively and responsively with each other and their students.

Recommendations for Co-Teaching Practice

Drawing on the literature and from the data of the three instructors' insights into the evolution of co-teaching, we have identified the following four guidelines for practice. The guidelines are designed to help instructors develop a co-teaching relationship that supports a positive teaching and learning experience for both teachers and learners. Through the development of the co-teaching experiences, there is reciprocity in terms of learning *with* and *from* each other as teachers, as well as from the learners.

First is the need to select a partner who engages in a mutual commitment to co-teaching. With the establishment of such a partnership, there is the need for a shared accountability to each other, to the students and to the program. This relationship requires both teachers to share their ideas, experiences and expertise in achieving mutual outcomes in terms of teaching and student learning. It is the notion that the work is not about *me*, but about *we*. Co-instructors of a writing class for K-12 teachers posit that compatible team teachers can have different teaching styles and opinions as long as they share a similar philosophy and vision for the class (Anderson & Speck, 1998).

Second, co-instructors need to honor in an inclusive way the diversity required to engage both instructors and the students in the learning experience. Co-teaching enhances the fostering of multiple perspectives, encouraging various ways of knowing, as well as nurturing different approaches to teaching. Indeed, Ploessl et al. (2010) stated that the goal is not to eliminate all potential conflict between instructors, but to use differences of opinion to strengthen and improve the relationship. They stress the importance of respecting cultural differences, discussing small issues before they escalate and not responding impulsively during disagreements.

Third, the co-teaching relationship is dependent upon ongoing, open communication and constructive feedback. It requires both instructors to be open minded for the betterment of oneself and each other. It is imperative to take time to debrief each experience to determine what worked

well and what needs to be enhanced or addressed. From these purposeful conversations, decisions need to be made in terms of next steps for enactment and re-evaluation. This is a continuous informed cycle designed to improve the teaching experience (Anderson & Speck, 1998; Crow & Smith 2005).

Crow and Smith (2005) view co-teaching and reflective conversation between instructors as a means of continuing professional development. Their own experience of co-teaching a module on "ideology and collaboration in health and social care" and their consistent reflective conversations enabled them to continually revisit issues that arose in class and aided in the planning and evaluation of their practice. They pointed to the empathetic and trusting relationship they developed with each other and how it aided them in first understanding and then changing, when necessary, their teaching practice. As noted in our study, co-instructors need to be in tune to the day-to-day in class experiences and contributions of the students. This awareness helps to facilitate how the instructors respond in an informed manner to the diversity of student voice, learning needs and learning styles.

Fourth, co-instructors need to be proactive in recognizing differences and tensions and developing a plan of resolution earlier rather than later.   This requires having trust in open and sometimes difficult conversations to address the tensions.   Entering into the pedagogical, collaborative relationship does require knowing that challenges may arise and to have a plan or strategy for dealing with them proactively. As noted by Crow and Smith (2005), "…co-teaching provides possibly the most rich and often neglected vehicle for facilitating….reflective conversations…" (p. 502). Reflection with another person (co-instructor) brings questions and issues to the forefront and makes them explicit which more often leads to debate and change.

Implications

The journeys shared by the three instructors in the study were positive. However, they were very aware of the potential challenges and tensions that can emerge and negatively influence the co-teaching relationship and the student learning experience.   Therefore, as higher education institutions embrace greater opportunities for co-teaching, consideration needs to be given to the nature of the educational development, along with the administrative aspect of support and resources.

First, care needs to be given to the nature of the educational development required to prepare instructors for co-teaching. To have impact, educational development opportunities need to go beyond looking at what is the nature of co-teaching and the advantages of it. Rather, the educational development needs to be ongoing and responsive to the needs of the co-instructors. In some way, it needs to be differentiated to support the unique learning needs of the instructors (e.g., novice to more experienced co-instructor) who are engaging in this collaborative instructional work. One such approach is fostering a community of practice model (Wenger, McDermott, & Snyder, 2002) that may provide a forum for learning with and from others.

Second, from an administrative perspective supports and resources need to be made available to instructors who take up the opportunity to co-teach. When assigning instructors to co-teach, are there structures in place to help foster the development of the collaborative pedagogical

relationship? Further, who gets involved to moderate situations when conflict arises and the relationship is having a negative impact on the teaching and learning?   While pro-active discussions may reduce the potential for conflict between instructors, Brown, Howerter, and Morgan (2013) recommended they develop a mutually agreed upon process for resolution. This process can be put into writing to ensure fairness and equity when identifying issues and developing solutions. These types of questions and such processes need to be established to help support co-teaching initiatives in higher education.

Conclusion

Co-teaching as described in this article involves two instructors who provide simultaneous instruction to a group of students over a period of time (e.g., a semester). Both instructors mutually engage in planning, teaching, and assessing throughout the instructional time. This notion of co-teaching is very different than team teaching where various aspects are assigned to be taught by specific individuals. Further, it is not a matter of divide and conquer. Rather, it is about mutual commitment to teaching and learning, as well as to each other as educators.

The strength of the co-teaching collaborative relationship is framed on the development of harmony that leads to both discovery and appreciation of the diversity that influences the richness of the teaching and learning experience. Cultivating mutual trust and respect enables instructors to be authentic and to navigate fluidly through the complex uncertainty of working in the moment with each other, with the students, with the curriculum, and with the knowledge that is co-created. Conflict and disagreement can exist in the relationship. The ability and confidence to openly discuss and negotiate these tensions result in a stronger and healthy partnership. These can be seen as opportunities for enhancing the relationship.

Through the three instructors' journey of co-teaching, they have developed a greater understanding of the complexity of teaching in higher education and have further developed their pedagogical practice. Learning from their experience and being responsive to their experiences benefits the co-instructors and their students. A critical component of this work is the ability of the instructors to mutually navigate the intricacies of co-teaching that results in rich teaching and learning experiences.

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Collaboration through knowledge sharing between cooperating teachers and university supervisors

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Abstract

Collaboration between student teacher trainers, the cooperating teacher, and the university supervisor, is directly connected with the sharing of respective knowledge (Gervais & Desrosiers, 2005). However, fruitful exchanges are not necessarily usual (Sanford & Hopper, 2000), which is considered the most detrimental factor in the student teacher training process (Kauffman, 1992). This paper presents some results of a study on the circulation of knowledge between the student trainers. Data was collected using audio recordings of conversations in the natural setting of secondary teacher internship. Identification and analysis of the predominant roles illustrated in their discourse reveal that interprofessional collaboration and collaborative dialog need specific competencies.

Keywords: student teacher trainers, interprofessional collaboration, collaborative dialog, collaborative dynamics

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In many countries, teacher training occurs alternately at the university and in the field. As with any alternating training, it requires a partnership between institutions. This partnership is the result of an agreement between institutions that share common goals and use their respective resources in a convergent manner (Landry, 1994). It also requires collaboration between the trainers; an authentic and interprofessional exchange of knowledge (Little, 1990). Compliance with these requirements is particularly essential for student teacher internships at the primary and secondary school levels. Indeed, these internships are the locus of interprofessional contact between school and university trainers. It is therefore not surprising that collaboration between cooperating teachers — who are the internship field trainers — and university supervisors has become a subject of interest for many researchers over the years (Rodgers, 2004; Sim, 2010; Van Zee, Lay & Roberts, 2003; Veal, 1998). For some, the expression of respective knowledge that fuels the discussion between the two trainers can be both challenging and rewarding for students (Gervais & Desrosiers, 2005). It is considered an integral part of student learning and a determining factor in the quality of training for future teachers. However, collaboration is not always demonstrated through the expression of respective knowledge (Sandford & Hopper, 2000).

In previous work, we analyzed the collaboration between cooperating teacher and student teacher in relation to knowledge sharing, educational consultation (Portelance & Caron, 2010), demonstrations of collaborative exchanges, and the nature of the exchanges (Portelance, 2011). In this paper, we will discuss collaboration between the two trainers with regard to the two-way flow of knowledge and relational dynamics. Does their discourse reflect sharing and co-elaboration, or even co-construction of knowledge? Results of research conducted in the natural setting of student teacher internships will be presented, preceded by a presentation of the research problematics, the concept of collaboration, and the methodology used. We will conclude with a discussion linking the results with the literature consulted.

The Importance of Collaboration for Student Teacher Trainers

The Quebec Government (Ministère de l'Éducation, 2001) prioritizes collaboration between the various stakeholders in education. In the context of teacher training, it cannot be developed without the involvement of university teaching staff and experienced practitioners. Regarding teacher training, collaboration between student teacher trainers is directly linked to the quality of training (Ediger, 2009; Pharand & Boudreault, 2011). The importance attached to collaboration affects the interprofessional relationship between the cooperating teacher and the university supervisor, who are called upon to share their knowledge through their discussions in a context that is sometimes unconducive to collaboration (Portelance, Martineau & Caron, 2013; Sim, 2010). In this paper, collaboration refers to a voluntary commitment, a shared approach toward a common goal, and an exchange of knowledge in a relationship of interdependence, trust, and authenticity (Cook & Friend, 1991; Dionne, 2005; Little, 1990).

Discussion as a means to collaborate and position oneself as co-trainer. Serious lack of communication and cooperation between the two trainers is the single most harmful factor in the student teacher training process (Kauffman, 1992). Knowledge sharing fosters the development of a coherent vision of training, and respective knowledge — though distinct — can be challenging and rewarding when shared and exchanged (Gervais & Desrosiers, 2005), questioned, reframed, and readjusted while respecting the contextual elements of student teacher training. Nevertheless, exchanges and discussions between the cooperating teacher and the university supervisor are not always fruitful. This limitation, due in part to the specific context and the partners' distinct, yet complementary professional reasoning (Sandord & Hopper, 2000), can lead to conflicting messages for the student teacher. It is vital for both trainers to position themselves as co-trainers of the future teacher and as professionals who work together and support one another. Their comments, suggestions, and questions greatly influence the student's professional development.

Conversations between the cooperating teacher and the university supervisor do not necessarily give rise to debate. Moreover, if there is a debate and it is nourished by the cognitive conflicts normally associated with collaborative dialogue (Graham, 1999), we would detect a form of interdependence in knowledge sharing. In reality, the dynamics of knowledge sharing reflected in the verbal interactions of trainers depend on many aspects of their interprofessional collaboration. Our focus will be on relational aspects and, more specifically, on the roles of both partners as well as the dynamics of collaboration during discussions in the presence of the student teacher.

Harmonization of roles. Collaboration between the two student teacher trainers is based on their awareness of each other's roles, their knowledge of training contexts, and their acknowledgment of their partner's knowledge. The roles of the two student teacher trainers may depend on their status and the professional relationship they maintain. Although their roles are distinct, they are complementary in that the combination of their respective specific characteristics allows for consistency in student training. Inadequate representations of co-trainer roles can lead to divergent expectations of the student teacher. Such limitations can render the trainers' respective interventions ineffective.

Researchers have already explored the relationships between cooperating teacher and supervisor (Borko & Mayfield, 1995; Campbell & Lott, 2010) and student teacher (Sudzina & Coolican, 1994), and how they affect student-teacher training (Johnson & Napper-Owen, 2011; Tung, 2000). Others have focused on the relationships between the triad composed of the student teacher and two trainers (Meegan, Dunning, Belton & Woods, 2013; Veal & Rickard, 1998) and their impacts (Kauffman, 1992). Some work focuses on the role of trainers and students teachers (Allen, Ambrosetti & Turner, 2013; Correa Molina, 2006; Campbell & Lott, 2010; Wong, 2011) and emphasizes the need for harmonization between the interventions of cooperating teachers and university supervisors (Couchara, 1997; Gervais & Desrosiers, 2005).

In a study on the collaborative dynamics within the dyad composed of cooperating teacher and student teacher (Portelance & Gervais, 2009), a categorization of roles emerged from an inductive approach of the data analysis. The new typology of roles was then used to analyze how cooperating teachers portray their role (Portelance, Gervais, Boisvert & David, 2012). This typology includes the following roles: informer, teacher, model, adviser, appraiser, and thought stimulator. Informers provide information about the class, the school, and the students. Teachers provide explanations. Advisers give their opinion, propose, and suggest. Models observe and then guide student teachers according to their way of doing things. Appraisers approve the ideas and actions of student teachers, reassure, make assessments, identify weaknesses, and evaluate. Thought stimulators encourage student teachers to think critically about their actions and to reflect based on solid arguments; they help student teachers formalize their action knowledge. According to the results obtained by Portelance, Gervais, Boisvert & David (2012), each role can be played in complementarity by the cooperating teacher and the university supervisor. The roles are emphasized by the expression of their respective knowledge.

Interprofessional Collaboration

Some researchers under various names and with various perspectives, have studied workplace collaboration. For example, Savoie-Zajc & Dionne (2001) focused on learning communities and equal partnerships, Gajda (2004) on educational consultation, Lessard (2005) on collective work, and Garcia & Marcel (2011) on work-sharing. In pre-service teacher training, discourse on collaboration is prominent. Indeed, collaboration has become inseparable from the professionalization of teaching, and collaborative practices are applied in all training environments. The following sections will examine the specifics of collaboration, the interdependence required for knowledge sharing, and the interprofessional relationships involved in the collaborative dialogue.

The specifics of collaboration. The term collaboration is not used univocally. What does the concept of collaboration mean in the context of this paper? First, collaboration is distinguished from collegiality, coordination, and cooperation. Collegiality refers to a form of cohabitation and to

somewhat superficial informal social relations, whereas collaboration is more demanding (Savoie-Zajc & Dionne, 2001). Cooperating teachers and academic supervisors are clearly expected to surpass the stage of collegiality. Their responsibilities as student teacher trainers also require them to go beyond administrative coordination. Moreover, cooperation itself is less demanding; indeed, in a context of cooperation, the work is divided, and each person is responsible for part of the overall task (McEwan, 1997; Ofstedal & Dahlberg, 2009). Collaboration, however, requires more involvement. In collaborative work, each person carries out the tasks necessary to achieve objectives and is engaged in a collective effort and shared decision-making process to achieve a common goal (Cook & Friend, 1991). This is in line with what is legitimately expected of the two student teacher trainers. They must both be committed to assisting the student teacher in the development of his or her professional abilities and making joint decisions regarding the assessment of the student-teacher's learning.

Interdependence and knowledge sharing. Collaboration is also characterized by interdependence, mainly through shared responsibility (Little, 1990), which causes the team to be more effective problem solvers. Included here are the student teacher's issues with pedagogy, educational psychology, and ethics. Collaboration is also revealed in knowledge sharing, especially when collaboration occurs in a climate of trust and authenticity (Dionne, 2005). Collaboration between the cooperating teacher and supervisor is manifested during sharing, especially in conversations in the presence of the student teacher. It makes it possible to learn from others and can stimulate professional development (Borges & Lessard, 2007).

Portelance (2011), for whom knowledge is the fruit of dialogue and exchange, rightly points out that there can be no real collaboration without a true climate of dialogue between participants. Authentic and interprofessional exchanges of knowledge require the deconstruction and reconstruction of knowledge as well as participation in the co-construction of new knowledge. It cannot escape the questioning and confrontation of ideas through rational argument and pedagogical reasoning (Tardif & Gauthier, 1996), nor realignments and reframing (Martinand, 2002). These conditions inherent in knowledge sharing partially intersect with the ideas of Sim (2010), especially in his assertion that verbal interactions should stimulate reflection and critical thinking thus favoring the creation of learning tools and innovative projects.

Gilly, Fraisse & Roux (2001) studied verbal interactions and signs of collaborative dynamics. According to them, collaborative dialogue can be seen through acquiescent mode co-elaboration, co-construction, and confrontation. Acquiescent mode co-elaboration is when one partner develops an idea and proposes it to the other partner, who in turn accepts it. Acquiescence serves as a positive reinforcement of the idea. The individual may agree with the other person's idea but also build on and develop it. Co-construction takes place when both partners reinforce the other's idea, and interventions can bring the other to redirect their action or idea. Confrontation occurs when one partner doesn't agree with the other's proposition and results in an attempt to overcome the disagreement by defending his or her ideas. We thought we could find demonstrations of collaborative dialogue in the verbal interactions between both student teacher trainers. The dynamics of knowledge sharing can be seen in their verbal interactions within the framework of co-supervising the future teacher.

Interprofessional relationships. Collaboration is not a quick and easy process, although it is percieved as positive. Successful collaboration requires warm and harmonious personal interactions, trust, and respect (Boies, 2012). When studying interprofessional relationships, one must look at the work of Baker (2005), who has examined verbal exchanges. According to Baker (2005), collaboration in discussions is facilitated by symmetry in the relationship, i.e., an egalitarian relationship, and is manifested in the gradual alignment of ideas leading to an agreement. True collaboration requires debate and building new knowledge between the collaborators, which is unlikely in an asymmetrical relationship (Baker, 2005). Otherwise, as stated by Lesain-Delabarre (1998), the equality or inequality of each person's contributions is more or less defined by the specific context of the relationship and by the pursuit of different objectives even while seeking common goals. Other authors (Campbell & Lott, 2010; Gervais, 2008; Ferrier-Kerr, 2009) claim that the status of individuals in interaction does not determine the quality of their collaboration. Even if the

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collaborative dialogue is materialized more readily in an egalitarian context, a professional relationship characterized by collaboration is also possible in an asymmetric professional relationship (Portelance, 2011).

Supervisors are sometimes viewed as all-powerful in comparison to cooperating teachers (Rodgers, 2004), and a hierarchical relationship may be the cause of tension between the two trainers (Veal & Rickard, 1998). Bullough & Draper (2004) revealed power relation struggles; Beck & Kosnick (2002) noted a large gap between the priorities of a university supervisor and cooperating teacher, which can be detrimental to the quality of their verbal exchanges. In the same vein, Van Zee, Lay & Roberts (2003) found that the role of the cooperating teacher within the triad is secondary. Nevertheless, according to the findings of Campbell & Lott (2010), despite the constraints of an apparent lack of parity, it is possible to create within the triad an environment of collaboration that promotes professional development. Similar claims by Ofstedal & Dahlberg (2009) indicate that communication skills are a valuable resource. The majority of co-trainers prefer a relationship characterized by reciprocity because of its beneficial effects on student teacher training (Gervais, 2008). This form of collaboration, however, is more demanding for supervisors and cooperating teachers.

Methodological Elements

The aim of this study was to provide a comprehensive analysis of collaboration between cooperating teachers and supervisors. A qualitative interpretative strategy was used. The specific objectives were to examine the sense of competency of the two trainers regarding collaboration, and their adherence to current requirements for interprofessional collaboration; to identify the types of knowledge they share and co-construct; and to describe the dynamics of their collaboration. Through case studies, the results presented in this paper focus on the collaboration desired by both trainers, and the description of their collaborative dynamics.

During the 2013 and 2014 winter semesters, we solicited supervisors of undergraduate student teachers at the secondary level from the Université du Québec à Trois-Rivières. Three supervisors agreed to participate in the study. They then asked cooperating teachers and student teachers completing their internship to join them in a triad. Three supervisors, seven cooperating teachers, and seven student teachers, composing seven triads, constituted the data source. The cooperating teachers and student teachers worked in various schools across the province of Quebec in the regions of Lanaudière, Laurentides, Montérégie, Mauricie, and Centre-du-Québec. The student teachers taught subjects related to their specializations (French, Mathematics, Social Studies, or Science and Technology) at various secondary levels.

During the internship, researchers met with each member of the triad individually. Interviews lasted approximately one hour. Interviews with the cooperating teachers and the student teachers took place at the host school while interviews with the supervisors took place at the University. All participants' comments were audio-recorded. Participants were asked to describe their adherence to the requirements for interprofessional collaboration, their knowledge of the expectations for student teacher trainers, their experiences, and their collaborative practices. In addition, data were collected from the audio recordings of conversations in which the cooperating teacher, supervisor, and student teacher participated in the absence of the researchers. These 45- to 60-minute conversations took place in the natural setting of student teacher internships at the host school during the last supervisory visit of the supervisor, following a teaching period of the student teacher in which the supervisor participated. This methodological approach led to conversational analysis — which although rare in these cases — is highly relevant to study the interaction of the different realities of the participants and how this is reflected in the verbal manifestations of the two supervisors.

Prior to analysis, the data were transcribed verbatim. The vocabulary used in encoding and analyzing the data from the conversations was based on the typology of roles already described in this text. We used this typology to analyze the dynamics of knowledge sharing of the student teacher trainers because it was created in a similar environment (Portelance & Gervais, 2009) and used later

on (Portelance, Gervais, Boisvert & David, 2012). To analyse the manifestations of collaborative dynamics, we used the categories of collaborative dialogue proposed by Gilly, Fraisse & Roux (2001), also presented in this text.

We used Weft QDA as qualitative analysis software. Intercoding between the researchers and research assistants allowed for clarification of the coding and agreement on the units of meaning (Mukamurera, Lacourse, & Couturier, 2006). One of the functions of conversational analysis is to break down the exchanges into small units and to reconstruct them (Sacks, 1995). Once identified, the units of meaning became components of collaborative dynamics. Partial summaries contributed to a deeper understanding of participants' discourse and to organizing the presentation of results.

We chose to present three case studies corresponding to three distinct triads in which the three supervisors participated respectively. We selected three triads with distinct collaborative dynamics to present various examples of roles and aspects of the dynamics of knowledge sharing. Limiting the number of cases presented enabled us to illustrate — using excerpts from interviews —, each case in context and to highlight the depth of analysis (Gagnon, 2012; Merriam & Tisdell, 2015). This would not have been possible with the presentation of a greater number of cases.

Presentation of Results

Results related to collaborative dynamics will be discussed using the three cases analyzed, namely Triads A, B, and C. The student teachers' comments were not analyzed, not because they were unimportant or irrelevant within the triads, but because our analysis focused on interprofessional collaboration between the two trainers. Many factors influence this collaboration, not the least of which is the student teacher, the third member of the triad.

Desired collaboration. During the interview, the trainers were invited to focus on their experiences and representations of collaboration with the other trainer. The comments of the three cooperating teachers intersected. The same can be said for the comments of the supervisors. Pseudonyms are used in the discussion for all research participants in order to provide anonymity.

Cooperating teachers and supervisors adhered to the requirements of collaboration to ensure that the student teacher received the best possible training. Cooperating teachers have a positive perception of their ability to collaborate. Like all participating trainers, Andrée, a supervisor, stated: *"Listening and open-mindedness are my main strengths in collaboration."* She added: *"My ability to establish a productive dialogue and facilitate a triad meeting enables me to collaborate well."* They want to collaborate because collaboration allows them to harmonize and increase the impact of their interventions on the student teacher.

Regarding supervisors, cooperating teacher Julien said: *"They have probably supervised other internships. They should be able, maybe, to give tips to help the student teacher. They can help me in terms of supervision."* Moreover, cooperating teachers and supervisors are unaware of what is expected of them and what is expected of the supervisor. In other words, they are unaware of the roles of the two student teacher trainers. The supervisors seemed more familiar with what is expected of them regarding interprofessional collaboration with the cooperating teachers. The cooperating teachers felt that for the most part, supervisors should initiate collaboration. For example, they expect to receive explanations from the supervisor regarding the student teacher's training objectives, comments on difficulties, and suggestions for improvement. The importance of articulating theoretical and experiential knowledge as a condition for collaboration is mentioned only by the supervisors. Finally, none of them share their expectations of the co-trainer. In other words, knowledge of their partner's expectations does not come up when discussing the desired interprofessional collaboration.

Collaboration. For each of the triads, we will present the results in three parts. The results presented are based on the analysis of conversations within the triads. We will look at the dynamics of knowledge sharing in relation to the trainers' roles. We identified the following categories: appraiser, adviser, teacher, informer, model, and thought stimulator (Portelance & Gervais, 2009). We also identified the following demonstrations of collaborative dialogue: agreeing with what the

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other says, elaborating on the other's ideas, and emphasizing the other's ideas and knowledge (Gilly, Fraisse & Roux, 2001). Analysis of the conversation does not reveal any co-construction of knowledge or confrontation of views. Names were changed to maintain confidentiality and anonymity.

Case A. Triad A is composed as follows: the supervisor, Andrée, who taught at the secondary level prior to becoming a university professor in French Didactics; the cooperating teacher, Sandra, with 25 years of teaching experience; and the student teacher, Joëlle, who taught Secondary 5 French.

Collaborative dynamics. Sandra, the cooperating teacher within the triad, mainly played the role of the appraiser. Her comments highlighted the strengths, progress, and achievements of the student teacher: "What I like about her is her ability to research, to get involved in what she's doing." Sandra also acted as an adviser, giving her opinion and making suggestions to the student teacher; and as a model, by explaining how she would proceed if she were the student teacher. In addition, throughout the entire conversation, Sandra elaborated on the supervisor's comments. She also agreed with what the supervisor said.

Andrée, the supervisor, performed the role of the appraiser in the collaborative process by assessing the development of the student teacher's professional competencies: "…I think you are capable of listening to students and making suggestions, but also of asking them questions so they can find out for themselves. That's great." Andrée also performed the role of teacher by expressing a considerable amount of knowledge, especially about didactics and psychopedagogy. In addition to providing advice based on her experience as a teacher, she stimulated thought by asking the student teacher questions. Finally, Andrée elaborated on Sandra's comments, complementing them, adding to them, and continuing in the same vein. She also frequently agreed with the cooperating teacher's statements. Finally, some of her comments suggest that she recognized the latter's knowledge.

The following diagram (Fig. 1) summarizes the above regarding the collaborative dynamics in Triad A.

Figure 1. *Collaborative dynamics in Triad A*
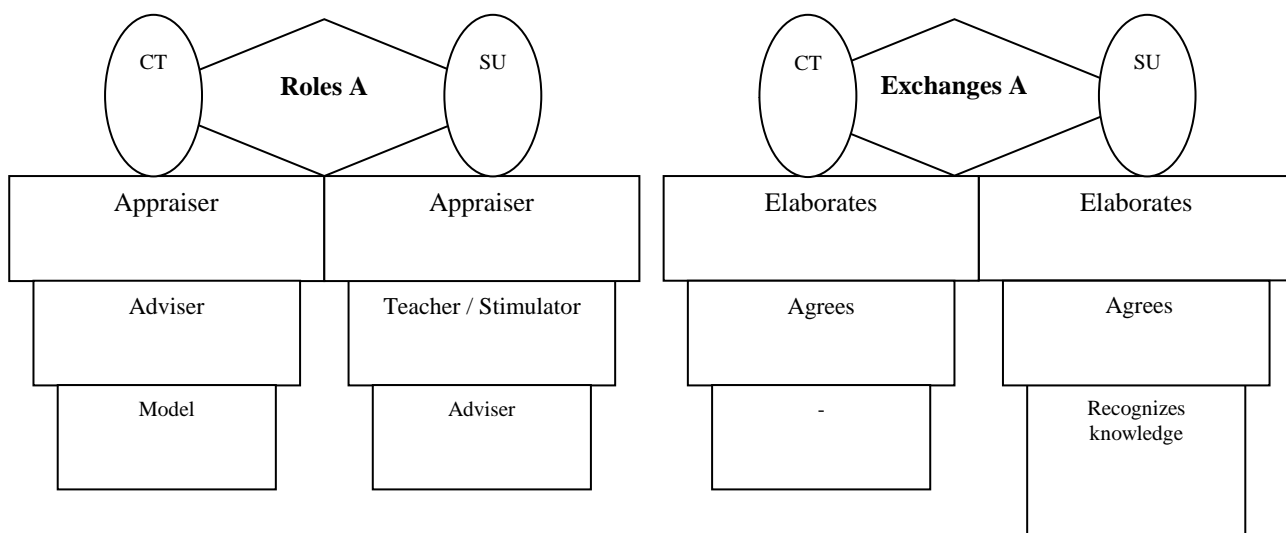
The analysis also indicated that the supervisor fulfilled her role as a leader within the triad. She structured the meeting by first reviewing the professional competencies of the student teacher. The cooperating teacher actively participated in the conversation and seemed comfortable sharing her opinion. The two trainers complemented each other well. In sum, Sandra and Andrée both played the role of appraiser of the student teacher's professional development. The student teacher benefited from both of their advice: Andrée acted as a teacher by providing explanations based on rich knowledge, while Sandra acted more as a model. Since both trainers elaborated on the knowledge

expressed by their partner, one can say that they significantly contributed to the student teacher's training through collaboration.

Case B. Triad B was composed as follows. The supervisor, Nicole, had worked as a primary school teacher and educational consultant at the secondary level, and was currently a university lecturer in learning assessment. The cooperating teacher, Julien, had 25 years of teaching experience. The student teacher, Mia, taught Secondary 3 History.

Collaborative dynamics. Though very reserved, the cooperating teacher in Triad B adopted the role of the informer in the triad's conversation. For example, Julien provided information in response to the supervisor's questions:

"There's a test at the end of the year, and a ministry exam in history." The other predominant role of the cooperating teacher was that of the appraiser. He mentioned several strengths and weaknesses of the student teacher. For example, he said: "You realize yourself that some of your educational interventions must be modified. It is one of your strengths. You try to improve your teaching strategies. Don't forget that if pupils talk all at once, you must intervene to maintain a good classroom environment". We found a single passage illustrating elaboration of the supervisor's ideas and no passages indicating that he agreed with her comments.

The supervisor contributed to collaboration mainly by stimulating thought and the development of the student-teacher regarding professional autonomy. Her numerous questions encouraged the student teacher's reflection, for example: "Tell me, what motivated you to form teams composed of friends?" She later added: "Do you feel there are benefits to forming teams that way? What are the advantages and disadvantages? Were the discussions valid? Was it worthwhile?" Nicole acted as the teacher by sharing a considerable amount of theoretical and practical knowledge based on her extensive experience as a teacher. She also provided advice in a controlled way in order to stimulate the student teacher's reflection in the training process. Through her comments, the supervisor sometimes agreed with the ideas of the cooperating teacher or recognized his knowledge. In the recorded conversation, Nicole greatly influenced the direction of the exchanges.

The following diagram (Fig. 2) shows the main results regarding the collaborative dynamics in Triad B.

Figure 2. *Collaborative dynamics in Triad B*
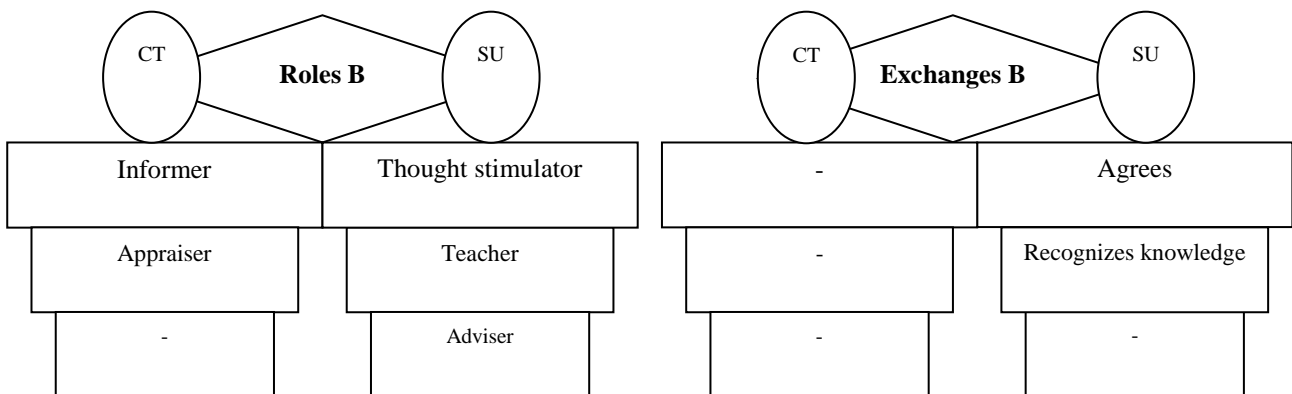
Moreover, the supervisor fulfilled her role as a leader within the triad. Nicole structured the meeting by asking the student teacher questions that stimulate thought, autonomy, and self-assessment. She asked the student teacher to justify her decisions and actions, thus encouraging her to make connections between theory and practice. The supervisor rarely asked the cooperating teacher for his point of view. She only asked questions to clarify the types of student learning assessments. The latter seemed self-effacing if not almost a spectator. In short, Julien and Nicole had separate roles.

Furthermore, since Julien said little, his contribution to the collaborative process was very limited. He did not respond to the attempts of the supervisor to encourage reflection through questions.

Case C. Triad C was composed as follows. The supervisor, Alice, had taught at the elementary and secondary levels and worked as an educational consultant; she was currently a university lecturer in French Didactics. The cooperating teacher, Marlène, had 25 years of teaching experience. The student teacher, Line, taught Secondary 4 Social Studies.

Collaborative dynamics. Marlène, the cooperating teacher, placed herself in the role of the appraiser. She emphasized the strengths and weaknesses of the student teacher by saying: "She [the student teacher] created the test herself for the evaluation. It went very well. However, the students' results were a little high." The cooperating teacher acted as the informer, especially concerning student learning assessment policies and methods. Finally, the cooperating teacher provided some advice based on her experience. During the conversation, she often agreed with the comments of the supervisor without providing additional information. She sometimes elaborated on the ideas of the supervisor.

The supervisor participated in the collaborative process through her role as an appraiser. She assessed the development of the student teacher's professional competencies. This is illustrated by the following comment: "From what I can see so far, you're someone who plans her lessons quite well. Does planning influence classroom management?" We can see in this excerpt that the supervisor values the student teacher's strengths while stimulating thought. She promotes student self-assessment of the development of professional skills: "What aspects of your teaching would you improve if you think back to the lesson you have just given?" The supervisor also adopted the role of teacher by citing the theoretical knowledge she acquired throughout her many years of teaching. During the triad meeting, the supervisor often emphasized Marlène's knowledge, valuing her role and interventions as cooperating teacher: "Following what the student said, I'd like to hear what you have to say and how you perceive your trainee. You have witnessed things that I have not." In other words, she invited the cooperating teacher to actively participate in the discussion. She also agreed with or elaborated on the latter's comments.

The following diagram (Fig. 3) summarizes the above with regard to the collaborative dynamics in Triad C.

Figure 3. *Collaborative dynamics in Triad C*
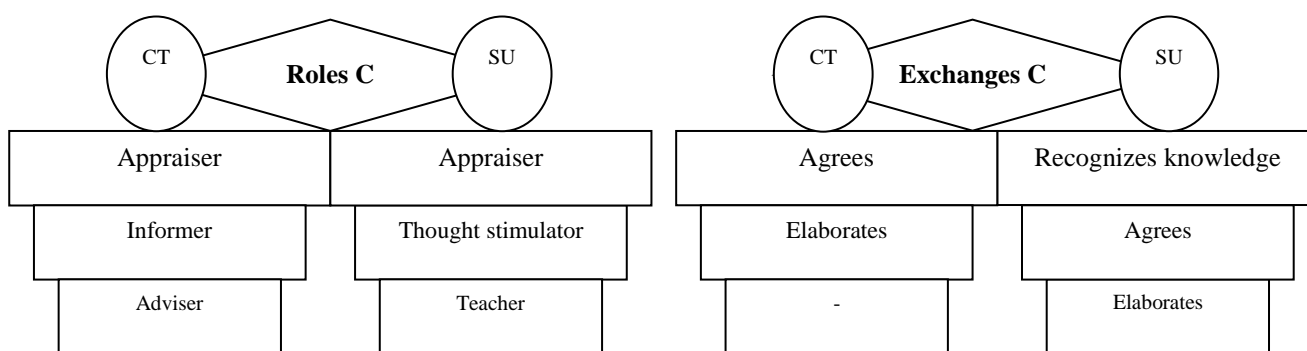
The supervisor also fulfilled her role as a leader within the triad. She began the meeting with the student teacher's self-assessment. She then asked the cooperating teacher for her opinion about the professional competencies of the student teacher that she had not been able to observe during the classroom observation period. Finally, she expressed her satisfaction with the development of the student teacher's professional competencies, while stimulating thought and professional autonomy. The supervisor often highlighted the cooperating teacher's effectiveness regarding the student teacher's training. In sum, both trainers primarily took on appraiser roles. Their other roles are distinct

yet complementary. When Alice stimulated thought through sustained questioning, Marlène participated in the exchange as informer and adviser. Marlène agreed with or briefly elaborated on Alice's comments. The latter did likewise in an articulate and precise manner.

Discussion of Results

New and interesting findings emerged from our analysis of the data, allowing us to provide some answers to our initial questions. These findings focus on collaboration through knowledge sharing between cooperating teachers and university supervisors.

Our methodological choice to supplement the interview with conversations recorded during supervisory visits proved to be judicious. It provided access to the comments of student teacher trainers in the natural setting of student teacher internships. Based on data analysis, our observations allowed us to differentiate the roles of the two trainers in the triads in which they participated. However, both trainers show their willingness to collaborate. In fact, cooperating teachers — in their different roles of the appraiser, informer, and adviser — demonstrate that they want to share their knowledge with the supervisor. On the other hand, the supervisors also express their knowledge in the roles of thought stimulator, teacher, and the appraiser. Moreover, access to conversations made it possible for us to analyze the dynamics of knowledge sharing through collaborative dialog.

What about the actual collaboration between cooperating teacher and university supervisor? We observed that manifestations of interprofessional collaboration vary. We do not claim that the collaborative dynamics seen here are exhaustive. Furthermore, the dynamics identified are not necessarily more common than others.

Potentially productive exchanges in Triad A. The two trainers of Triad A attached considerable importance to pedagogical knowledge, more specifically to adapting instruction to the specific needs of students. The supervisor, Andrée, who specializes in French didactics, colored her comments with what she knows best: links between theory and practice. Sandra complemented the comments of the supervisor, who, in return, recognized the expertise of the cooperating teacher. Their verbal exchanges were connected in such a way as to convey messages to the student that were likely to support learning; the trainers had similar comments. In a joint approach, they seemed to interact productively. Although she spoke a great deal, taking the lead of the triad meeting, the supervisor did not impose her ideas on the cooperating teacher. The latter did not hesitate to verbalize her professional judgment and her thoughts. There was no sign of a hierarchical relationship (Baker, 2005) or a power relationship (Rodgers, 2004) in their conversation. One could detect their mutual trust, thus fostering the interdependence that characterizes true collaboration (Little, 1990).

Lack of complementary comments in Triad B. Although they felt they had the necessary characteristics for collaboration, Nicole, the supervisor, and Julien, the cooperating teacher, did not demonstrate their ability to establish an interprofessional collaboration that would enhance the training of the student teacher. The cooperating teacher said he was able to share his knowledge of the school environment yet expected the supervisor to share her knowledge about student teacher training. The supervisor claimed to be able to share her theoretical knowledge yet expected the cooperating teacher to share her personal thoughts.

In fact, the supervisor took control of the meeting by stimulating thought, teaching, advising, and stimulating the professional autonomy of the student teacher. Julien only spoke if Nicole invited him to do so. When asked, he provided information and expressed satisfaction with the development of the student teacher's professional competencies. The cooperating teacher remained a spectator. This observation is possibly explained by the cooperating teacher's attitude, naturally very reserved, which could have prompted the supervisor to lead the discussions. Collaboration between the trainers through agreement and elaboration was barely noticeable. In sum, interprofessional collaboration characterized by interdependence and knowledge sharing was almost non-existent. It appears that the cooperating teacher was under the impression or had the conviction that he was at the bottom of a training hierarchy (Veal & Rickard, 1998). We can assume that he did not know what was expected of a cooperating teacher and that the supervisor did not attempt to change that.

A flattened hierarchy and some interdependence in Triad C. Marlène and Alice seemed to have the necessary profiles for interprofessional collaboration. The cooperating teacher said she had practical knowledge, and the supervisor said she had both theoretical and practical knowledge. During the supervisory meeting, the knowledge shared by the trainers was indeed distinct, but focused on the same objective, i.e., maintaining a good learning environment in the classroom. The supervisor verbalized her knowledge more. Both trainers mainly took on an appraiser role regarding the student teacher's professional development. Otherwise, only the supervisor was a thought stimulator. While fulfilling a leadership role in the triad, Alice acknowledged the expertise of the cooperating teacher. She agreed with the ideas of her partner or elaborated on them. Although the cooperating teacher spoke less than the university supervisor, she seemed comfortable with verbalizing her thoughts, possibly encouraged by a supervisor keen on highlighting the contribution of her partner in the student teacher's training. There was co-elaboration of knowledge.

Different approaches to collaboration. In sum, manifestations of interprofessional collaboration in verbal exchanges varied in relation to the dynamics of collaboration within the triads. As mentioned by Lesain-Delabarre (1998), a certain degree of inequality is apparent between the two trainers, particularly in Case B. Manifestations of collaboration as described by Cook & Friend (1991), Dionne (2005), and Little (1990) are more apparent in Cases A and C. Knowledge sharing occurred differently in Triads A and C. It was more apparent in the former, possibly due to the cooperating teacher's "outspokenness". In Triad C, manifestations of knowledge sharing may have relied on the supervisor's inviting attitude to which the cooperating teacher responded through active participation.

All three supervisors took on a leadership role within the triad, cognizant that such leadership is expected of the university supervisor. Their contribution to the collaborative process was specific: they stimulated thought and raised numerous questions. The cooperating teachers seemed less willing to initiate the reflection process that characterizes professional collaboration. Their contribution was primarily to corroborate the supervisor's statements by adding their daily observations of the student teacher's progress.

Trainers strive for a common goal yet play different roles. It appears that each of them intervenes in their way while pursuing this common goal: the trainee's progress in the development of professional skills. The distinctiveness and the diversity enrich our understanding of the collaboration between the two trainers in a context of knowledge sharing.

Conclusion

It would appear that the cooperating teachers and supervisors that took part in our study are committed to assisting the student teacher in the development of their professional abilities. Because of the required partnership between the university and the school, as well as the collaboration between the cooperating teacher and university supervisor, there is a desire for harmonisation. During their conversations, Dyads A and C clearly demonstrated acquiescent mode co-elaboration. Meanwhile, the trainers didn't engage in collaborative dialogue as described by Gilly, Fraisse & Roux (2001) seeing as there seemed to be no co-construction of knowledge and clearly no contrasting points of view during the conversations.

According to our analysis of the data, the conversations recorded in the absence of the researchers in the natural setting of supervisory meetings indicate that the cooperating teachers expressed much less knowledge than the supervisors. In Triad B, the cooperating teacher appeared to be in a wait-and-see position. Nevertheless, it is noted that cooperating teachers have knowledge that differs from that of supervisors (Gervais & Desrosiers, 2005), that their knowledge is complementary and that there is no hierarchical status to each trainer's knowledge (Campbell & Lott, 2010; Gervais, 2008; Ferrier-Kerr, 2009).

The cooperating teachers that took part in our study seemed to act consistently with their view that responsibility for collaboration lies with the supervisor. We could be inclined to conclude, like Van Zee & al. (2003), that the role of the cooperating teacher within the triad is secondary. Our results indicate that this is not what cooperating teachers want. They do not want a spectator status. On the

contrary, they are convinced of their ability to contribute to the collaborative process. The problem lies not in adherence to the requirements for collaboration but in the barriers to collaboration, among which are the barriers related to hierarchical tensions (Veal & Rickard, 1998), lack of time, and the different priorities of trainers (Sim, 2010). This study adds to the list of barriers already reported: lack of knowledge of the role of the student teacher co-trainer and failure to clarify each other's expectations. It also broadens the description of the respective roles of the two trainers, articulated by Campbell and Lott (2010), by characterizing these roles according to knowledge expressed and collaborative dynamics within the triad, and revealing, for instance, that some cooperating teachers adopt a wait-and-see attitude. The study of interprofessional collaboration between the two student teacher trainers using another analytical framework would reveal other aspects of the dynamics of knowledge sharing.

Interprofessional collaboration requires developing specific competencies. Supervisors indicate that they are willing and able to collaborate, but do they make enough room for co-trainers? If both trainers believe in the possibility of collaboration, it is important to help them achieve this goal. We recommend that continuing education activities of student teacher trainers take place together with cooperating teachers and supervisors and be geared towards their coordinated interventions with the student teacher (Portelance, Gervais, Lessard, Beaulieu & collaborateurs, 2008). Action research could lead to a greater knowledge of how to foster collaborative dialogue between student teacher co-trainers.

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Doctoral Research Education in Canada: Full-time and Part-time Students' Access to Research Assistantships

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Abstract
Graduate students' development as researchers is a key objective in higher education internationally. Research assistantships (RAships) nurture graduate students as novice researchers as they develop theoretical and methodological knowledge. However, few studies have investigated the ways institutional regulations, informal practices, and students' academic status may influence graduate students' access to RAships. Based on a larger case study exploring RAship experiences of full-time and part-time doctoral Education students at an Ontario university in Canada, this paper reports key arguments and conclusions specific to students' unequal access to RAships. Although the study is context specific and cannot be generalized, described practices and recommendations can inform other institutions and programs nationwide.

Keywords: Research education, doctoral studies, research assistantships, research assistants, research supervisors, case study

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Governments and international funding agencies recognize that university researchers create knowledge that drives the innovation necessary to deal with complex social and economic challenges (Organisation for Economic Co-operation and Development, 2015). Universities play an essential role in developing creative solutions and the critical thinking skills that fuel nations' knowledge economy whose success is predicated on global perspectives. The Canadian federal government's investment in researchers is vital for the nation's universities since the latter are responsible for more than one-third of Canada's annual research activities (Lambert-Chan, 2008). Thus, governmental support for quality research, including training the next generation of skilled researchers, is needed to meet the growing societal demand for new ideas and innovation.

Canada's three main funding agencies—the Social Sciences and Humanities Research Council of Canada (SSHRC), the Natural Sciences and Engineering Research Council of Canada (NSERC), and the Canadian Institutes of Health Research (CIHR)—make significant investments in research and emphasize that research and innovation highly influence Canada's economic prosperity and quality of life (Association of Universities and Colleges of Canada, 2012). In the changing world of research, Canadian funding agencies' primary objective is to invest in the development of talented and innovative leaders and outstanding scholars who can make strong contributions nationally and globally.

The federal and the provincial governments' commitment to enhancing research and development create expectations in regards to graduate education (Ministry of Research & Innovation, 2008; Rae, 2005), which is expected to prepare highly skilled researchers who are able to engage in the diversified global research environment. According to McWey, Henderson, & Piercy (2006), research development in graduate programs encompasses more than mere research methods courses and completion of a thesis; it also involves graduate students' participation in educational opportunities that connect and apply theoretical course content to research practice. Such educational opportunities may arise in research assistantships (RAships), during which time students may become involved in diverse components of research.

Research partners—scholars, students, institutions, and funding agencies alike—recognize the potential for and importance of mutually beneficial outcomes when graduate students work as (RAs) research assistants (Grundy, 2004; McGinn, Niemczyk, & Saudelli, 2013; Moore Scarduzio, Plump, & Geist-Martin, 2013; Pollon, Herbert, Chahine, & Falenchuk, 2013). RAs labour alongside research supervisors on the latter's research projects and may participate in diverse assistantship tasks (from designing a study and applying for research clearance to writing reports and presenting at conferences). The development of skill sets though these activities facilitates the acquisition of knowledge that in turn supports the RAs' graduate studies. Mentoring relationships may develop between RAs and research supervisors engaged in RAships, which can benefit both parties.

Graduate students' development as researchers is a key objective in higher education, yet few studies have investigated such academic and professional development (McGinn, 2006). RAships provide opportunities for graduate students to acquire, practice, and enhance their research knowledge and skills (Grundy & McGinn, 2009; McBurnie, 2011; McWey et al. 2006); however, the majority of the extant literature concentrates on the venues of graduate research coursework (Winn, 1995) and thesis supervision (Amundsen & McAlpine, 2009; Bartlett & Mercer, 2001; Grant, 2005; Wisker, 2005) through which research is taught and learned. Much less is understood about RAships and their potential for educating future generations of researchers. Indeed, few studies have investigated graduate students' experiences with RAships and the ways that institutional regulations, practices, and social relations influence such experiences (Edwards,

2009; Hutchinson & Moran, 2005; Molony & Hammett, 2007; Turner 2010). In addition, because full- and part-time doctoral students typically follow different regulations, it seems appropriate to investigate their access to RAships separately. Stemming from a larger case study of RAships, this paper explores full- and part-time doctoral students' access to RAship experiences in a particular program and field of study at one Ontario institution.

Theoretical Framework

The theoretical framework guiding the study was informed by a social practice perspective on learning posited by Lave and Wenger (1991), who argued that learning is a process of participation in communities of practice. They portrayed legitimate peripheral participation as a particular way of engagement whereby a learner participates in the actual practice of an expert, though only to a limited degree initially and with limited responsibility for the final result.

Legitimate peripheral participation refers to the process by which newcomers become part of a community of practice and eventually become full participants. Recognizing legitimate peripheral participation in this study thus encompasses RAships as potential educational venues for developing future researchers. Doctoral RAs working alongside experienced research supervisors may have opportunities to become part of a research community. Through collaborative engagement in research and the shared construction of knowledge, students can learn research skills, generate intellectual capital, and most importantly, begin the transformation toward becoming independent researchers.

As Lave and Wenger (1991) stated, "The key to legitimate peripherality is access by newcomers to the community of practice and all that membership entails" (p. 100). RAships may provide access "to a wide range of ongoing activity, old-timers, and other members of the community; and to information, resources, and opportunities for participation" (Lave and Wenger 1991, p. 101). Yet, as this article will illustrate, access to and distribution of RAships that are delimited by institutional regulations and practices may promote, restrict, or prevent students' legitimate peripheral participation.

Research Methods

This case study examined RAships in a doctoral Education program at an Ontario institution during specific period of time. As Creswell (2011) explained, a case study is an in-depth exploration of a bounded system based on extensive data collection of multiple sources, where "bounded means that the case is separated out for research in terms of time, place, or some physical boundaries" (p. 465). The multiple data sources in this study included interviews with doctoral students, research supervisors, and administrators as well as analysis of documents relevant to RAships. It is important to note that research supervisors' and administrators' responses were meant to complement doctoral students' voices to build a comprehensive understanding of RAships.

Participants were recruited through maximal variation sampling, which allowed for the building of complexity into research when sampling participants or sites. This purposeful sampling was used to develop many perspectives and a detailed understanding of the access to RAships through recruitment of doctoral students that differ in terms of study status, research supervisors who work with doctoral RAs, and administrators directly involved in the organization and distribution of RAships.

The recruitment steps resulted in semi-structured interviews with three groups of participants— 13 doctoral students, five research supervisors, and two administrators. One personal interview

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was conducted with each participant. The doctoral student group comprised eight full-time and five part-time students; six had worked as RAs, while the other seven had not considered or had decided not to engage in RAships. Consistent with typical demographics in Education programs, women were overrepresented in the three participant groups: students (10 women, three men); research supervisors (three women, two men); and administrators (two women). Data saturation—a point in data collection when interviews no longer provide new or relevant information—was used in order to decide when a satisfactory number of interviews had been completed (Saumure & Given, 2008).

Participants granted the researcher permission to audio record all interviews, which then were transcribed verbatim. Transcribed interviews were forwarded to each participant who then had the opportunity to verify transcription accuracy, volunteer additional information, or withdraw from the study. All but one participants responded to the member check.

Interview data were complemented by documents that reflected the sample university's regulations and practices pertaining to RAships. The documents were located through searches of departmental and institutional websites and included four university documents, three Faculty documents, one program document, and three external documents. These data augmented and corroborated evidence from the interview data sources (Yin 2012). For confidentiality purposes, the institution's name is not disclosed in order to protect participants' identities, and institutional documents are not cited or identified by name; the documents are categorized as university documents, Faculty documents, and program documents.

After member checks, the interview transcripts were imported into NVivo software along with the documents to facilitate systematic data analysis. Miller and Salkind (2002) explained that qualitative data analysis software enables researchers "to systematically analyze text or image files, categorize and code information, build descriptions and themes, sort and locate important data segments, and provide visual display of codes and categories" (p. 164). The analysis was treated as an ongoing process (Miles & Huberman, 1994). A general sense of the data was acquired by transcribing the interviews and reading the documents, which together served as a preliminary exploratory analysis (Creswell, 2011). Then an inductive approach to establish general codes and themes derived from the detailed data (i.e., transcribed interviews and documents) was adopted. After coding all interviews, unique codes were identified and comparable codes were grouped to achieve a more manageable set of themes. As a result of this process, 12 final themes were developed, which then informed exploration of full- and part-time doctoral students' access to RAships.

Context

In order to situate the case, this section explains the doctoral program and organizational characteristics of RAships at the institution under investigation. A thorough description is provided so that international readers may use this information to judge the extent to which the findings may also inform other programs or institutions where RAships could be considered research learning venues.

The Program

The program under investigation is one of a few in Ontario that offer flexible learning environments in terms of possibilities to study on a full- or part-time basis (Saliba, 2012). The program involves face-to-face seminars in condensed blocks during two time periods plus online

delivery for other courses, which allows students easy access regardless of their geographic area. The program encompasses three fields of study that focus on educational policy, educational psychology, and critical theory. To support students' research education and the consequent development of their identities as researchers, the program offers research methods courses that expose students to qualitative and quantitative research methods in Education, a comprehensive examination through which students are required to demonstrate their research skills and knowledge, and dissertation research whereby each student undertakes an independent study investigating a relevant issue in Education under the supervision of a doctoral committee. In addition, students may engage in RAships to assist research supervisors with their research.

Structure

All first-year students begin the program in July and must complete two compulsory face-to-face courses during their first and second summers. In the fall term of their first year, students normally take one or two specialization courses in their respective fields of study; such courses are delivered through distance technology (one online and one usually independent). Although the program structure, including the timing of the first compulsory course and residency requirements, is somewhat fixed, the other courses and the independent work allow space for students to design plans of study that meet their personal and professional objectives.

After completion of all coursework, students are expected to complete a comprehensive examination that requires students to demonstrate profound knowledge of their respective fields of study, along with the research skills necessary to undertake dissertation research. The comprehensive examination provides examiners with evidence that students are prepared to move to the next stage of the doctoral program and undertake original research.

The next stage requires students to finalize and defend their dissertation proposals. Drafting the proposal may originate early in the program, especially for candidates seeking external funding, or during the final research course, which allows students to examine theory and research in relation to their dissertation topic. The dissertation proposal is approved when examiners are satisfied with its quality and convinced that the candidate is ready to proceed with the proposed research.

Full-time students are deemed to be in residence throughout the course of the program and are expected to complete their degrees within 4 years. Part-time students are allowed to complete the requirements of the program over an extended period of time and fulfil residency requirements during the two doctoral seminars (two condensed blocks during the two time periods) and two other consecutive terms.

Enrolment

The program consistently receives far more applications than it can accommodate. Admission to the program is limited, and the selection process is highly competitive. All applicants to the doctoral program are required to select a field of study, submit a description of the proposed area of research, and outline whether their studies will proceed on a full- or part-time basis.

The program accommodates students on a full- or part-time basis. At the time of data collection (fall 2013), 25 students (56%) were registered full time and 20 students (44%) were registered part time. The program includes a diverse group of students in terms of age, gender, race, cultural background, and economic status. Domestic students come from across Canada and there are very few international students. Since the program began, there has been much higher representation of females (around 75%) than males; this is very common in the field of Education, which is

overrepresented by females (Government of Canada, 2012; Turcotte, 2013).

Funding for Doctoral Students

Financial support is available for all full-time students during the first 4 years of study. The support offers fellowship funding, guaranteed paid employment through graduate assistantships, and additional institutional incentive awards. The main funding package for full-time students includes a graduate fellowship that requires no employment duties and a graduate assistantship that requires students to work as RAs, teaching assistants, language assistants, or instructors if they wish to receive that funding component. For the past 2 years, the graduate fellowship was approximately $12,000 and graduate assistantship was $7,200 per year for each student.

In addition to the main funding package, full-time students are eligible to receive twice during their studies the Faculty of Education Research Fellowship. Each year, there are either six $5,000 fellowships or five $6,000 fellowships available. Students compete for these fellowships; however, no employment is required for successful applicants.

University-related employment for positions such as RAships provides financial support for graduate students and work experience that is designed to supplement their formal academic programs, and contribute to skills development relevant to their future careers. However, as per province-wide standards, full-time graduate students are expected to devote time to their studies and should not exceed 10 hours per week on any employment (Council of Ontario Universities, 2013). Part-time students are eligible to work more than 10 hours but not more than 44 hours based on provincial employment standards (Ontario Ministry of Labour, 2013).

Funding for Research Assistants (RAs)

The Faculty of Education supports faculty research through two main funds: the Graduate Research Assistant Development (GRAD) Fund (approximately $31,000 annually) and the Research and Development (R&D) Fund (approximately $10,000 annually). The GRAD Fund is the most directly relevant source of support for graduate students and explicitly introduces them to the research process. Every faculty member is eligible to apply once each year for a 60-hour contract on the condition they provide training to the hired students during the contractual time frame. Each student is eligible to apply and accept one contract per term. Full-time students have priority but part-time students can be hired if full-time students are not available.

Providing research training to students is part of the GRAD Fund criteria but it is not a component of the R&D Fund criteria. As one of the administrators explained, the department encourages professors to use the R&D Fund to support graduate students' research education; however, there is no requirement or obligation to do so. In fact, the funding can be used for other activities related to the professors' research agendas.

Other internal grants from the university serve as seed grants meant to support research projects leading to external grant applications. There are also special purpose grants for manuscript preparation (up to $1,500), organizing a workshop (up to $5,000), or other scholarly activities. Some of the latter sources could be used to hire a graduate student as an RA. In addition, some faculty members have external grants from sources such as SSHRC.

Recruitment of RAs

The Faculty of Education has a mechanism in place whereby students interested in working as RAs can submit a Student Application Form, their current curriculum vitae (CV), and a brief outline of their research interests to the Faculty's research office. The form and the student's CV

are then placed in a binder and made available to researchers interested in hiring RAs. The intention is to assign RAships to full-time students and to provide as fair a distribution as possible. The application process allows researchers to determine which students are interested in RA positions, the pool of existing skills, and the training students would like to receive.

This recruitment process helps students and researchers alike; it enables students to engage in research projects that offer them opportunities to develop new skills and also helps researchers to find suitable RAs. However, it is important to note that not all hiring is undertaken through the auspices of the research office; students may become informed about RAship opportunities from course instructors or through conversations with their colleagues.

Findings

In order to clearly and concisely illustrate doctoral students' access to RAships, this section is organized in three parts that address the distribution and organization of RAships as well as the student status (i.e., full- or part-time).

Distribution of Research Assistantships (RAships)

The majority of full- and part-time students reported securing their multiple RAships informally as opposed to doing so through the existing formal process. In most cases, full-time students were contacted directly by researchers familiar with their work ethics or through referrals from other professors. Meanwhile, part-time students attributed their success in securing RAships to being proactive, connecting with professors, and letting them know about their availability to work as RAs.

Doctoral students' responses correspond to information reported by the research supervisors who indicated they found RAs mainly through personal contacts (e.g., supervising students' doctoral work, being on students' committees, or having students in their courses) and recommendations rather than any formal recruitment process. As one research supervisor explained, she would prefer knowing the quality of students' work prior to hiring them as RAs.

When students were asked specifically about factors that influenced their access to RAships, the full-time students with RAships indicated that students get hired as RAs based on the skills they bring to the project; they emphasized that students with requisite skills have greater chances of securing positions than those who need research training. These perspectives reflect administrators' voices indicating that some researchers prefer hiring students who require little training.

One of the full-time students without RAship experiences recalled receiving an email about an RAship opportunity to which she did not respond because she did not have the prerequisite skills noted in the posting. The student confirmed her willingness to learn new skills but deduced from the description of duties that she would need to have the required skills to qualify for the position. Another full-time student with RAships explained, "[research supervisors] are always fishing for experience because they themselves are so busy that they don't have time to dedicate to teaching students." The idea of research supervisors having insufficient time to train RAs was also broached by another full-time student with RAships: "So idealistically, yes it is fair to engage new students [as research assistants] but realistically I think that professors would rather take someone with more experience." Statements touching on research supervisors' busy lives align with literature that reports faculty workload pressures and competing demands for time due to heavy teaching loads, pressure to conduct research and publish, and substantial administrative and service

responsibilities (Austin, 2003; Deem & Brehony, 2000). One administrator indicated that researchers face deadlines and must progress with their respective projects in a timely manner. In addition, having limited internal funding, they sometimes prefer to hire people who can assist with a project for perhaps only a few hours to complete specific tasks to help move the project forward.

It is important to note that some students relied more heavily than others on funding to support both their studies as well as their families. It was evident in responses from two full-time students that RAships provided much-needed financial support in addition to any educational benefits; thus, not knowing when RA positions would become available or not having necessary skills to qualify for assistantships put some full-time students at a disadvantage. As Hinchey and Kimmel (2000) succinctly stated, "The more a student needs money, the less choice he or she has about work conditions" (p. 67).

Several full-time students questioned the actual purpose of RAships given that some research supervisors prefer hiring students with existing research skills. For example, a full-time student with RAships asked, "So what is research assistantship? Is it an opportunity to learn or opportunity to practice the skills you already have?" Another full-time student with RAships questioned why students should be expected to have a particular skill set in order to work as RAs: "If we would have all the skills already, then why would we even bother with RAships?" Such contemplations reflect Hinchey and Kimmel's (2000) views about the ambiguity associated with the research and teaching services that graduate students provide to universities; although institutions may claim that research and teaching assistantships serve as ways for graduate students to learn the skills they will need as professionals, such students often perform tasks that are normally reserved for experienced researchers.

Administrators indicated that full-time students have priority to access RAships; however, as one administrator noted, "part-time students can be also hired if full-time students are not available. The idea is to support the full-time students who are not working and getting some additional income to support their studies and life." Because part-time students tend to have full-time employment, they are not considered as a first choice for financial support through assistantships. Although the priority in hiring RAs was given to full-time students, the majority of research supervisors in this study indicated they did not consider students' status when appointing RAs. In addition, administrators reported limited input into professors' selection of assistants.

The main criteria researchers considered when hiring RAs were students' general research skills, their ability to quickly engage in a research project, their availability during a specific time frame, and their interest in the research topic; some of the latter elements were more important than others for each research supervisor based upon individual preferences. However, it is important to note that such preferences corresponded to researchers' criteria for hiring doctoral RAs; the research supervisors clarified that they would have different expectations in terms of competencies and research training for master's students.

Part-time students advocated for equal distribution of RAships regardless of student status. As one student articulated, everyone should have the opportunity to work as an RA during doctoral studies. Although administrators explained that efforts were made to hire students who did not have RAships, the process is not systematic for two reasons: (a) there is no database in place to show who had RAships and who did not, and (b) researchers hire students informally. The majority of participants recognized the need for a database that would record the names of those hired as RAs, their research supervisors, the point within their studies when they were hired, and the length of their contracts.

Organization of RAships

The majority of full- and part-time students emphasized that RAships are not well advertised and that it is difficult to foresee when such positions may become available. Students were unsure about how to obtain information on available RA opportunities or who was interested in hiring RAs, and a majority of students voiced the need for transparent and fair distribution of RAships. Students believed distribution should be a transparent process, especially since the funding for many projects came from internal or external grants with expectations that researchers provide research training for students. Therefore, they argued that every student should have equal access to research training.

Students' responses aligned with those of research supervisors who confirmed that it was challenging for students to know what projects were available. Most research supervisors attributed the gap between available RA positions and potential candidates' awareness of these opportunities to a lack of electronic accessibility to such information. Access (or lack thereof) to information regarding RAship opportunities affects doctoral students' entry into research communities of practice.

The majority of full- and part-time students without RAships lacked general information about RAships. Three full-time students without RAships reported that they were unable to find RA positions despite attending a workshop on the topic and being part of the research community through their frequent presence on campus. The main issue seemed to be the timeliness of when RAships were offered.

Some full-time students indicated that they often took on available assistantships (e.g., teaching assistantships) rather than wait for a position (such as a RAship) that could be more beneficial for their professional development because they did not want to lose the paid fellowship portion of their doctoral funding package. One full-time student without RA experience did not receive any information about available RAships and for two consecutive years undertook employment outside of his area of interest to avoid losing any of the doctoral funding. As explained in the Context section, full-time students took on employment out of institutional obligation because they were required to work for the university to maximize their doctoral funding. Again, working while studying was a necessity for many full-time students in order to generate sufficient income to support their studies as well as their families.

Some students who quickly secured the first-available assistantship position were disappointed they were unable to accept more suitable positions that arose later because of the 10-hour per week limit and other personal commitments. As one full-time student without RAships said, "I got some emails sent to everybody about research assistantship opportunities but at that time I had a TA position and I knew that we can't exceed more than 10 hours per week."

Student Status

All doctoral students were asked if and how their status influenced their experiences with RAships. Full-time students with RAships referred mainly to the advantages of full-time status, whereas part-time RAs voiced concerns and disadvantages associated with their student status.

Full-time students indicated that their status allowed them to fully immerse themselves in doctoral work, to be regularly on campus, to build relationships within a scholarly community, and to access RAships. All full-time students with RAships agreed that being on campus made them visible and increased their educational opportunities. Students indicated that relationships with researchers and reputation within the Faculty influenced their access to RAships. Both factors relate to regular visits on campus. Being around and networking offered full-time students unique

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opportunities to learn about professors' research interests and current projects, and to find out when potential RA opportunities might become available. Research supervisors and administrators also recognized that regular visits on campus increased students' chances of getting involved in educational assistantships. One administrator likewise emphasized the importance of being visible and building a good reputation within the department.

A majority of part-time students commented on the problem of isolation from the university, disconnection from the program, and limited access to RAships. As indicated by part-time students, most activities pertaining to RAships took place during weekdays when they could not attend and when remote conferencing and presenting were not available. All part-time students called for RAship opportunities for students located far away from the university.

This study also sought to identify factors that affected doctoral students' decisions not to undertake RAships or the reasons for their lack of RAship opportunities. Responses from the four full-time students without RAships were divided between (a) those who reported they were not interested in RAships because of the demanding full-time studies workload and preference to engage in teaching, and (b) those who looked for RAship opportunities but were not able to secure them due to ineffective advertisement of RA positions. The majority of part-time students without RAships reported feeling isolated from the program and research community and lacking practical research experiences. Part-time students without RAships called for regulations that would make RAships more accessible for part-time students located far away from the campus. Considering existing technology and conferencing tools currently available, there is no apparent reason to limit students' access to information and research learning opportunities. More effective use of technology has the potential to increase students' connections to a research community and decrease their feelings of isolation.

In addition, full-time students reported family financial situations as a factor contributing to the level of urgency in accessing RAships; some students had stable financial situations whereas others relied on on-campus employment to support their families. Part-time students identified their full-time employment and distant locations as factors limiting their presence on campus. Full- and part-time students alike indicated that family obligations—specifically parenting duties corresponding to young children—reduced the time they had available to engage in RAships.

Discussion and Recommendations

The analysis of participants' responses led to a deeper understanding of access to RAships but also raised questions related to inclusiveness in a community of research practice. Participants recognized several shortcomings in terms of organization and distribution of RAships that contributed to unequal access to RAship opportunities. As discussed previously, some full- and part-time students did not engage in RAships because of limitations such as a lack of information about RAships, poor advertisement of RA positions, and scarce assistantship opportunities for students located far from campus.

The findings from the study showed that the majority of full- and part-time students secured their multiple RAships informally as opposed to following any established formal process. Full-time students reported being contacted in most cases directly by professors, whereas part-time students attributed securing RAship opportunities to being proactive, connecting with professors, and letting them know about their availability to work as RAs. Considering that full-time students are more often on campus and thus more visible to the faculty and staff than part-time students, it is understandable that they are approached more frequently with assistantship offers than part-time students. It is important to note, however, that the informal hiring practices excluded many students

(full- and part-time alike) from opportunities to participate in RAships. Ultimately, access to RAship opportunities translates into access to legitimate peripheral participation in a research community.

The majority of participants suggested that advertisement of RA positions was inadequate and indicated a need to enhance accessibility to information about RAships. Creating an electronic platform for RAs and research supervisors would allow graduate students to find out about researchers' projects and potential RAships, while simultaneously allowing researchers to identify students looking for RAship opportunities.

The stories of several part-time students illustrated structural limitations that imposed barriers to accessing RAships. The accounts from part-time students revealed their feelings of isolation and exclusion from access to information about RAships due to their full-time employment, family obligations, and often distant locations. Students' stories aligned with the literature reporting that part-time doctoral students are often disengaged from the learning community, sitting on the periphery and in isolation (Neumann & Rodwell, 2009; Sanders, 2012). To ameliorate feelings of isolation, they called for flexible hours for workshops and information sessions as well as more effective use of technology.

Another practice that prevented many students from legitimate peripheral participation through RAships relates to hiring students with existing research skills over those with less research experience. Many full-time students and administrators recognized that students were hired as RAs based on the skills they brought to the project. Some research supervisors also admitted to this practice. Students emphasized that those with skills had a higher chance of getting positions over those who needed research training. There is no question that research supervisors work with strict deadlines and often have limited funding, which may result in their favouring students with existing research skills to assist with their projects. Still, although research tasks must be completed in a timely fashion, which is more feasible if an appointed RA already has the requisite skills, it is important to recognize that such practices exclude a significant number of students from educational opportunities.

As noted earlier, the theoretical framework of legitimate peripheral participation (Lave and Wenger, 1991) used in this study indicates that newcomers to the community of practice require "access to a wide range of ongoing activity, old-timers, and other members of the community; and to information, resources, and opportunities for participation" (p. 101) in order to become full members. Doctoral students, who are the research leaders of tomorrow, develop their identities as researchers by engaging in research communities and doing research. Therefore, they need opportunities to acquire a sense of belonging to scholarly communities (Pyhältö, Stubb, & Lonka, 2009). Affording doctoral students with legitimate peripheral participation implies granting them access to RAships as research learning spaces; conversely, limiting access to those who already possess skills to engage in RAships marginalizes students eager to acquire research skills and to become part of the community.

It is also important to consider if existing skills should or could be used as criteria for recruiting students as RAs as well as the implications of doing so. Does the program's accepted practice of prioritizing students with existing research skills for RA appointments assume that all students enrolled in the doctoral program have such skills? Does the program consider and assess such research skills during the admissions process? These questions need answers in order to evaluate the appropriateness of existing hiring practices. If the program enrolls doctoral candidates with diverse levels of research skills, then program planners should (re)evaluate admission criteria. In other words, is the program designed exclusively (or favourably) for students with existing

research skills, or does it intend to include the acquisition of research knowledge and skills as an outcome that students are expected to achieve through proper research training? If the goal is the latter, then it is essential for the program to assist students in terms of resources and educational opportunities to assure their development as researchers.

The continued practice of hiring students with existing skills over those who need research training has profound implications. First, it contradicts the institutional claims that RAships serve graduate students to learn research knowledge and skills. In this regard, Hinchey and Kimmel (2000) urge institutions to reveal if "graduate students are novices who need assistantships to learn professional skills, or … skilled scholars contributing immeasurably to the work of university" (p. 7). To that end, doctoral students in this study already question the purpose of RAships—more specifically whether RAships are spaces to learn research or practice existing research skills, and why someone with research skills would even consider becoming an RA. Second, limiting RAships to students with existing research skills means supporting the circulation of research knowledge and skills within the same privileged group of students; doing otherwise would require researchers to ensure equity in the appointment of RAs. Researchers should consider students' competence as potential RAs with adequate research training as opposed to students' existing research competence (McGinn et al. 2013). Moreover, consideration should be given to the benefits RAships can provide to students rather than the extra time and challenges involved in training RAs (Strike et al. 2002).

With respect to fair distribution of RAships, the findings indicated that the absence of a database storing information regarding assistantships further exacerbates the problem. Creating an electronic record could identify students without assistantships and grant them hiring priority when RA opportunities become available. In practice, such a searchable database can only serve its purpose if researchers respect fair distribution practices. Otherwise, even with such a database in place, researchers might hire students with existing skills rather than provide opportunities to those with less experience.

Overall, the findings demonstrated several practices and regulations that prevented or limited students' legitimate peripheral participation through RAships. It is clear that greater attention needs to be paid to institutional structural issues that mediate organizational processes and relationships between RAs and research supervisors. RA recruitment processes need to be fair, transparent, and compliant with institutional regulations. Explicit regulations need to inform research supervisors how to reach potential RAs, what procedures to follow to recruit them, and what criteria to consider when selecting candidates. Although students with existing research skills may contribute to project completion with minimal guidance, students without RAship experience may benefit the most in terms of acquiring research skills and identifying themselves as members of a research community. In addition, lack of accessibility to information regarding RAships limits doctoral students' access to RAships. Therefore, enhancing existing structures of access and upgrading to provide virtual access to information may ameliorate some of the current limitations to students' engagement in RAships.

The findings also indicate a need for more inclusive regulations for part-time students who, like full-time students, wish to participate in research practice and gradually become full participants in a research community. Although the commitment to make the program inclusive for part-time students is visible, it is unclear how could RAships become more available to part-time students. One option to consider would be to give part-time students priority to work as RAs during their residency periods (full-time students are given such priority during every term due to their status; therefore, part-time students could be granted priority over full-time students during their

residency periods). Another option, which aligns with some students' suggestions to make RAships a mandatory part of the program, would be to grant a specific number of mandatory RA hours for all full- and part-time students alike. The set number of hours would need to be reasonable for part-time students to complete during their residency periods, while full-time students would have a longer period of time in which to cover the same number of hours. This approach would allow all students to have at least one RAship experience within the program. As explained earlier, the main funding package for full-time students includes an optional graduate assistantship that requires students to take on employment assignments. This graduate assistantship (or part of it) could be allocated to doctoral candidates at the outset of the program for full-time students and the start of the residency period for part-time students, with the condition that students find research supervisors. It is reasonable to assume that most faculty members would welcome the assistance of doctoral students with their research projects, especially if they do not need to worry about securing additional funds.

Conclusion

Considering that the culture of the academy has embraced research as its highest value and that comprehensive universities have adopted missions to discover, produce, and share knowledge, it is somewhat surprising that RAships seem to be in the process of development in terms of organization and distribution at this institution.

The multiple data sources considered in this study, especially the interviews with doctoral students, research supervisors, and administrators, highlighted how inaccessible RAships can be to some students, especially part-time students from distant locations. The results have also shown that institutional regulations and recruitment practices can hinder doctoral students' participation in RAships. This study's findings offer quality recommendations to improve full- and part-time students' access to RAships within and beyond the program under investigation. The findings may help students understand access to RAships, assist academics in hiring research assistants, and inform administrators and academic program committees about possible organizational changes to be made.

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Addressing the Teaching of English Language Learners in the United States: A case Study of Teacher Educators' Response

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Abstract

This article discusses teacher educators' response to how teacher education programs should prepare prospective teachers to be teachers of English language learners. In the case study presented, the authors note that discussions have ensued about whether teaching English language learners (ELLs) should be addressed through separate coursework or whether content areas (e.g., English language arts) should infuse this content into already existing disciplines. Though content fields, such as English language arts, have been encouraged to address the teaching of English language learners, Lucas and Villegas (2011) assert that teacher education programs have yet to adequately address the needs of ELLs throughout the curriculum. Findings illuminate the connection—and sometimes conflation—of the aims of teaching diverse learners and teaching ELLs, the importance of teacher education coherence, and the value of a partnership approach to the teaching of ELLs.

Keywords: Teaching English language learners (ELLs), teacher educators, teacher education and teaching English language learners

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It is estimated by the year 2030, over 40% of the K-12 population in U.S. schools will be children whose first language is not English (U.S. Census Bureau, 2007). As teacher education programs strive to decide how best to prepare new teachers for this reality, discussions have ensued about whether teaching English language learners (ELLs) should be addressed through separate coursework or whether content areas (e.g., English language arts) should infuse this content into already existing disciplines. Though content fields, such as English language arts, have been encouraged to address the teaching of English language learners, Lucas and Villegas (2011) assert that teacher education programs have yet to adequately address the needs of ELLs throughout the curriculum.

de Oliveira and Shoffner (2009) posit that the teaching of ELLs as addressed with future content-area teachers has generally resided under the umbrella of "teaching diverse students." Yet, as classrooms in the United States become more culturally and linguistically diverse, perhaps it is unwise to characterize ELLs under such broad a category. Instead, the field must move toward a vision of both culturally and linguistically responsive teaching when working with ELLs. In this paper, we investigate how teacher educators respond to this issue. Through examining the results of a nationwide survey of English language arts teacher educators, as well as through the results of focus group interviews with a sub-section of these individuals, this article works to delineate how teacher educators in English language arts view the teaching of ELLs as part of their disciplinary field. Results of this study will help articulate how other content areas within teacher education might also seek to integrate the teaching of ELLs into their respective disciplinary fields.

Conceptual Framework
A Teacher Learning Approach to Learning to Teach ELLs in Pre-service Teacher Education

In this paper, we draw upon a *teacher learning* framework for effective teaching of ELLs. We look to the work of Nagle (2013), who, with colleagues, explores how teachers and teacher educators have responded to and learned from ELLs. Nagle recognizes that in the current era of accountability and its increased demand for recognition of multiple forms of literacy and literate practice, ELLs comprise a significant portion of the student population across the United States; therefore, teachers in all content areas must be responsible for providing high quality instruction that meets the needs of this group of students. Though the term "collaboration" can be read as somewhat cliché, Nagle and his colleagues outline that, through a teacher learning framework, collaboration does not merely mean working together. Rather, a teacher learning framework and collaborative perspective for teaching ELLs recognizes that each collaborator brings something different to the process of curriculum design for ELLs—whether that expertise is English language arts content or knowledge of systemic functional linguistics (Halliday & Matthiessen, 2004). Outlining the essential components of the collaborative effort is key to understanding why a teacher learning framework can be successful within a given context.

One key aspect of a teacher learning framework articulates that university faculty may need further professional development that will enhance their understanding of teaching ELLs. From such professional development, faculty will be able to broaden their conceptual and pedagogical knowledge and more successfully integrate an awareness of teaching culturally and linguistically diverse students into their syllabi and courses. A teacher learning framework stresses the importance of collaboration, inquiry into practice, and integration of disciplinary content knowledge with linguistically responsive teaching (Nagle, 2013). As our study focused on teacher educators' response to teaching ELLs, we considered a teacher learning framework an important lens from which to view current teacher educators' response. As the area of teaching ELLs is still somewhat a new area of emphasis within

teacher education, we wondered how teacher educators, themselves, would conceptualize how this area fit into already existing programs. In this paper, we ask:

- How do English teacher educators discuss the features of their own programs in terms of addressing the teaching of English Language Learners (ELLs)?
- In what ways do these features align with a teacher learning framework?

Literature Review

Instruction for ELLs: An Educational Area of Need

We situate our inquiry within a body of literature that recognizes the need for teachers to understand the significance of learning to teach ELLs. There is a need for improved instruction for ELLs in the United States (Giambo, Szecsi & Manning, 2005; Hooks, 2008). This need is magnified by the growing number of ELLs as well as the amount of pre-service and current teachers that are unprepared to teach them. Zhao (2002) states, "general education teachers, especially those in states with recent increases in ELLs, are often underprepared to educate ELLs without additional support or professional development" (as cited in Giambo et. al., 2005, p. 106). As Capps (2005) notes, "the impact of this lack of preparation is felt by everyone—teachers, administrators, and parents—but particularly by the ELLs who often exhibit a lack of academic progress. And, ELLs are not primarily students who are arriving in public schools from other countries; a majority of them were born in the United States and are in some cases are second- and third-generation students, suggesting that many children of natives who were LEP [limited English proficient] when they began school remain LEP through secondary school" (as cited in Hutchinson, 2013, p. 27).

Pre-service Teacher Education in Teaching ELLs

One promising approach to addressing the teaching of ELLs is better preparation for educators, especially at the pre-service level. Batt (2008) found that one of the greatest challenges affecting the education of ELLs was the qualifications of the mainstream teachers who worked with them. In her study, ELL educators who worked closely with these teachers perceived that "not all educators who work with ELLs in their schools were qualified to do work with linguistic minority students . . . [and many] indicated that their colleagues lacked an understanding of diversity or multicultural education" (as cited in Hutchinson, 2013, p. 27). Educators, often already involved in meeting core expectations, responding to standardized testing pressure, and contending with other obstacles in teaching, find themselves with no theoretical or practical background for teaching ELLs (Hutchinson, 2013).

Within English language arts education, preparing pre-service English teachers to meet the needs of diverse students in the classroom includes addressing the needs of ELLs in elementary, middle, and secondary schools. The National Council of Teachers of English (NCTE) has recognized that the needs of ELLs differ from the needs of other learners and has supported the creation of guidelines for preparing English language arts teachers in this area (NCTE 2006/CEE 2005). While there is recent research being done about and with ELL students in the context of teacher education programs, more generally (e.g., Athanases & de Oliveira, 2007; Lucas, 2011), within the context of English language arts education, the topic of teaching ELLs has received little research attention. Some recent accounts (e.g., Campano, Jacobs, & Ngo, 2014) have started to provide the field with portraits of successful ELA

programs that address the teaching of ELLs. Some universities find the appropriate approach for this preparation is within the structure of the English language arts methods course, and researchers de Oliverira & Shoffner (2009) "see the integration of ELL-specific issues in the methods course as one way to successfully prepare secondary English preservice teachers to meet the challenges diverse learners will face in their future classroom" (p. 95).

There is agreement that inclusion of the teaching of ELLs within pre-service teacher education is a growing need. For example, Batt (2008) acknowledges the gaps in pre-service education as well as continuing education for current teachers, and advocates the hiring of more specialists in order to help train mainstream classroom teachers. Hutchinson (2013) also addresses a need for a restructuring in all teacher preparation programs across our country due to the ever-increasing number of ELL students. Other researchers, such as Dong (2004), used their own classes to form suggestions about instructional methods for pre-service teachers preparing to teach ELL students. Dong (2004) examined the impact of his own Language, Literacy and Cultural Education course on the insight of pre-service teachers toward effectively teaching second language learners. Key components of the course included examination of the relationship between language and culture, the comparison of first language and second language acquisition and learning, language policies, bilingualism, bicultural identity, and the integration of language and content in various subject area classes.

As the literature suggests, there are multiple ways that the teaching of ELLs might be addressed in teacher education. This study contributes to viewing these multiple possibilities by consulting directly with teacher educators about their thoughts and concerns regarding the teaching of ELLs. While there are some accounts of successful work within teacher education surrounding the issue of preparing pre-service teachers to work with ELLs (Campano, Jacobs, & Ngo, 2014; de Oliverira & Shoffner, 2009), it is less clear how, apart from these exemplars, other programs are responding to the teaching of ELLs. This study inquires broadly across the discipline of English language arts teacher education in order to understand how programs from across multiple contexts and institutions in the United States are addressing this issue. In the following section, we describe the context of the study and discuss the methods for data generation and analysis.

Method

The data within this paper was generated as part of a larger study of the preparation of English language arts (ELA) teachers in the United States. The design for the nationwide survey came out of meetings of the Conference on English Education (CEE) Commission on the Teaching of ELA Methods, a special interest group that meets at the NCTE annual meetings, and from a working group of five English teacher educators who attended the 2011 Biennial CEE Summer Conference. In preparation for designing the nationwide survey, a preliminary review of research and commentary on the English methods course since 1995, the year that the last study of English teacher preparation (Smagorinsky & Whiting, 1995), was completed. During the following academic year, the authors developed the survey, piloted it, and refined it.

The National Survey on Preparation of English Teachers for Secondary Classrooms began with the completion of a literature review as a way to ascertain the current state of scholarship related to teaching ELA methods (Caughlan, Pasternak, Hallman, Renzi & Rush, 2012). In delineating what could be seen "new strands" in the teaching of ELA, the authors were influenced by a collection of position papers developed in 2005-2006 by the CEE, the English teacher education community of the National Council of Teachers of English (NCTE). Five key topics of focus for change in the school subject of English language arts were identified: 1) field experiences and their relationship with the ELA methods course;

2) preparing teachers for racial, cultural, and linguistic diversity; 3) new technologies and new literacies in English education; 4) content-area literacy requirements; and 5) K12 content standards and associated assessments. This paper is specifically interested in the strand that addresses preparing teachers for racial, cultural, and linguistic diversity.

Data Generation

The National Survey on Preparation of English Teachers for Secondary Classrooms was sent to English teacher educators throughout the United States over the course of one academic year.[1] An aim of the nationwide survey was to gain a holistic understanding of how English teacher education programs were situated within their respective institutions; another focus of the survey was to investigate how English teacher educators throughout the country viewed the five defined new strands as present within the English education programs in which they taught. It is the latter focus that this article engages with, specifically looking at teacher educators' responses to questions about teaching diverse learners and English language learners within the context of English language arts pre-service teacher education programs.

The survey consisted of four sections and included multiple-choice and open-ended questions. The electronically-distributed survey consisted of ninety questions, but included skip questions, so that most respondents did not have to answer all questions. Through the 2010 Title II report and state program lists, 1085 public and private colleges and universities in the United States that produce English teachers were identified. A total of 942 surveys were electronically distributed to English teacher educators across the United States over the course of one academic year; 250 respondents from 234 distinct institutions were received. See Appendix A for open-ended questions that were asked on the survey that were related to teaching ELLs and diverse learners.

As a follow-up to the survey, six hour-long focus groups were conducted with a sub-set of participants the following academic year. Participants who answered the open-ended questions on the survey about teaching racially, ethically, and linguistically diverse students were invited to participate in the focus groups. In the focus groups, participants were asked to respond to questions about the teaching of diverse learners and English language learners (see Appendix B).

Data Analysis

This article specifically engages with the views expressed by participants who responded to the survey as well as participated in the study's focus groups. Because of this, analysis is structured as a case study (Stake, 1995) of English language arts teacher educators' response to the topic of preparing pre-service teachers to teach English language learners (ELLs) as addressed through both the survey's open-ended comments and focus group comments. The case, bounded through examining the views of participants in the study who responded to both the open-ended questions on the survey as well as participated in the focus groups, seeks to learn from teacher educators and examine their views alongside the literature framing teacher educators' responses to the teaching of ELLs. All responses from the open-ended responses on the survey, as well as participants' responses in the focus groups, were coded inductively. We also coded the data deductively, emphasizing themes from Nagle's (2013) teacher learning framework. We organize the findings through the discussion of three central themes that were identified as salient across inductive and deductive codes. These three themes serve as platforms from which to discuss teacher educators' views on the topic of English language learners within pre-service teacher education.

Limitations

   Survey research has inherent limitations, as researchers cannot member-check anonymous results. Researchers must also interpret missing data, which we omitted from the data set. We can only speculate on reasons for missing data, but our three main categories for explaining missing data are survey fatigue, lack of knowledge in particular areas, and skipping questions with negative answers. The open-ended responses provided clues regarding respondent non-reply, as a number of participants reported not knowing details about programs they did not personally supervise. Moreover, we suspect that participants sometimes skipped questions towards the end rather than recording negative responses. These are issues common to survey research (Groves et al., 2000). Through conducting focus groups, we aimed to complement the analysis of survey results in order to gain a more holistic understanding of English teacher educators' views of preparing pre-service teachers to teach ELLs.

Findings

Connection and Conflation of Teaching Diverse Learners and ELLs

   Focus group comments illuminated the connection—and sometimes conflation—of the aims of teaching diverse learners and teaching ELLs. Participants in focus groups elicited a discussion of the term "diversity" by pointing to its many connotations and emphases within a teacher education program, therefore making the comment that, although a separate course devoted to the teaching of ELLs was often not included in a certification program, a diversity course was. One participant made the following comment about a lack of coursework that focused exclusively on the teaching of ELLs: "That's the case in [my state] as well. No separate certification for ESL. We do have a heavy push on diversity, even though, frankly, there's not a lot of diversity in [my state]." The so-called "heavy push" for diversity that this participant notes was a common sentiment echoed throughout the open-ended responses on the survey. On the survey, the term "diverse learners" was used as a way to capture the nature of changing demographics in K-12 classrooms, yet this term likely had a connotation with a very wide range of students. As one respondent to the open-ended questions on the survey noted, "We understand 'traditional' diversity, but we also discuss that everyone is diverse, depending upon with whom they happen to be at any time." This very broad version of diversity led respondents to see the term itself as difficult to define, and, as a result, the open-ended survey responses clarified what the term "diverse" meant in respect to their teacher education programs. One respondent noted that: "Our program added a self-contained ELL course as well as two special education courses, required by the state." Other participants in focus groups outlined that learning to teach ELLs was wholly absent from the teacher certification programs at their respective institutions. One participant commented:

> Basically, there is no course in our program for any of our certification programs for ELL. I do think that's an enormous deficiency. We've had those discussions at the departmental level about adding that, but probably the same as with you, for any course that we want to put in, something would have to come out. We simply don't have any room in our certification programs even for electives for our English teaching candidates, so we don't really know what would have to be eliminated, so like [name of another focus group participant], the claim is we try to stream that type of instruction through a number of other courses, but I don't think it's done very well. I think it's done very inconsistently across the program, and so I don't think we're doing our candidates a great service with that.

The emphasis on both an "absence" and an "integration" of teaching English language learners caused an interesting dilemma for teacher educators, as they appeared unable to fully articulate this topic's presence or absence within their program. Still others, especially those housed in different departments than the department in which the course about diversity was housed, expressed that the tangled web of politics was what governed where coursework for their students resided. The teacher learning framework proposed by Nagle (2013) recognizes that teachers of all content areas must be responsible for meeting the needs of ELLs. One participant noted that:

> In our English [education] program, like [name of another focus group participant], our students are housed in English. Their degree is granted through the English department, but they [students] take basically a minor and a half over in education. There is a diversity course there [in the School of Education], but it deals more with cultural diversity. Not as much about special education, gifted, and talented. That's a general course that everybody in the education programs takes. There is no course for language learners.

Still other participants noted that, although learning to teach English language learners within pre-service teacher education was an important topic, the sheer lack of time or opportunity was an obstacle. One participant noted:

> For me, and I have a very limited time, I may not see my secondary candidates until the last semester of their senior year, so that's a really compressed time. My focus is mainly on confronting that deficit perspective to prepare them to go into a population of students unlike themselves.

As this final statement indicates, English teacher educators felt that an awareness of the topic of English language learners was perhaps the most feasible reality concerning how this topic was addressed in pre-service teacher education; yet, there was little mention of how learning to teach diverse learners may be different from learning to teach ELLs.

Program Coherence and Prioritizing the Teaching of ELLs

When asked how the teaching of ELLs was incorporated into their respective teacher education programs, participants in the focus groups often sought to outline very practical, program-specific ways that the content of teaching ELLs was addressed. Beyond an individual course, participants often spoke either about "stand alone" courses devoted to the teaching of ELLs or program-wide goals that infused this content. In terms of discussing a "stand alone" approach, participants in the focus groups highlighted the silo effect that departmentalization had in students' pursuit of teaching ELLs. One participant noted:

> One of our master's degree options is an ELL/ TESOL, but my secondary English people don't generally choose that one. To me, it's—we're way behind because our community that we serve directly around our university has a huge influx of ELL students, so I would say we're inadequate.

Other comments echoed the mismatch between the practical realities of a particular institution and the preparation that beginning teachers have available to them. One participant said:

> I will say, too, on our campus, there was a—I have a graduate certificate for TESOL that was available. Unfortunately, the enrollment was relatively low, and the faculty member who was responsible for spearheading that program retired a couple of years ago and sort of took that program with her. No one has really picked that up since she left, which is unfortunate because like many of you, we're right outside of Chicago. We have an

incredible amount of diversity in our field sites, and I don't—I guess don't think we're preparing our candidates as well as we could be for that.

The participant above expresses an unsure sentiment about whether the program is preparing beginning teachers for the realities of the field, and this was a theme expressed frequently in the focus groups. Another very interesting trend related to the theme of program coherence was participants' adamant use of the term "infuse" or "infusion." Curiously, when thinking about the teaching of ELLs, many researchers, including Giambo, Szecsi, & Manning (2005), advocate a framework for teacher preparation courses that includes quality teacher preparation through the inclusion of linguistics. The understanding of the theoretical foundation of second language acquisition is indicated by research to provide sensitivity toward language issues. Experiences and activities such as field experience with ELL students, an oral language assessment project, a linguistics project, and other cultural activities all contribute to the foundational knowledge, skills and dispositions for future teachers working with ELL students. Likewise, Nagle (2013) notes that through collaboration, a teacher learning framework must operationalize knowledge of linguistics in order to prepare linguistically responsive teachers.

Through focus groups, though, comments about "infusion" of content related to the teaching of ELLs did not indicate any specificity regarding whether linguistics was addressed. Instead, the term "infusion" became a term used to indicate the idea of coverage, with little specificity about what such coverage was. To us, this suggested an absence of content—or, a lack of knowledge concerning content—as the following comment expresses:

> I don't know whether this is true of other states, but in [my state], there actually is no certification for teaching English language learners. It is infused into multiple and single subject certification, but you can't be an ESL teacher in [my state]. I don't know whether that's unique to the state or whether it's just a trend that's national, but the whole idea is that you learn better if you're learning in relation to a subject matter.

The comment above places the teaching of ELLs within the teaching of content. Though perhaps not intentional, this comment reinforces that learning does not require additional teaching methods other than the ones expressed through the teaching of content. At its core, these types of comments reinforce an ideology about the teaching of ELLs that relegates the teaching of this population of students as secondary to content matter.

The Value of a Partnership Approach and a Program's Ideology

The theme that most resonated with Nagle's (2013) teacher learning framework stressed what several participants called a "partnership approach." Such a partnership, as articulated by respondents, recognizes that, in teaching ELLs, faculty must possess knowledge beyond what might be considered "awareness"; faculty must have knowledge of linguistics, as well as the teaching of writing and reading for ELLs. One participant who endorsed a partnership approach noted that it did not remedy all issues, but it did serve as a meeting place for addressing the goal of program coherence. This participant noted:

> We spend anywhere from two to four weeks, depending on the group, working specifically with readings and activities that are focused on ELL learning. I actually am able to pull over some colleagues from our writing center who have some specific expertise and training in those areas. They sometimes will come in and basically team teach with me on some issues that they see when they're working with second language writers. It does help. Again, it's not enormous preparation, but it's the best that I can do, given the constraints of the course.

A partnership approach, much like a teacher learning framework, pairs awareness and informed practice, and sits at the crux of attaining program coherence. In aiming for a partnership, respondents noted that it was a program's ideology that spoke to the core of teacher educators' and a program's commitment to pre-service teachers' understanding of teaching ELLs. Program ideology also resonated with a key component of Nagle's (2013) teacher learning framework, as it stressed an on-going commitment to professional development and new knowledge about teaching ELLs, or what, through the teacher learning framework, is noted as inquiry into practice.

When asked about the types of conversations participants had with their students about teaching ELL students and other diverse learners, one focus group participant stated: "…My focus is mainly on confronting that deficit perspective to prepare them to go into a population of students unlike themselves." This was echoed by another participant who answered: "…Most of my focus is on confronting issues of deficit perspectives and rethinking sort of blanket ideas about any populations of students."

According to the participants, a program's ideology can assist pre-service teachers in understanding students "unlike" themselves, and can confront beginning teachers' notions of ELL students as framed through a deficit perspective (Ladson-Billings, 1994). Researchers (e.g., Dall'Alba & Sandberg, 2006; Nieto, 2010) have noted that becoming a professional teacher begins with an examination of one's own cultural assumptions and/or biases. Such experiences begin from our education experiences with diverse groups, and our own student experience as part of a minority or majority population. This personal examination must accompany exposure in order to lead to shifts in ideology, leading to shifts in classroom practice. Markos (2012) states that an examination of biases is not enough if not accompanied by reflection. The author wrote:

> Reflection allows pre-service teachers to begin to understand their views about diversity and cultural differences. Guided reflection, as I use in my course, provides pre-service teachers with opportunities to look at and understand the cultural and linguistic differences between themselves and language learners. (p. 43)

The methods in which pre-service teacher ideologies were challenged varied throughout the focus group participants. Guided conversation was one example used in these classrooms. One participant expressed:

> We encourage them [pre-service teachers] to reflect a lot on their own experiences with education. Sometimes, unfortunately, that turns into a conversation about how I learned what not to do from my education. We do almost have to debrief those experiences and to think about how they can both use those experiences, but also sometimes work against those experiences in their own classrooms.

Providing time and space for classroom reflection after exposure also was noted as having positive effects in the changing of beliefs and attitudes of students (Markos, 2012). Directly addressing the needs of ELL students in the English methods course through team teaching was mentioned as an ideological changing strategy. A participant stated:

> We spend anywhere from two to four weeks, depending on the group, working specifically with readings and activities that are focused on ELL learning. I actually am able to pull over some colleagues from our writing center who have some specific expertise and training in those areas. They sometimes will come in and basically team teach with me on some issues that they see when they're working with second language writers. It does help. Again, it's not enormous preparation, but it's the best that I can do, given the constraints of the course.

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All participants agreed that there was difficulty of fitting in these experiences and conversations given the amount of material expected to be covered throughout the course; however, these experiences and conversations were acknowledged as important. Attitudes and beliefs contribute greatly to confidence and self-efficacy in the classroom. Yucesan Durgunoglu (2010) argues:

> Because attitudes and behaviors are related, one can predict that more negative attitudes are related to lower levels of preparedness and self-efficacy. If pre-service teachers have low self-efficacy regarding ELL students, they may attribute the low achievement of students to factors outside of a teacher's control, particularly an unfavorable impact of parents and home environments. (p. 34)

Attitudes and beliefs are shaped by experiences, exposure, and guidance (Markos, 2012). Building empathy and understanding, along with adaptation of materials can be done by any teacher of any subject area who has had experience with the challenges ELL students face. Intentional implementation of exposure for pre-service teachers through field experience or other activities has been shown to produce lasting changes in attitudes, self-efficacy levels, empathy, and confidence levels in working with ELL students and parents (Hooks, 2008; Jimenez-Silvia et. al., 2012; Yucesan Durgunoglu, 2010).

Conclusion

As our study of teacher educators' response to the topic of learning to teach ELLs in pre-service teacher education, our findings underscore the importance of addressing this topic through a teacher learning framework (Nagle, 2013), or a partnership approach. As participants noted, a combination of external pressures (e.g., lack of licensure/certification in many states), as well as internal pressures (e.g., absence of coursework addressing the teaching of ELLs within teacher education programs) contribute to this area of pre-service teacher education as overlooked. Though the concept of "infusion" is noted as promising, findings from our study call for more articulation of concrete ways that teacher education programs address instructional method for teaching ELLs. We see, through teacher educators' comments, that acknowledging the value of a partnership approach, as well as a program's ideology, can be a building block from which teacher educators might begin to more clearly outline what knowledge is necessary for pre-service teachers. In order to provide pre-service teachers with the knowledge and practice for teaching ELLs, program ideology and instructional methods must be unified.

Recommendations from research (Batt, 2008; de Oliveira & Shoffner, 2009; Dong, 2004) provide practical solutions and recommendations that can give teacher education programs increased knowledge about how this unification might occur; such research has bolstered the promise of bilingualism and multilingualism with specific focus on empowering ELL students. Yet, as our case study of ELA teacher educators from across the United States indicates, a deeper understanding of how content fields view the topic of teaching ELLs is needed. Hutchinson (2013) notes:

> [it] therefore becomes imperative that teacher education programs prepare pre-service teachers by providing the kinds of knowledge and experiences that will allow them to confront the feelings and assumptions they hold about ELLs and to develop effective teaching strategies so that they feel confident in working in today's multicultural, multilingual classrooms. (p. 30)

Providing the ideological framework for teaching ELLs begins with teacher educators' willingness to learn from each other, therefore understanding how all content area pre-service teachers can be effective teachers of English language learners.

[1] This article refers to the National Survey on Preparation of English Teachers for Secondary Classrooms that was designed by Samantha Caughlan, Donna Pasternak, Heidi L. Hallman, Laura Renzi, and Leslie S. Rush. The survey was endorsed by the Conference on English Education (CEE) and was electronically-distributed by CEE during the 2012-2013 academic year.

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Appendix A

Open-ended questions from the survey

There were three open-ended questions that contained comments that were pertinent to the teaching of diverse learners and English language learners. The first question was specifically about this topic. This question was:

- What is your understanding of the relation of language diversity and methods?

The other two open-ended questions that contained responses related to teaching diverse learners and English language learners were:

- What other changes have you made in response to changes in the field or to understandings of English language arts in the 21st century not addressed here and that you think we should know about?

- What other changes have you made in response to institutional or political changes not addressed here and that you think we should know about?

Appendix B

Questions in focus group discussions on teaching ELLs and diverse learners

1. We have noticed, through our study, that the term "diverse learners" is quite broad. How

    do you conceptualize the term "diverse learners"?

    a. Possible clarifying question: How do you see the areas of "teaching diverse

        learners" and "teaching English language learners" as both similar and different?

        Should English education methods courses address both of these areas? Why?

2. Do you feel equipped to incorporate the teaching of diverse learners and ELLs

    into the methods course? Why or why not?

3. Does your program have a separate course that addresses diverse learners or

    ELLs? What do you think about that?

4. Tell me a little bit about the kinds of conversations you have with your students

    about teaching diverse learners and teaching English language learners and how these

    conversations relate to their fieldwork.

5. What other conceptual or practical challenges do you face as a program director or a

    methods course instructor that you want to raise at this point? These may be challenges

    related to changing ideas of curriculum or demographics that ELA teachers face, or

    external challenges related to institutional and political changes.

Entrepreneurship Education in the Caribbean: Learning and Teaching Tools

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Abstract

This article reports on research that took place over two academic years (September 2013 - April 2015). It provides a rich understanding of entrepreneurship education based on experiential knowledge and best practices from five entrepreneurship educators who have all worked as consultants to entrepreneurs, advisors to the government on entrepreneurship, and have taught entrepreneurship at the tertiary level for several years in the Caribbean. The findings illustrate that experiences, sense of purpose, reflective practice, lecturer's passion, mentoring, simulation and practice are seen to collectively offer a significant contribution to learning. Further, the findings support the view that teachers of entrepreneurship should draw upon highly developed techniques in their range of teaching methods that demonstrate aptitude for the subject matter. The participants agreed that ideally, the ultimate course goal is to support students in remembering techniques learned in an entrepreneurship class that contribute to gaining confidence in setting up their own venture and that assist with avoiding pitfalls. The purpose of the research article is to provide methodical insight that will improve the entrepreneurial orientation of students in entrepreneurship classes.

Keywords: entrepreneurship, education, learning, teaching, Caribbean

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Considerable pedagogical research focuses on the concepts surrounding entrepreneurship education. Prior research reflects on how courses are taught and places emphasis upon the importance of learning from: real situations; interactions by role play and use of projects; business plan development and presentations (Gibb, 2002; Levie, 1999). There is now consensus in the literature (e.g. Elmuti, Khoury, & Omran, 2012; Field, 2014; Henry, Hill, & Leitch, 2005; Kuratko, 2003) that entrepreneurship (or at least some aspects of it) can be taught. As such, the debate has now shifted to what should be taught and how it should be taught (Lourenco and Jones, 2006). Educators are challenging the design of effective learning opportunities for entrepreneurship students (Solomon, 2007). Educators and policy makers are questioning the techniques used in teaching entrepreneurship education in the Caribbean. This is because entrepreneurship education is perceived to benefit students from all socioeconomic backgrounds and fosters unconventional thinking and skillsets.

The present article reports on research that was conducted over two academic years (September 2013 – April 2015) at the University of the West Indies in the Caribbean, with entrepreneur educators. The purpose is to highlight a variety of quality teaching and learning methods, that can be used to meet the learning needs of students. The goal of this research is to investigate the teaching practices of leading entrepreneur educators to arrive at an understanding of how their approaches are linked to both traditional and innovative learning theories. The main research question is as follows: Which of the themes identified in entrepreneurship education are grounded in five learning theories - behaviorism, cognitivism, constructivism, transformative, and connectivism?

Context of the Document Analysis - Curriculum

The University of the West Indies in the Caribbean is a thought-provoking case for studying entrepreneurship education as the courses combine rigorous academic study with practical coursework; while providing business and non-business students with the unique skills and experiences necessary to start a new venture. In this regard, I argue that entrepreneurship education should be taught through experiences, sense of purpose, reflective practice, lecturer's passion, mentoring, simulation and practice. I analyse curriculum elements used in the entrepreneurship program at the University such as: Course content; teaching methods, and assessment methods. This approach gives important insights regarding the variety of pedagogical approaches used in teaching entrepreneurship. I seek to highlight practical teaching techniques utilized by lecturers in the Caribbean setting. The article also provides a discussion on teaching entrepreneurship education to non-business students.

Enhancing entrepreneurial behavior is the overarching goal of any entrepreneurship course or program (Fayolle, Gailly, & Lassas-Clerc, 2006; Gorman, Hanlon, & King, 1997). Previous research conducted in the USA among a number of universities at both undergraduate and post-graduate levels has found that activities surrounding the dissemination of entrepreneurship education usually involve presentations by guest lecturers, student consultations with practicing entrepreneurs, games and simulations, the writing of business plans and actually starting businesses as part of the coursework (e.g. Honig, 2004; Klatt, 1988; Kuratko, 2003; Neck & Greene, 2011, Solomon, 2007).

Further, the process taken in the development of the entrepreneurship curriculum has shown varying teaching strategies (e.g. Hynes & Richardson, 2007; Jones & English, 2004; Kent, 1990; Kourilsky, 1995; Plaschka &Welsch, 1990; Van Vuuren & Nieman, 1999). The participants of the

present study provide particular insights about teaching and learning entrepreneurship in the Caribbean setting, which contribute to the debate of integrating innovative teaching practices for non-business students.

Literature Review

Entrepreneurship Education

The concept of entrepreneurship education is highly contested. Earlier studies narrowly define entrepreneurship education as education that provides the needed skills for setting up new business ventures (Alberti, Sciascia & Poli, 2004; Cho, 1998; Vesper, 1993). While the definition of entrepreneurship education has survived over the years, it only provides a basic understanding of what entrepreneurship education really is, what it comprises, and its impact (Rideout & Gray, 2013).

An expanded view raised by Martin (as cited in Birdthistle, Hynes & Fleming, 2007) suggested that entrepreneurship education involves the creation of entrepreneurial attitudes and skills and not simply training for business start-up. Jones and English (2004) referred to entrepreneurship education as "the process of providing individuals with the ability to recognise commercial opportunities and the insight, self-esteem, knowledge and skills to act on them" (p. 416). Jones and English further posited that entrepreneurship education incorporates content from traditional business disciplines such as management, marketing and finance. This perspective challenges Kirby's (2002) position that entrepreneurship education is different from traditional management studies as the traditional management education may impede the development of the necessary entrepreneurial quality and skills.

While, a number of policy makers, practitioners and educators in developed economies still believe that entrepreneurship education should only be concerned about the creation of new ventures and new jobs (Fayolle & Gailly, 2008). Samwel Mwasalwiba (2010) suggests that entrepreneurship education stakeholders, such as policymakers, academician, and students, have an interest in this field of study due to the 'perceived socio-economic benefits' that can be achieved both at the individual and societal level' (p. 21), this speaks to the potential impact that entrepreneurship education has on society. According to Raposo & Do Paço (2011):

> Entrepreneurship education seeks to propose people, especially young people, to be responsible, as well as enterprising individuals who became entrepreneurs or entrepreneurial thinkers who contribute to economic development and sustainable communities…through entrepreneurship education, students learn how to create business, but they also learn a lot more. (p. 454)

Many universities have entrepreneurship classes as part of their business schools' programmes. This format leads to the marginalization of the needs of non-business school students as Standish-Kuon and Rice (2002) put forward; introducing engineering and science students to entrepreneurship requires better understanding, while even less is known about teaching entrepreneurship in non-technical disciplines such as nursing, law and the educational sciences. Entrepreneurship education needs a different teaching pedagogy. This premise has been explored through assessing the relationship of entrepreneurship education to work related learning (Dwerryhouse, 2001); experiential learning (Kolb, 1984); action-learning (Smith, 2001), and entrepreneurial training (Gibb, 1999). As this research seeks to highlight aspects of pedagogy

observed at the University of the West Indies, the next section of this article focuses on the learning theories as a core part of the development of the pedagogy of entrepreneurship education**.**

Learning Theories

Learning theories help describe how people learn and thus help in identifying best practices for teaching (Pounder, 2014). In the case of entrepreneurship education the author suggests using an approach that integrates and allows the processing of knowledge through inductive and deductive reasoning (respectively known as "bottom up" approach which is more open-ended & exploratory and "top-down" approach which is more focussed and linked to proving hypotheses), practice based learning, stakeholder-driven assessment priorities and also through meaningful shared experiences (Blenker, Dreisler, & Kjeldsen, 2006; Charney & Libecap, 2000; Duval-Couetil, 2013; Neck & Greene, 2011; Nelson & Johnson, 1997). In this regard, similar to Neergaard, Tanggaard, Krueger & Robinson (2012), the author seeks to contribute to the development of entrepreneurship education teaching pedagogy, as suggested by Yu Cheng, Sei Chan, & Mahmood (2009).

Behaviorism

Behaviorism offers a particular perspective on how learning occurs and how teaching influences the process. The main pedagogical reason for teaching entrepreneurship using behaviourism is that it encourages learning of 'facts'. In addition, it addresses the content of that which is being taught such as skills and tools which include business plans, and simulations with regard to decision making (Neergaard, Tanggaard, Krueger, & Robinson, 2012). The focus of behaviorism is on observation of movement and activities in response to external stimuli (Alzaghoul, 2012; Tomic, 1993; Williams, 1986). It stresses the importance of specific, measurable, attainable and observable performance and the impact of the environment on the learning experience (Brown & Green, 2006; McLeod, 2003; Pham, 2011; Shield, 2000). Thus, it embraces the 'learning about' entrepreneurship, representing the traditional way of understanding learning (Neergaard, Tanggaard, Krueger, & Robinson, 2012).

To benefit from behaviourism theories in entrepreneurship teachings, students should be guided to connect with the learning process by positive reinforcement from the lecturer to reinforce positive actions of engagement, contributions, feedback and questioning. Although numerous entrepreneurship courses still tend to invoke behaviourist methods, in many universities it has been replaced by more experiential approaches (Neergaard, Tanggaard, Krueger & Robinson, 2012).

Cognitivism

Cognitivism as a learning theory takes a different pathway than behaviourism, where in this particular pedagogy learning is understood to be structural and computational (Clarke, 2013). The focus of cognitivism is based on evaluating, processing and memory; as it is concerned with the internal workings of the brain and how the mind processes information to endorse effective learning (Cooper, 1993; Ally, 2004; Siemens, 2004). Kohler (1947) in his research emphasized that some information is retained while part is lost during the initial learning process as it is only stored in short term memory. It is then up to the teacher to institute active learning which allows the student to engage in learning experiences that create long-term memory. Bruner (1976)

developed a set of principles adapted by the individual which speak to acquiring initial new information, transforming the information, and then evaluating the information. From an entrepreneurial perspective on education the learner requires assistance to develop prior knowledge and integrate new knowledge to identify and take advantage of opportunities.

Constructivism

Constructivism learning theory bases its principles on aiding learning rather than controlling learning as is the case with behaviourism (Lober, 2006). This is especially relevant where the learning outcome is not predictable, which is potentially the case with entrepreneurship education. In the teachings of entrepreneurship, students develop a level of insight and confidence from practicing methods for navigating unknown territories and from experiencing success and failure as in the real world.

Entrepreneurship education allows for constructivists methodologies, given the innovative and active nature of entrepreneurship, where students engage as active agents in the learning process, requiring them to do and reflect upon meaningful learning activities (Romero, 2013; Solomon, Duffy, & Tarabishy, 2002). Kohler (1947) hypothesized that learning occurs when an individual has insight that shows a relationship between two distinct components of a larger system or problem. Thus as Lober (2006) suggested, the constructivist approach needs a special learning environment that has to be created by the teacher, who is not the governor of the student's learning process, but more so supports and facilitates learning from a student-centred point of view. From an entrepreneurial perspective this encourages a speculative approach to new venture development as high risks are involved at this stage; but the entrepreneur must be trained to spot and handle these opportunities as they arise.

Transformative

Principles of transformative theory focus on effective change and the application and transfer of learning into action (Cranton, 1996; Mezirow, 1991, 1996). Dyson (2010) emphasized the importance of teacher education and bases this on the theory of transformative learning. The transfer of learning into a decision making form is the main focus of such learning techniques. Caffarella (2002) defined transfer of learning as the effective application by program participants of what they learned as a result of attending an education or training program. It should also be noted that there is a natural barrier highlighted in transformative theory, as research has shown that there is little match between the learning environment and the implementation and execution phases of entrepreneurship.

Connectivism

Connectivism's focus is on recognition and bonding (Clarke, 1997). Recognition implies the identification of something as having been previously seen, heard, and/or known. The recognition and exploitation of business opportunities in the market are core functions of entrepreneurship (Casson, 1982; Hills & Shrader, 1998; Kirzner, 1979; Schumpeter, 1971). Whereas bonding speaks to the emotional and physical attachment occurring between student and the information shared, and is the basis for further emotional affiliation. In addition, connectivism bases its principles on knowledge, which is distributed across an information network and can be stored in a variety of

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digital formats (Kop and Hill, 2008). One way in which students of entrepreneurship can be distinguished is by the style with which they engage the entrepreneurial learning and their interaction with existing entrepreneurs, as this is an effective way of gathering experiential knowledge.

Methods

The author uses a thematic qualitative research design which allows for a systematic subjective approach to describe experiences of faculty and give them meaning. The approach examines the uniqueness of faculties' teaching and learning situations with each faculty member having their own reality. The approach further emphasizes identifying, assessing, and highlighting themes; with additional assessment observing their linkages to the learning theories.

Interviews were conducted among five entrepreneurship faculty members to gain insight: explore the depth, richness, and complexity inherent in their teaching practices. The interview questions focused on areas related to the philosophy of education, teaching techniques, and evaluation. The rationale for the questions on teaching philosophies was to gather as much information on how faculty members view the ways a student prefers to learn and to identify what teaching practices they have found to be successful. The justification for questions on teaching techniques was to identify best practices and how to incorporate them in classroom sessions. The reason for the questions on evaluation was to gain insights on how faculty members gauge their performance. This lead to further probing and selecting themes, which are of interest, and reporting on them (Tuckett, 2005).

The selection of the interviewees for this study was driven by the researcher's belief that each respondent would bring about worthwhile information to entrepreneurship education, which was a core part of the study under investigation. The interviewees came from a variety of backgrounds that make up the entrepreneurship ecosystem and were faculty members teaching entrepreneurship. They also had a reputation for promoting and developing youth entrepreneurship curricula. The current study seeks answers to the following research question: RQ: Which of the themes identified in entrepreneurship education are grounded in the five learning theories?

Feedback Instrument

Interviews and feedback forms were facilitated by the author of the research. Components of the feedback instrument included: background information on lecturer and classes taught, lecturer's philosophy on teaching entrepreneurship and teaching techniques utilized in sessions. Thematic analysis, which is a widely-used qualitative analytic method (Boyatzis, 1998; Roulston, 2001, & Tuckett, 2005) was conducted and seven techniques utilized in teaching entrepreneurship resulted: experiences, sense of purpose, reflective practice, lecturer's passion, mentoring, simulation and practice.

Participants

The faculty interviewed had an average age of 45 years old and were relatively young for University Faculty, but each member had over 15 years working in the entrepreneurship ecosystem. Table 1 gives a profile of the faculty members and their assorted teaching expertise. The two part-time faculty members worked for the Government offering technical assistance and various forms of financing to entrepreneurial ventures.

Table 1

Profile of the faculty members and their expertise

	Lecturer A	Lecturer B	Lecturer C	Lecturer D	Lecturer E
Expertise	Entrepreneur-ship	Entrepreneur-ship	Entrepreneur-ship	Entrepreneur-ship	Entrepreneur-ship
	Operations Management	Law	Marketing	Operations Management	Finance
	Engineering	International Business			
Education	Bachelor Degree – Entrepreneur-ship	Bachelor Degree – Law	Bachelor Degree - Management	Bachelor Degree - Management	Bachelor Degree - Economics and Accounting
	Doctor of Philosophy	Master's Degree - International Business	Doctor of Philosophy	Master's Degree - Engineering	Master's Degree.- Entrepreneur-ship
		Doctoral candidate		Doctoral candidate	
Fulltime/Part-time	Full Time	Full Time	Full Time	Part Time	Part Time
Previous Experience	Business Development Services	Legal Services Trade	Business Development Services	Business Development Services	Finance Services

Description of Data Collection and Analysis

Feedback was collected through interviews with entrepreneurship faculty members. The interview questions focused on areas related to the philosophy of education, teaching techniques, and evaluation. Opportunities to elaborate their responses, and follow up face-to-face or phone interviews were conducted to expand on teaching styles. In some instances, this was thought to bring about important insights into what entrepreneurship education methods entailed. Major trends and patterns were highlighted and synthesized in the findings as they became apparent. From the analysis of the reviewed literature and methods of teaching used, a conceptual discussion of the themes and their integrated approach to entrepreneurship education and the learning theories was presented. The analysis and conclusion discusses where the themes identified in entrepreneurship education are grounded in the five learning theories.

Ethical Considerations

Consideration was given to the position of the University of the West Indies Ethics Committee and policy for ensuring that the research conformed to approved principles and conditions. Each lecturer was made aware of the study through a phone call or face-to-face contact; and then offered a chance to participate in the research. A brief outline of the research study was discussed prior to the research being conducted. Lecturers were also informed of how much time they will be expected to give and what use will be made of the information they provide. It was noted that where the researcher observed any direct use of lecturers' material, the confidentiality policy of the University of the West Indies would be respected.

Findings and Discussion

The findings are presented in this section and documented based on the major themes coming out of the research. The research question below is also emphasized in this section: RQ: Which of the themes identified in entrepreneurship education are grounded in the five learning theories?

Experiences

The experiences of the students and the lecturer as they interact with entrepreneurs are a good basis for teaching and learning aspects of entrepreneurial learning. Based on student experiences and within the context of behaviourism, entrepreneurship students can reproduce and reinforce appropriate entrepreneurial and enterprising behaviour observed in the business environment (Neergaard, Tanggaard, Krueger & Robinson, 2012). The constructivism learning theory is also prevalent and observed when taking student experiences into consideration as it argues that people produce knowledge and form meaning based upon their experiences. From a cognitive standpoint, students' personal mental models of what it takes to be an entrepreneur are developed during this learning process (Krueger, 2009). It is through forms of students' interaction among entrepreneurs and themselves, that a constructivist teaching approach is created through meaningful shared experiences (Blenker, Dreisler, & Kjeldsen, 2006; Charney & Libecap, 2000; Duval-Couetil, 2013; Neck & Greene, 2011; Nelson & Johnson, 1997).

The lecturers indicated that using appropriate methodologies added value to the experiences discussion. Lecturer A and C noted that they bring examples that are practical; while Lecturer B

stressed that they conduct probing when they stated "I provide context on what is going on in the environment" and then have further discussion. The constructivist theory maintains that students should learn to build their own knowledge rather than having knowledge given to them, thus supporting probing as an appropriate teaching method. Lecturers were in corroboration that discussions force students to articulate and defend positions to display their reasoning to others and to accept and respond to criticism (Christensen et al., 1991). At the end of the discussion on experiences, the lecturer should have been able to work towards a specific goal, while clarifying students' understanding and views in respect to the discussion.

Lecturer A also indicated that they focus on fashioning learning experiences for members in the class. Lecturer A further highlighted: "the more experiences that come to light, the richer the class discussion becomes", especially as students are going through the transformation process of changes in behavior which are intended to alter the desired outcome. The findings reflect thoughts of Stansberry & Kymes (2007) which show that the values of constructivism are essential to transformative learning because knowledge and meaning are a direct result of experience. As an opportunity to learn from other class members is created, the concept to agree to disagree at times is emphasized.

Lecturer B tells the class in their first session to "check all inhibitions, sensitivities and insecurity at the door". This changes the class mode to one where freedom of expression is dominant and open-mindedness is encouraged. The lecturers agreed that fostering dialogue in class or through online forums is essential to having students discuss matters related to entrepreneurship. This is in keeping with Ravenscroft (2011) who suggested that connectivism in education has given rise to a new type of dialogue through social, networked learning. Lecturer D stated "I talk about extreme cases to capture their attention." Lecturer E stated "tutorial sessions are more practical since students are usually given activities where they are either acting as a business advisor or an entrepreneur." Experiential learning is further formulated based on the student and not the teacher. The student is involved in carrying out activities, formulating questions, conducting experiments, solving problems, being creative and creating meaning from the acquired experience (Esters, 2004). Lecturer E identified a syntheses approach based on development of new concepts. The real advantage here is that the experiential learning practice is a learner-centred approach that caters to individual learning styles.

Sense of Purpose

The teaching methods utilized for entrepreneurship were focused on the purpose of the activity which gives rise to behaviorism (Tomic, 1993; Alzaghoul, 2012). The rationale behind most students wanting to take entrepreneurial classes is that it develops their understanding of the entrepreneurial business process and how they might become involved in those processes in their future careers. It is necessary to relate the course work not just to creating entrepreneurs but also to supporting entrepreneurs. The goal here is to have students identify their entrepreneurial interests through a combination of exploration, role-play, readings, and close interaction with successful entrepreneurs and service providers. This technique gave students a sense of purpose as they gained the courage to envisage and pursue opportunities in a constructivist way. This form of constructivism aligns with Solomon, Duffy, & Tarabishy (2002) and Romero (2013) who state that students who are engaged as active agents in the learning process (requiring them to do and reflect upon meaningful learning activities) are taking part in active learning. Lecturer D stated: "I

make students present on topics after further research." The willingness to go after things and take on role play showed the benefits of behaviourism and constructivism in the classroom.

All the Lecturers have recognized the importance of exposing students to guest lecturers that represent varying forms of the entrepreneurship ecosystem e.g. successful entrepreneurs, informal sector entrepreneurs, serial entrepreneurs, social entrepreneurs and service providers. The theory of behaviorism and exposing students to appropriate entrepreneurial and enterprising behaviour showed positive for student learning (Neergaard, Tanggaard, Krueger, & Robinson, 2012). What is also noticeable is that Lecturers A,B, C, D and E as specialist in their own right also facilitate guest lecturers for each other. The fact that knowledge is distributed across a network of faculty, the guest lecturing among faculty members meant that an account of connectivism was showcased within the department through recognition of in-house talents and bonding (Clarke, 1997).

For lasting benefits, each interactive teaching method must be designed around the intentions and desired outcomes. While all the Lecturers use some form of interactive teaching method, Lecturers A and B specifically utilize games and simulations that showcase entrepreneurship behaviour, opportunity and finance issues like cash flow. These simulations showcase a connectivism approach. The activities must instil a newfound purpose within the student. Lecturer C creates purpose in telling the class "Everyone should leave here with marketable skills," while Lecturer A states "I am preparing you for the test of the world."

From a teaching perspective, faculty engaged students' sense of purpose by exposing them to relevant current readings and case studies to allow for closer interaction on topical areas. All Lecturers were also involved in developing Caribbean case studies for teaching. All Lecturers identified some seminal readings and prolific authors of entrepreneurship that they were exposed to that they in turn exposed students to as well. International authors like Jeffrey Timmons, Peter Drucker and Donald Kuratko provided much of the seminal readings for original thought. Faculty also engaged guest speakers as part of panel discussions and presentation process; students found this style more engaging than watching video clips, which they thought were more removed from their current situation.

Reflective Practice

Reflection is the active process of witnessing one's own experience in order to take a closer look at it every now and then to direct attention to it briefly, but often to explore it in greater depth. This is a cognitivist approach based on structural and computational actions (Clarke, 2013) and a heightened activity that some lecturers use when teaching entrepreneurship. Reflecting on what is learned is a sure way to make students own their own knowledge (Banner et. al., 1993, p. 32). This highlights a behaviourists approach, as students are motivated by success and place more importance on reflection of acceptance and extrinsic rewards. Reflection can be done in the midst of an activity or as a separate activity in itself. Through reflective practice, students should reflect frequently, bringing a high level of awareness to their thoughts and actions, perhaps stopping occasionally to consider what could be learned by exploring their patterns of thinking across different entrepreneurial situations. Lecturer C uses early feedback as a means of engaging reflection. Lecturer D states "students reflect on course through their life experiences". Lecturer B uses role playing as part of a reflection exercise. Encouraging reflection along with the activity structure has proven to be an effective component of the cycle for students (Miettinen, 2000). Role-playing is also viewed as a level of connectivism as shown by its focus on bonding (Clark, 1997). This is in alignment with cognitivists, as they emphasize the motivating affect of learners as

problem solvers or information seekers. Especially where learning is understood to be structural and computational (Clarke, 2013), Lecturer A highlights the use of a reflection journal as a core learning strategy.

Lecturer's Passion

When entrepreneurship is taught, the type of person whom the educator is, will emerge. The findings show that the lecturer's passion must reflect positive and enterprising behaviourism to be successful and this is in alignment with Neergaard, Tanggaard, Krueger, and Robinson (2012). The lecturer must try to instil a culture that allows the learning of entrepreneurship to take place without prejudice tutoring. The lecturer's principles need to be in tune with the course of teachings. Ironically, many of the same characteristics that make a good entrepreneur make a good entrepreneurship teacher: being resilient, adding value, willingness to explore, seeking opportunity, visionary planning, ability to adapt to change easily, and understanding the customer. Lecturers need to think about curriculum and lesson plans like entrepreneurs and entrepreneurial support groups think about business development. Such teaching plans will only enhance the student experience and improve the entrepreneurial educational experience. The lecturer's passion and being a good teacher is challenging, as the topics surrounding entrepreneurship are very complex. The critical issue here is creating a connectivist learning environment inside and outside the classroom (Kop and Hill, 2008) that enhances the students' ability to really understand the material and to stimulate an interest in the entrepreneurship process. This stimulated interest of the student is in agreement with effective change highlighted by transformation theory (Mezirow, 1991; 1996).

The lecturer's passion is what makes students want to study more. Lecturer A stated, "I let students see how classroom topics apply to the world beyond the classroom." A passionate entrepreneurship lecturer will get students interested and even excited about what they are learning. Lecturer B states "I have individual heart-to-heart discussions where students express fears, expectations and tensions," it was also mentioned that sessions undertake some psychological and spiritual components. Further to this, teachers can encourage entrepreneurship speakers as guest lecturers to make presentations or join online discussions; this method would allow students to draw on famous and successful entrepreneurs who visit the educational institution to discuss ideas, opportunities and new venture management. This form of information networking and digital format is harmonious with connectivism as defined by Kop and Hill (2008).

It was the view of the entire faculty that before individuals can teach entrepreneurship, they must have a passion and love for the topic. They must also be willing to share this passion with the students. Each faculty member highlighted their level of passion for teaching entrepreneurship through various perspectives. Lecturers A and B facilitate site visits and this usually highlights entrepreneurs and other key people doing what they love. Words like "obsession," "infatuation," and "enthusiasm" have been used to describe the teaching philosophy of the faculty interviewed. Lecturers B and C talked about using local vernacular to spark discussion in classes.

Mentoring

Mentoring and connecting directly with someone practicing in the field is a worthwhile strategy to be pursued in entrepreneurship classes. This is supported by the connectivism theories for bonding (Clarke, 1997); and for knowledge sharing over information network (Kop and Hill,

2008). Mentoring is the establishment of a personal relationship for the purpose of professional instruction and guidance, which is supported by behaviorism. Mentors support students in improving problem solving and social skills, which supports cognitivism, and to achieve the attitudinal and behavioral change which aligns with the behaviorist approach and the transformative approach. In education, the value of mentoring has been recognized in the use of teachers and other professionals in one-on-one instruction of students for vocational education, science, and reading (Evenson, 1982). To be able to enlist the experiences and advise of a practitioner to complement learnt principles discussed in the text and the classroom can add a feature that creates a more interactive learning experience. As an interactive system, mentoring benefits the mentor, the student, as well as adds value to the teaching system. Getting the buy-in from mentors is key and can be seen as easy, as mentors gain the satisfaction of being able to transfer skills and knowledge accumulated through extensive professional practice (Krupp, 1984).

In most cases, the mentor sees their contribution as a part of their corporate social responsibility and a philanthropic way of developing their legacy. Lecturers A and B see factory visits as part of the mentoring process as students interact with entrepreneurs. Lecture B also stated "I help build confidence through one-on-one sessions." Lecturer E stated that they also offer guidance to students who completed previous courses. Emphasis should be placed on building a relationship that last beyond the course of study and such strategies can be rewarding well into the life of the student. Entrepreneurship teachers therefore should advise students to build meaningful relationships through connectivism (Clarke, 1997); as they may want to rely on their mentors for help long into the future. Role models have been recognized in general as an important source of vicarious learning (Bandura, 1986). As role models, Lecturers A, B and C (fulltime staff) facilitate many past students with references to undertake future endeavours.

The faculty views mentoring as a positive exercise that is critical in developing confidence. They saw mentoring as a necessary piece of the pie to offer guidance and opportunities for entrepreneurial growth. Lecturers allowed students to build up trusting one-on-one relationships that focused students on developing individual strengths and interests. Outside of individual faculty a general concern was not being able to get more mentors from outside the teaching system. Lecturer A stated "I recognize mentoring to be a key piece of the puzzle in teaching entrepreneurship but it is also a very difficult puzzle piece to find." Mentoring seemingly is an area for concern as entrepreneurship is not a classroom exercise. In the Caribbean, there is definitely a need for entrepreneurship to be highlighted in the media and other forms if more persons are going to recognize what their contribution as a mentor can do to develop the entrepreneurial system. Overall the faculty believes that mentoring is an essential part of teaching and learning.

Simulation and Practice

Simulation and practice are vital in the teaching of entrepreneurship. Elements of modelling can be found in role-play exercises and simulation. Noticeably, both of these tools are representative of behaviourism as suggested by Peltier (2001) and connectivism (Kop and Hill, 2008). It is clear that entrepreneurship is not based on a read and repeat model. The key advantage of simulations is that they mimic real life situations as closely as possible. As a lecturer in entrepreneurship one has to be careful to create a simulation, which is underpinned by a sense of reality of what is happening in the world of business or should create a brand new reality for a changed environment. This setting can quite easily be created through connectivism; which is an approach based on interactions within networks (Downes, 2012). Ideally, it should be relevant to

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the lives and interests of the students who are in entrepreneurship class. The entrepreneurship teacher, after offering guidance, should unobtrusively supervise the actions and note students' ability to handle situations. This feature of simulation increases students' autonomy and motivation, and lowers their anxiety levels since they are interacting as equals within a small group of their peers rather than performing for the teacher. This form of transformative learning is a route to the development of critical thinking. The final outcome is the model used to evaluate their performance. It is assumed that with repeated practice a student will develop in such a way that they can make decisions faster and enhance their outcomes through different learning experiences. Realism can be enhanced, particularly for longer-term simulations, by adapting the classroom so that it simulates the environment in which the exercise is said to be taking place. Lecturers B and C use market place simulation as a means to provide a valuable platform for assessing a number of learning objectives.

Some faculty found it difficult to formulate simulation exercises among students. The thinking behind simulations was that it is supposed to represent an event or situation made to resemble real world experiences and that perspective was found hard to emulate in the class room. This shortcoming in teaching entrepreneurship through simulation exercises meant that application and integration of knowledge, skill development and critical thinking was lacking in most entrepreneurial classroom sessions. Lecturer A indicated that it is difficult to run a full simulation in a semester long 12-week session. Further to this, the Caribbean tertiary teaching system for entrepreneurship is at the crossroads in this regard and may need to engage student learning through more complex skills via simulation; especially as technology is advancing rapidly. This comment supports the view that connectivism is a useful approach to technology-enabled learning (Cormier, 2008). Essentially, simulation sessions need to be incorporated into the curriculum of all entrepreneurship courses at the tertiary level.

Conclusion

The learning theories classify into five general groups: behaviorism, cognitivism, constructivism, transformative and connectivism. This conclusion discusses each of them relative to the themes identified for entrepreneurship education. In general, the author concludes that the themes align with at least two or more of the theories and this is desirable and useful for grounding the learning and teaching tools.

The behaviourist theory focuses on means of observation, response to external stimuli and the impact of the environment (Alzaghoul, 2012; Neergaard, Tanggaard, Krueger, & Robinson, 2012; Pham, 2011). This theory was seen as a very successful method as it was established in all the themes identified: 'experiences,' 'sense of purpose,' 'reflective practice,' 'lecturer's passion,' 'mentoring,' 'simulation and practice.' It is viewed as a broad-based approach to teaching entrepreneurship and has demonstrated usefulness in facilitating teaching in this field.

The cognitive theories are an effective method for exploring problem solving, processing, encouraging and motivating (Clarke, 2013). They are a virtuous foundation for teacher-student relationship as they open the way for the development of the students. They have demonstrated effectiveness in "sense of purpose" and "reflective practice".

The constructivist theories are a proficient process for teaching which allows for building on prior knowledge (Romero, 2013). In this case faculty used "experiences" and "sense of purpose" as building blocks to aiding learning in this field. This allowed for meaningful learning to take place as this system allows the learner to go beyond what is already known and create new ideas.

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The transformative theories are modern. They were seen as an effective way to change the application and transfer of learning into an implementable and executable form (Cranton, 1996; Mezirow, 1991, 1996). The relation of this theory to learning is more noteworthy than the other traditional learning theories because this theory develops applicability of skill sets specific to entrepreneurship. Several of its principles can be used to improve the teaching and learning process. This theory was seen as a very useful method as it was established in the themes identified: 'experiences,' 'lecturer's passion,' and 'simulation and practice.'

The connectivism theory is also a modern theory which focuses on recognition and bonding (Clarke, 1997). It is important in formulating the relationship chain that is key to accessing new information, communicating and networking within the entrepreneurship eco-system. It is essential in the necessary interaction between teacher and the learner. Another key point is that it gives a chance for relating in a relevant social-cultural context. This theory was seen as a very useful method that was showcased in the themes: 'experiences,' 'sense of purpose,' 'lecturer's passion,' 'mentoring,' and 'simulation and practice.'

In summary, using a variety of learning strategies in entrepreneurship education can be desirable and useful. The study provides a repertoire of proven soft-skill approaches that have been successfully implemented strategically by entrepreneurship teachers in the Caribbean and can be used by other educators in their pursuit to educate students in the entrepreneurship process. The author highlights a series of themes related to entrepreneurship education that positively impact a learner in a wide number of circumstances. This may explain why there are such a wide variety of learning strategies, all of which can provide important outcomes to the student learner engaged in an entrepreneurship education program.

Limitations

One of the limitations of this study is that it was only conducted among five faculty members that teach entrepreneurship at the University of the West Indies. The findings are based solely on the way faculty perceive their practices. Faculty only gave relative strengths within their individual teaching experiences and not in relation to others. A better knowledge and understanding of learning styles may become increasingly critical as students come from across varying faculties. The context in other geographical locations around the world may vary and therefore require further investigation into the learning theories. Nevertheless, this study acknowledges the role lecturers play and the tools they use in teaching entrepreneurship education.

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BOOK REVIEW

Title: Digital Diversity: Youth, Equity, and Information Technology

Authors: E. Dianne Looker and Ted D. Naylor, Editors

Publisher: Waterloo, ON: Wilfrid Laurier University Press

Year of Publication: 2010

Reviewed by: Kamini Jaipal-Jamani, Ph.D., Associate Professor, Brock University

The chapters in this edited book present findings from a multi-site research project entitled, *The Equity and Technology Research Alliance*. The project explored "access to, use of, and skill with ICT in various subgroups of youth" (p. 15), identified as teachers, and teacher candidates. While there is a proliferation of studies examining the role of Information and Communication Technology (ICT) in education, this book offers a different perspective on this topic by focusing on equity and marginalized youth in the regions of Nunavut and Nova Scotia in Canada. The editors argue that as ICT continues to be positioned as an enabler for equity among people, more research about ICT is needed to present a realistic picture of actual use of technology by different subgroups of youth. Hence, the research sites were selected to be representative of areas having marginalised populations geographically and culturally.

Chapter 1, written by the editors, provides a comprehensive overview of the study, including: The theoretical underpinnings; links between ICT and education policy; the digital divide; the context of the study; data sources, collection, and limitations; and the outline of subsequent chapters. Major sources of data include: Surveys with high school students and teachers; interviews and focus groups with university faculty and teacher candidates; as well as interviews with youth in alternative settings such as youth shelters. Each subsequent chapter, contributed by different authors, uses data from the research project to highlight how different factors, such as location and gender, influence ICT access and use among different youth groups, and in education. For example, chapter 2, by Dianne Looker, examines how geographic location impacts ICT access and use while chapter 3, by Victor Thiessen and Dianne Looker, explores how computers and the internet are used to develop and strengthen social capital. Chapter 4, by Brian Lewis Campbell and Alyssa Henning, looks at how gender influences attitudes towards and use of ICT while chapter 6, by Dianne Looker and Ted Naylor, focuses on teacher attitudes and practices related to ICT integration in the classroom. Finally, in chapter 7, Jeff Karabanow and Ted Naylor discuss the ICT experiences of street youth in Halifax.

This edited book makes an important contribution to the literature as it provides research based evidence of how computers and the internet are accessed and used by youth in remote and marginalized communities; comparisons are made between rural and urban youth and among Inuit, Mi'kmaq, Black, Asian, and White youth. A unique contribution of the book is a chapter that explores the experiences of street youth with ICT in Halifax. As noted by the chapter authors, Jeff Karabanow and Ted Naylor, limitations of the study are that comparisons of youth experiences with ICT were done in 2005 and only in two geographic locations in Canada. Furthermore, some survey data related to access may be outdated as internet connectivity has since improved in remote communities in Nunavut. Nevertheless, the results of the study assist policy makers in

reconceptualising the purposes of ICT to meet the needs of various education groups and subgroups in those regions.

The chapters in the book are organized so that each chapter sets the context for subsequent chapters and reference is made to findings in previous chapters. This type of organization provides a step-by-step explanation of the data, but it could be regarded as a limitation if the reader would prefer reading each chapter independently, and in random order. As well, inclusion of the full survey as an appendix associated with chapter 1 would have been beneficial for the reader to follow the interpretation of data as laid out in subsequent chapters, especially inclusion of the nineteen survey tasks mentioned in chapter 2. Chapter 2, 3, and 4 make effective use of descriptive bar graphs and statistic tables to illustrate the relationships between ICT access and geographic location, cultural groups, and gender differences respectively. In chapter 3, the notion of social capital was effective to frame the discourse around how youth use computers and the Internet to develop bonding capital (connecting with others who are similar) and bridging capital (connecting with others who are different). Within these chapters, many new concepts such as "cultural groups" and "ICT literacy" were introduced. However, additional explanations of these concepts are needed to provide clarity of meaning in the context of this book.

Another feature that would have enriched the chapters is the inclusion of concrete examples to support recommendations for policy and practice. For example, in chapter 6, the authors recommend putting in place institutional supports, such as institutional practices, for teachers who are implementing and sharing innovative ICT teaching practices. However, providing an example of an appropriate institutional practice would help readers envision theoretical recommendations as practical solutions. Overall, a significant strength of the book is that chapters conclude with provocative questions and discussion to engage the reader in critical re-examination of existing assumptions about how ICT is and can be used to promote equity for youth. For example, chapter 2 raises the notion that patterns of computer and internet access and use among youth are not simply a matter of geographic location, but are also affected by a complex interplay of a variety of factors such as social and cultural contexts. The latter aspects are then explored in subsequent chapters.

In chapter 6, Looker and Naylor, challenge the belief that "if only teachers knew how to use technology better, then the true benefits of ICT's in schools would be unleashed for all students" (p. 156). The authors point out that a variety of factors, such as ICT education/training and infrastructure supports, are needed for teachers to implement ICT in schools. Readers are challenged to frame the discourse on ICT access and use in ways that do not conform to extremes of "haves" and "have nots" (p. 54) or to correlation trends such as "ICT teaching practices" and "transformative teaching" (p. 154). Rather, Looker and Naylor provide evidence for supporting a re-conceptualization of ICT education from the simple digital divide approach to a digital diversity approach. This book sparks and generates thought-provoking questions and directions for future ICT research in education.