

Developing Teacher Reflexivity and Communities of Practice through the Incorporation of New Literacies in a Content Area Methods Course: A Case Study of Student Teachers' New Literacies Experience

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Web-based formats are increasingly emerging as 21st Century modalities for effective teacher preparation. In this article, the author draws findings from a larger case study which focused on the incorporation of new literacies in a semester-long content area methods course. Two major questions guided the research: (1) How did student teachers' participation in electronic-threaded discussions contribute to their understanding of concepts related to content area literacy? and (2) In what way(s) did student teachers' weblogs serve as an effective tool in promoting their reflective practice? Data were gathered using focus group interviews, reflection logs and discussion transcripts. The findings revealed that participants' engagement with new literacies created opportunities for collaborative learning, sharing, critical thinking and reflection that led to the development of 'third space' knowledge, discourses and communities of practice. The findings further support a socio-cultural paradigm which posits that learning and reflection are interactive, collaborative, technologically-mediated and situated. Based on the findings, the author recommends that teacher education programmes be restructured to foster teacher reflexivity, equip future teachers with new literacies and embrace a disciplinary literacy perspective.

Key words: *new literacies; reflective practice; content area literacy; disciplinary literacy; third space; student teacher; communities of practice.*

Context and Background

At the primary and secondary school levels in Saint Lucia, prevailing trends indicate that the availability of computer and internet technologies are outpacing the number of teachers who know how to effectively embed these technologies in instruction. In keeping with its thrust towards lifelong learning and making children increasingly competitive and productive in a burgeoning digital landscape, the Government of Saint Lucia has embarked upon a "One Laptop per Child" programme. The goal of this programme is to equip students in forms three, four and five in all secondary schools island-wide with laptops by the academic year, 2015-2016. Thus, teachers are encouraged to utilize this multimedia resource as an instructional tool to bolster students' learning across the curriculum and transform the delivery of instruction in classrooms. Although there is a paucity of empirical evidence to ascertain its effectiveness in improving the quality of instruction and learning locally, an evaluation report of the 'One Laptop per Child' programme produced by the Ministry of Education underscores the urgent need for more teacher training to support the effective use of laptops for instruction. Admittedly, some form of training has been provided to enhance the schools' capabilities at implementing this programme,

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however, the Ministry hopes that student teachers who, having completed their two-year general teacher training would have developed proficiencies in using new technologies for classroom application. This can more effectively be realized, though, when teacher educators provide student teachers with opportunities to develop new literacies across teacher education courses. Unfortunately, the author's observation of some educators with new technologies represents what Lankshear and Knobel (2006) termed the 'old wine in new bottles' syndrome, where new technologies are used to duplicate old teaching practices. Notwithstanding the constraints of time and course intensity, researchers emphasize that new technologies should be intimately linked to the development of new literacies that student teachers need for effective functioning in today's classrooms.

Another recent call in the literature, albeit not the primary concern of the study, urges teacher educators to shift their attention from the generic application of reading and writing-to-learn strategies across the curriculum to an emphasis on disciplinary literacy (Carlson 2015; Fang 2014; Shanahan & Shanahan, 2008, 2015). "Reading and Writing Across the Curriculum" formerly termed Content Area Reading and Writing, is a content area methods course that both primary and secondary student teachers are required to pursue as part of their Associate Degree in Education (ADE) programme. The primary goal of this course is to strengthen candidates' capabilities to teach children reading and writing skills in the various content areas with the ultimate goal of becoming independent learners. While this application of general reading and writing strategies is reasonable with younger children, the same does not suffice for adolescents at the secondary level who study specific subject disciplines such as Geography, Business, and Mathematics. Despite the call to adopt a disciplinary approach to content area instruction, this study is delimited to the content area instruction which involves the application of general reading and writing strategies across the curriculum.

Theoretical Framework

Making a Pedagogical Shift in Content Area Instruction

Over the years content area reading has evolved from a narrow conception of reading-to-learn to a broader dimension suggested by the label 'content area literacy' which for many represented a set of goals and tools for teachers to employ for bridging the achievement gaps while helping all students learn in more powerful ways in content areas (Lesley & Matthews, 2009; Manzo, Manzo & Thomas, 2009; McCormack, 2008). More recently, the Shanahans (2008, 2015) among other researchers have made a compelling case for a disciplinary approach to literacy instruction. A review of the literature suggests that disciplinary literacy is not another term for content area literacy but rather represents a conceptual shift in the way educators approach literacy instruction in content area classrooms (Pytash & Ciecierski, 2015). Unlike content area literacy which focuses on general strategies that are applicable to all subject areas, disciplinary literacy refers to literacy practices that are valued or promoted by each discipline. This disciplinary approach emphasises the specialised knowledge and abilities possessed by those who create, comment and use knowledge within each of the disciplines (Shanahan & Shanahan, 2008). This means therefore, that adolescent learners must be taught how to think, speak, read or write like a historian, businessman, mathematician or scientist. These learners will demonstrate disciplinary habits if they are taught by secondary teachers who have been exposed to disciplinary literacy practices in their teacher preparation courses.

New Literacies and Teacher Education

As new technologies proliferate, educators (Guzzett, Elliott & Welsch, 2010; Moss & Lapp 2010; Risko & Walker-Dalhousie 2007; Roe, Stoodt-Hill & Burns, 2011) have recognised the need to equip student teachers with new literacies, new technologies and a wide variety of text types. To accomplish this goal, teacher education programmes must design curricula that reflect a socio-cultural and multiliteracies approach (Cope & Kalantzis, 2000) for secondary teacher candidates. What constitutes new literacies, however, is not the same for everyone. For instance, Willinsky (1990) conceptualises new literacies as ‘those strategies in the teaching of reading and writing which attempt to shift the control of literacy from the teacher to the student’ (p.8). In recent times, pioneers of New Literacy studies have shifted the focus to include skills and strategies for enhancing reading and writing using internet technologies. In a review of work done by Coiro, Knobel, Lankshear and Leu (2008) the authors conclude that new literacies:

- i) *include the new skills, strategies, dispositions and social practices that are required by new technologies for information and communication;*
- ii) *are central to full participation in a global community;*
- iii) *regularly change as their defining technologies change;*
- iv) *are multifaceted and our understanding of them benefits from multiple points of view (Baker & Leu 2010).*

For a literacy practice to be considered “new” it must have both new ‘*technical stuff*’ or digitality (exemplified in the creation of hyperlinks between documents and uploading images from a digital phone or camera onto the computer or YouTube); and new ‘*ethos stuff*’; that is, it must be highly participatory, collaborative and distributive (Knobel & Wilber, 2009; Lankshear & Knobel 2006, 2007). Therefore, using PowerPoint for instance, with slides containing copious notes to replace the long standing practice of “chalk and talk” is not considered new.

Equipping novice teachers with a wide range of new literacies to effectively exploit their potential for reading, writing, and communication (Lankshear & Knobel, 2006; Leu, Coiro, Knobel & Lankshear, 2004; McVee, Bailey & Shanahan 2008) is central to effective teacher preparation programmes. Related research evidence suggests that educators who model the use of internet technologies in their practice not only help their student teachers build confidence and competence as technology users (Mathew, Calloway, Letendre & Kimbell-Lopez, 2002) but more importantly, provide them with a model to emulate as they strive to embed new technologies in their own classroom teaching (Fleming, Motamedi & May, 2007; Larson, 2008). Two web-based formats that have been found to have powerful potential for developing new literacies and enhancing student teachers’ collaborative learning and reflexivity are blogs and threaded discussions.

Weblogs or blogs have become popular tools for teacher trainees to publish their own ideas, reactions and reflections on concepts and theories regarding learning and teaching. The interactive and collaborative nature of blogs provide student teachers an opportunity to receive feedback from others thus promoting deeper reflection in a non-threatening environment (McPherson, Wang, Hsu & Tsuei, 2007; Yang, 2009) across space and time. By blogging, student teachers think critically about their past, current and future practice (McPherson et al., 2007; Wassell & Crouch, 2008); develop blogging competencies and learn new strategies for embedding the tool in their own teaching. Similarly, the discussion board promotes critical reflective thinking, encourages participation as well as provides opportunities for course instructors and students alike to share their understandings and perspectives, and construct

knowledge through shared meanings (Birch, 2004). The asynchronous nature of the threaded discussion makes it possible for teacher educators to extend the conventional classroom thus promoting student participation at their own convenience. Furthermore, it provides an opportunity for students to 'author the self' as it makes it possible for them to develop voice and identity as teachers within a specific content area (Kajder, 2007). Despite their potential, it is important to be aware of possible barriers that may hamper interaction and learning on the board and in the blogosphere. A major limitation relates to the lack of motivation and reduced interaction resulting from lengthy messages and limited or no feedback from peers or tutors.

The pervasive use of internet technologies among young adults often results in many candidates bringing into teacher education classrooms a range of literacies that teacher educators need to validate and explore to determine how these multiliteracies can help to create opportunities for 'third space' knowledge (a space which allows for the amalgamation of knowledge and discourses from home - first space, school or community - second space, to develop new forms of learning (Cook, 2005; Pane, 2007; Risko & Walker-Dalhouse, 2007; Sheridan-Thomas, 2007). A third-space perspective also acknowledges the knowledge and Discourses that shape teachers' everyday and disciplinary literacy practices (Gee, 1990; 2000). Student teachers' ways of knowing, thinking, speaking, and interacting with adolescents during instruction are influenced and shaped by general theories of literacy and learning, their past teaching experiences, observations of their colleagues, their own school days as students, and their everyday funds of knowledge – all of which they bring in and develop during teacher preparation years (Lee, 2008). These experiences not only help in the construction of new knowledge about teaching and learning but also play a significant role in fostering critical reflection *in, on, and for* practice.

Reflection and Communities of Practice

The construct of reflection has not always meant the same in all contexts. Whatever the interpretation, there lies one fundamental theme; that of inquiry resulting in improved practice and ongoing professional development. Lyons' (2006) definition of reflection:

involves a deliberate and intentional act of interrupting, or suspending, one's teaching practices to interrogate or inquire into them systematically and to heighten one's conscious awareness of one's practices and of one's students and then using that consciousness to redirect one's practice and actually acting to change (p. 166).

Through this systematic inquiry it is believed that student teachers better understand and extend their professional activity, and as they reflect on teaching problems and methodologies either individually or collaboratively they will develop new insight to improve their practice (Marcos, Miguel & Harm, 2009). A synthesis of the literature suggests that teacher reflection has focused on three notions of reflection. Firstly, reflection *in* action involves student teachers drawing on their knowledge, skills, thinking and acting in the midst of action. Secondly, reflection *on* action involves inquiring into or thinking about practice following the teaching experience (Dymoke & Harrison, 2008; Zeichner, 1994; Zeichner & Lipston 1987). A third type of reflection – reflection *for* action (Killion & Todnem, 1991) is undertaken not so much to revisit the past or monitor ones metacognitive processes during the teaching event, but more practically, to guide and inform future practice.

Reflection in teacher education embraces a socio-constructivist view that emphasises the active construction of knowledge through interaction with the social environment. From this

standpoint, reflection is seen as a social process that is developed through various opportunities, activities and in different contexts over time (McLean 1999; Ottesen 2007; Pedro 2005). Similarly, Lave and Wenger's (1991) communities of practice model as cited in Smith (2003); Wenger, Mc Dermott and Snyder (2002), describes a process of social learning that occurs when groups of people with a shared interest interact and collaborate with ideas, strategies and activities over time to develop a repertoire of resources for practice. At the Division of Teacher Education, there may exist in any cohort, several communities of practice. These may include student teachers who are interested in developing strategies for Foreign Language teaching, Technical Vocational Education, Social Studies, Business and Science. Through student teachers' participation in a myriad of shared and collaborative activities they develop a unique perspective as well as a body of knowledge, practices and approaches that help to enhance content area pedagogy. Such evidence coupled with Gee's work points to the need to view reflection as a socially and historically situated practice that is embedded in Discourses. Thus, the ability to engage in critical reflection can be developed through the infusion of new literacies in methods courses.

Methodology

A qualitative case study approach was employed to investigate student teachers' new literacies experience in a content area methods course. The design was deemed suitable as it investigated and reported the complex interactions of students during their collaboration and sharing of knowledge, understandings, and teaching experiences as they occurred in their natural environment thus, enabling a more comprehensive understanding of ideas in ways that are otherwise not always possible through numerical analysis (Cohen, Manion & Morrison, 2000). The use of Lankshear and Knobel's (2004) three general principles (epistemological, ethical and procedural) assisted in obtaining sufficient and valid data, as well as ensuring that issues of power and ethics were adequately addressed prior to and during data collection.

Time Frame, Setting and Participants

This research project was carried out over a semester-long content area methods course. I met with the registered students for 3 hours each week. Students photocopied course materials that I prepared and sourced relevant articles from scholarly journals. At the beginning of the semester, eight first-year female teachers (Phoebe, Jenny, Laura, Elsa, Denissa, Clara, Tessa, and Wendy – all pseudonyms) were registered for the course. Lindy, a second year student had been asked by the Dean to audit the course. During the semester however, Clara withdrew from the programme. The remaining seven (7) students who completed the course participated in the research. All participants specialised in the teaching of English Language either as a major or minor and one subject/content area. Participants had taught at the primary or secondary school level prior to their teacher training.

Data Collection Methods and Procedures

Three methods were used to obtain data in an effort to produce interesting trends or patterns and generate plausible claims in understanding the research questions investigated. This crystallisation approach (Ellingson, 2008) offered opportunities for cross referencing as well as provided a detailed set of related data that were used to build a rich analysis.

Reflection Logs: Five tasks were designed to provide a stimulus for reflection and to allow student teachers to make decisions about their practice in ways that would contribute to

their personal development as well as improvement in classroom pedagogy. Students kept and maintained in their personal blogs detailed accounts of their previous teaching experiences and how their prior knowledge and assumptions influenced their classroom practice. Students' micro teaching video clips were also uploaded to facilitate collaborative learning, peer evaluation and deeper reflection. These reflexive thoughts offered valuable insights into students' critical thinking and their new learning (as evidenced by their implementation of reading and writing-to-learn strategies during micro teaching, and more accurate ideas related to misconcepts that they previously had).

Discussion Transcripts: Students' discussion transcripts were used to gauge their learning of key concepts and issues emerging from electronic journal articles and other reading assignments. The quality of responses was examined for evidence of new learning, ideas gleaned from the collaborative sharing of practices and inclusion of empirical evidence to affirm the importance of the strategies discussed. Participants were assigned an electronic ID and password that gave them access to the discussion board that was set up for the course. Students responded to discussion topics at least twice a week.

Interviews: Focus group interviews were conducted at the end of the course to help crystallise and complement other qualitative data. It was considered useful as it enabled participants to interact with each other so that their views regarding their new literacies experience could emerge. Prior to conducting the interviews, participants were reminded of the overall purpose of the research and the purpose of the interview session was explained. I also reminded them that their identities would be masked in the research report and that their grades would not be affected by their responses. Interview data were recorded digitally following students' approval. At the end of the interview participants were thanked for their time and co-operation.

Data Analysis

The ultimate goal of the data analysis was to provide a 'thick description' (Geertz, 1973:10 in Lankshear & Knobel, 2004) of the data collected. To obtain an overall sense of the data, the different methods of data collection were first examined in search of emerging themes, trends and meaning. Samples of discussion and blog transcripts were compiled, printed and reviewed to facilitate comparison of related topics and to identify emerging themes or patterns in response to the research questions. Interview data were transcribed verbatim and coded according to predetermined categories and emerging themes. Findings were presented through descriptive writing, authentic samples and visual representations.

Results

How did student teachers' participation in electronic threaded discussions contribute to their understanding of key concepts in content area literacy?

The discussion board was perceived by students as effective in contributing to their understanding of concepts related to the course. Additionally, students' discussion transcripts crystallised the views expressed in the interview. Coding of the data revealed that threaded discussions contributed to student learning of content area related concepts in several ways:

Critical Thinking & Reflexivity - Students' critical thinking and reflection were fostered through their interaction on the board. Moreover, they felt that the topics and comments forced

them to take an introspective look at their prior practice, spurring them into reminiscence and bringing to the fore some of their “bad” practices. Two of the topics as perceived that caused them to do so most conscientiously were ‘Miss Brown’s Dilemma’ and ‘Every Teacher a Teacher of Literacy’. Undoubtedly, ‘Miss Brown’s’ scenario provided a stimulus for deeper reflection of previous teaching practices and to identify those that are considered ineffective in light of new methodologies and student-centred theories of learning they had been exposed to in the course.

Construction of New Learning - Students constructed new knowledge as they interacted and shared ideas, perspectives and content area methodologies. Clearly, participants’ initial perception that the English teacher was solely responsible for developing students’ literacy skills is now something of the past. Now, student teachers view this role as a shared responsibility regardless of the subject matter being taught. Furthermore, students’ ability to read, understand and learn concepts and issues from different viewpoints contributed to a deeper understanding and construction of their own knowledge. This new learning was observed in the quality of responses posted to various discussion prompts. A review of the discussion transcripts revealed that responses were more cogent than before and incorporated empirical evidence from their readings to substantiate their ideas. For instance, Laura’s suggestion regarding the need for Miss Brown to adopt an authentic and differentiated pedagogy demonstrated her application of her new learning following one of her PowerPoint presentations as well as views expressed by others in the forum. Other suggestions included adopting a more constructivist approach to teaching and learning, activating students’ background knowledge, incorporating reading and writing to learn activities, and using various strategies to facilitate comprehension and retention of concepts. The suggestions made were reflective of some of the best practices they hoped to incorporate in completing their assignments, micro teaching, and future practice. Another critical evidence of new learning was observed during micro teaching. During this practical component, students employed several strategies such as the anticipation guide, graphic organizer, two-column notes and RAFT to more actively engage their peers and facilitate their understanding of the content taught. It is interesting to note that the strategies employed during micro teaching are similar to those participants had suggested to ‘Miss Brown’ in the scenario presented in one of the discussion threads.

Co-operative Learning & Concept Clarification - The discussion board facilitated collaborative learning as well as provided clarification on various concepts covered in the course. Unlike the traditional face-to-face discussion, the discussion board provided everyone with a chance to respond to the topics in her own space and time. The asynchronous nature of the board increased the possibility for students to participate thus creating a cooperative learning environment. For Phoebe and Denissa, the discussion board provided an environment for seeking clarification from their colleagues, and using these comments to correct their misconceptions as well as organize ideas. This active engagement with content area related concepts on the board provided students with a greater sense of empowerment and confidence, which ultimately led to a more interactive discussion and rewarding experience.

Safe Learning Environment - Students reported that the discussion board, unlike the traditional formal classroom provided them with a safe learning environment that catered to some of their learning styles. It provided them with an interactive and informative forum for expressing their

ideas and thoughts without fear of criticism or intimidation as Wendy indicates: ... *I do not exactly like to speak out in class neither or participate even if the ideas are in my head. I found it so much easier to express what I was thinking, whereas I don't have to do it in a classroom, you know, it is more intimidating.*

Evidently, participants found the electronic discussion forum a less threatening modality for delivering effective instruction.

In what way(s) did student teachers' weblogs serve as an effective tool in promoting their reflective practice?

The blog provided a forum for student teachers to present their reflective thoughts in an interactive, less intimidating and authentic way. They felt that blogging helped them recognise similarities in their previous teaching practices thus making them more willing to come to terms with what they had done previously and to view the exercise as a collaborative learning process. Analysis of the data gathered from the coded reflection transcripts revealed three different facilities peculiar to blogs that effectively promoted teachers' reflexivity.

Archiving Facility - Monitoring Progress and Comparing Practices

The very nature of the archive facility available in blogs made it easier for students to track their reflective thoughts and see areas of growth as Elsa points out in her comparison with traditional paper journaling: *The fact that the reflection is posted on the blog and whenever you open the blog you would see the reflection in completing another reflection, it will probably cause you to go back to what you had already done and you would see probably where you are now, whether you... have different thoughts, how much you have grown as opposed to probably when it is on paper.*

Students' reflective logs were used to compare practices on two levels. First, the blog served as a text repository for students to access and identify similarities and differences in perceptions regarding their role as content area teachers, and how these views informed their prior teaching practices. A review of the blog accounts revealed that content area reading and writing was a relatively new concept for all students. However, how they viewed their role in developing their children's literacy skills differed according to the subject area, which in turn influenced their teaching practices. Students, who had previously taught subjects other than English or Literature for instance, perceived the English Language teacher as solely responsible for developing children's reading and writing competencies, while their primary objective entailed teaching subject-specific content. Conversely, those who taught English or Literature like Elsa for example, viewed content area reading and writing instruction as grounded in constructivism and that their primary role entailed providing learners with authentic learning experiences which through their active engagement would facilitate the construction of their own learning. Therefore, the enactment of strategies such as role play, discussions and drawing that Elsa mentioned in stimulating her children's interest and active engagement in her Literature lessons confirmed her perception and role in providing student-centred learning experiences.

Additionally, participants' reflective accounts provided a means by which their colleagues gauged their teaching performances, identified similar practices and evaluated the effectiveness of their prior teaching methodologies. This feeling of shared experiences and understandings allowed participants to empathise very strongly with each other throughout the exercise. On the second level, the blog provided yet another opportunity for students to reflect on the new strategies, ideas or content area methodologies learned and to become increasingly

aware of their previous practice and perceptions of and assumptions about content area instruction. This continuous reflection and increased awareness was particularly important in bringing about new learning and change in practices. A review of the blog transcripts showed evidence of professional growth in the various posts, published, as well as the comments and suggestions they offered to their colleagues. Through this reflective process students developed what I term ‘pedagogic consciousness’ that caused them to evaluate their practices, identify strengths and weaknesses, and recognize the need to change some of their practices, all of which are imperatives to becoming reflective practitioners.

Comments Facility: One way in which blogs have been seen as an effective tool in promoting teacher reflexivity relates to the facility to leave comments. An examination of the blog transcripts revealed that Elsa, Jenny and Wendy were the only participants who acknowledged and responded to comments received by their colleagues and course lecturer based on the posts they had previously published. Students looked forward to feedback as the lack of it would have inevitably affected interaction and collaboration in the blogosphere as well as motivation to keep on blogging. Students felt that feedback received was extremely encouraging as the comments forced them to take an introspective look at their previous practice and to find ways to improve as Tessa notes: *...Comments help me find ways of improving our teaching strategies and caused us to reflect on what we did and how we can make it better*

Students indicated that questions posed to them forced them to think more critically about their prior teaching methodologies and the content of the various posts they had previously published. Although student teachers were not provided with a second opportunity to teach, their reflection on and in practice and feedback received yielded suggestions for improvement.

Facility to Embed Videos: Micro teaching was an opportunity for students to put into practice some of the newly learned methodologies as well as providing an event for engaging in reflection on practice. Students generally concurred that the facility to upload or embed videos (Figure 1) in their blogs was phenomenal as it facilitated repeated viewings of their lesson thus contributing to their ability to engage in deeper reflection.

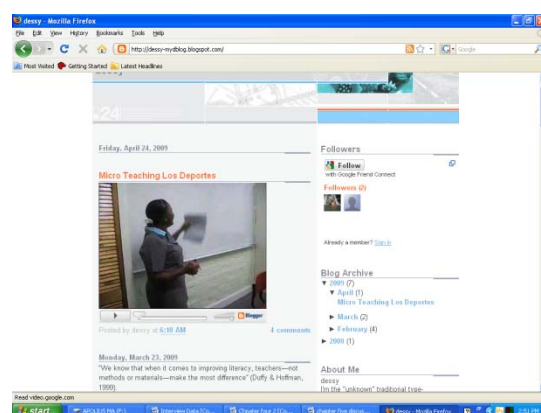


Figure 1. Denissa's Micro Teaching Video Clip

This was an illuminating experience for all participants since it was the very first time they were using their own teaching video clips as a tool to promote their reflexivity. While Elsa and Tessa expressed concerns about criticisms that may be levelled at them should others view

their video clips, the other five participants however, viewed the possible criticisms as windows for growth and repeated viewing would definitely help them engage in continuous self evaluation. For Laura, embedding the video was useful as it provided teachers who were absent during the lesson an opportunity to view it and provide feedback. The use of the video and the comments made by their colleagues and the course lecturer provided an opportunity for student teachers to verify the strengths and weaknesses identified in the lesson, resulting in increased pedagogic awareness and new learning. Moreover, the (re)viewing of each other's teaching videos allowed students to look back at and think more deeply about their lessons enabling them to learn vicariously as they endeavour to find ways to make their teaching experience more engaging for their students. In sum, the micro teaching exercise created an excellent opportunity for student teachers to evaluate the effective application of new knowledge and discourses in their selected content area. As such, participants paid attention to the way they expressed themselves, wrote on the board, classroom management strategies and questioning techniques employed, the quality of feedback given to students, and the nature of interaction among students, all of which are important in understanding and developing new teaching discourses.

Discussion

The incorporation of new literacies in a content area methods course provided future teachers with multiple opportunities to learn with technology-based media in an effort to enhance their capabilities at implementing effective instruction in today's multimedia classrooms. Consistent with previous research evidence (Birch, 2004; Yang, 2009) the students in this study felt that the discussion board and blogs provided them with a novel format for discussing and learning concepts related to the course as well as fostering their reflexivity. Moreover, these formats fostered student-student and student-teacher interaction which became extremely useful as students developed and broadened their own understandings, constructed their own knowledge of concepts and strategies, and developed insights from different viewpoints. Although a limited number of topics were posted on the board, one important finding of this study amplifies claims made by Peterson and Slotta (2009) and Teo and Webster (2008) regarding the effectiveness of the board in promoting depth and breadth of discussions. The discussion board was also found to be effective as it afforded greater participation by most students particularly since problems related to shyness, time, and power relationships (Peterson & Slotta, 2009) were significantly reduced. In light of this, there is evidence to suggest that the tutor's input can influence the quality of students' learning and interaction that occur in web-based learning environments. The findings of this study like Thibodeau (2008) suggest that the creation of opportunities that foster collaborative interactions in online communities was an effective way for secondary teachers to develop a thorough understanding of content area related concepts and issues and for developing their reflexivity.

The incorporation of new literacies demonstrated the development of a community of practice (Wenger & Langer, 1991; Wenger, Mc Dermott & Snyder, 2002). Through this online community of practice, students were able to share their knowledge, understandings and teaching experiences; learn from multiple perspectives; help each other identify their strengths and weaknesses; reflect on these experiences and form meanings that informed their theoretical and pedagogical practices related to content area literacy. Through their engagement in shared activities, not only did students develop a different perspective of their role as content area teachers but also developed a repertoire of strategies (Killion & Todnem, 1991) that they endeavoured to implement in their practice, some of which were evident in their microteaching

lessons. The development of such instructional strategies to inform and improve future practice constitutes a key component of communities of practice (Lave & Wenger, 1991). The narrow focus of the study to the application of reading and writing strategies across content areas, to some extent, might have short-changed participants particularly those who were interested in developing strategies that are more unique to their subject disciplines. They were not afforded opportunities in the discussion forum or through blogging to develop disciplinary ways of thinking such as reading and writing about a range of disciplinary texts. Such focus was beyond the scope of this study.

Despite this limitation, the personal experiences and knowledge about teaching and learning which students brought into the Methods course were useful in creating a 'third space' (Cook, 2005; Moje et al; 2004; Sheridan-Thomas, 2007) which enabled the integration of their funds of knowledge and discourses to develop new meanings, understandings and knowledge regarding effective content area instructional practices. The findings of this study add to existing literature on a 'third space model' which suggests that teachers who construct third spaces in their classrooms understand literacy as a complex social and cultural practice.

The use of blogs as a repository for students' reflective accounts throughout the semester exposed them to the practices and experiences of their colleagues. It allowed participants to become more aware of their previous practices and the need to adopt research-based instructional strategies and new methodologies. Students became more aware of their roles as content area teachers and the need to enact student-centred strategies to develop strategic and independent learners. The constant (re)viewing of micro teaching videos provided several opportunities for student teachers to reflect on their practice and articulate their pedagogical beliefs. The findings confirm Marcos, Miguel and Harm's (2009) assertion that teacher reflection is indeed a collaborative problem-solving process in which students analyse and evaluate their teaching practices. The new insights that students gained through their collaborative reflective activities further confirm the need to view reflection, like literacy, as a social practice (Pedro, 2005), thus, strengthening the socio-cultural theory of learning.

Implications and Recommendations

The findings of this study give an indication of the kinds of restructuring that are necessary in order for teacher education programmes to foster teacher reflexivity, equip future teachers with new literacies and adopt a disciplinary perspective to more effectively prepare secondary student teachers who will be more capable of meeting the literacy and learning needs of adolescents in their respective disciplines. First of all, teacher educators need to make a paradigm shift. Such a shift is essential if teacher educators are to incorporate in teacher education courses student teachers' multiliteracies and the knowledge and teaching experiences they bring into teacher education classrooms. This suggests that at the college level, the Dean and heads of department need to demonstrate a commitment to learning and teaching that is mediated by web-based environments; understand that this innovation is worthwhile, and be prepared to provide support to staff who are either technophobic or reluctant to integrate these web-based tools into instruction. Secondly, the current 'Reading and Writing Across the Curriculum' course should be revised and redesigned to reflect a disciplinary approach to instruction for secondary teacher candidates. While this course is adequate for primary teacher candidates, there is a need to design one that will more adequately prepare secondary student teachers to better meet the advanced literacy demands of students in their respective disciplines. The course will expose

candidates to literacy practices that are unique to their subject disciplines and not limited to application of a set of generic reading and writing strategies across content areas.

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