# MODELING PEDAGOGY FOR TEACHERS TRANSITIONING TO THE VIRTUAL CLASSROOM

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## ABSTRACT

This study is a review of the creation and evolution of a professional development program modeled on social constructivist principles and designed for online educators in a virtual high school who transitioned from the conventional classroom to the virtual educational environment. The narrative inquiry focuses on the critical events within the professional development program and which were transformational in the process of transitioning from conventional brick and mortar instructor to online educators. In addition, the research examined whether or not the social constructivist inspired methodology modeled in the professional development transferred into the online teachers' classroom practice. The results of this research have contributed to an understanding of the key components required for the design and implementation of a professional development program for teachers who have been trained for conventional classroom practice, but who are now called on to teach online in virtual classrooms.

## 1. INTRODUCTION

Over the course of the last decade, the rapid emergence of virtual schools across the educational landscape has not only created a need for a new category of teacher, that is, the online educator, but also it has highlighted a pressing need for new models of professional development for educators who are called on to teach in online classrooms (Blankenship & Kim, 2012). Ukpokodu (2009) emphasizes the importance of effective professional development programs for online teachers since these programs influence the pedagogical strategies the teachers will employ in their virtual classes which in turn have an impact on student outcomes. An essential starting point in designing a professional development program for online instructors is a clear understanding of the knowledge and skills that are specifically associated with effective pedagogy in the virtual classroom setting and how these strategies compare to those employed in a conventional classroom environment (DiPietro & Sivy, 2011). In terms of professional development in general, Blankenship and Kim (2012) clearly demonstrated that traditional models of professional development have been ineffective because these models generally responded to institutional requirements first without providing authentic and meaningful learning opportunities for the teachers themselves. This is a pivotal issue since virtual schools are regularly faced with the challenge of training teachers from the face-to-face environment to teach in a virtual classroom environment; however, it is also critical to note that most programs do not adequately prepare these teachers as the emphasis in the majority of the professional development programs has been upon the use of related technology and not on pedagogy and online methodology (Barrett, 2010; Faulkner-Beitzel, 2008). Research has shown that the most effective learning within a professional development program for teachers occurs when the learning itself is clearly contextualized and when there are social interactions in which authentic practice occurs (Bell & Morris, 2009). Barrett (2010) makes an important point when he states that the virtual classroom is unlike the conventional classroom, and as a result, educators moving into this environment must "unlearn" their previous ways of providing instruction and consider effective strategies that both encourage and nurture the online student. This notion of a differentiated pedagogy for online delivery is further supported by DiPietro

and Sivy (2011) who call for professional development for prospective online instructors that sensitizes these educators to these differences and adequately prepares them for an environment with which most are not familiar.

When educators, who have spent most of their careers in conventional face-to-face classrooms, are expected to teach in a virtual school setting, the training and preparation they receive is of critical importance since the variables that influence teaching and learning are different for both environments (Wiesenberg & Stacey, 2008). Professional development programs for online teachers that help develop more than technological proficiency and that focus on teaching strategies which optimize the realities of the virtual learning environment can only improve the quality of the educational experience for the online student (DiPietro & Sivy, 2011). Smith (2009) also reveals that while some online teachers receive training at the university level, most of the training they receive comes from the virtual school in which the teachers work, and that generally it is not sufficient, challenging, or ongoing. This narrative inquiry sought to identify the particular characteristics of an effective professional development program designed for teachers who arrive from the conventional school environment without the specialized skills required for the virtual setting. As a result, the problem is that without the proper training and preparation for the virtual classroom, the online pedagogy of the virtual school instructors may not adapted to the online setting, and consequently the quality of instruction students receive is compromised.

This particular professional training program was designed with the objective that the participants would modify their previous classroom practice and integrate educational practice which is best suited for the virtual setting by modeling this practice within the professional development program itself.  Narrative analysis was employed to uncover common themes or plots in the data and subsequent analysis was carried out using a hermeneutic technique for noting underlying patterns across stories of the participants (Webster & Mertova, 2007). The narrative analysis identified common critical events which were most meaningful and effective for the participants in the professional development program, and which help identify issues, challenges and themes that emerge from the professional development program.  These critical events were recorded and transcribed and given unique identifiers/tags along with a referencing system to allow for verification and to provide a means to identify recurring themes/variables that appear within the multiple narratives of the participants (L.Webster & Mertova, 2007).  Yoder-Wise and Kowalski (2003) suggest that this approach helps identify recurring themes, identify consequences, reveal lessons learned, identify what succeeded and what did not, describe strengths and vulnerabilities and ultimately help build for future experiences, that is, professional development programs for online teachers.  Narrative analysis does not apply the more traditional approaches toward validity and reliability common to standard qualitative research but factors in new measures such as access, honesty, verisimilitude, authenticity, familiarity, transferability, and economy (L.Webster & Mertova, 2007). As a result, narrative analysis is a departure from the objectivist definition of research validity and reliability (Clandinin, 2013; Webster & Mertova, 2007).  The virtual high school serves hundreds of students from across the province, has been in existence since 1999 and has a number of unique characteristics including its delivery method which is a blended synchronous-asynchronous model. This narrative analysis highlights the perspectives of the research participants from the point of their inception into the professional training program to the current moment. An examination of a professional development program for this group of virtual schoolteachers has relevance for all those charged with the design and implementation of training programs for online teachers everywhere. Moreover, this study extends the understanding of the role that modeling practice has on the training of online teachers and the impact this type of professional development has on an online teacher's classroom practice.

## 2. PROFESSIONAL DEVELOPMENT: ISSUES & CHALLENGES

In an examination of the Bercow Report which was conducted in 2008 in the United Kingdom and which addresses the initial training of teachers, Mroz (2012) highlights many of the obstacles to the general improvement of teacher education. The first is that to effect change which is essentially systemic, there needs to be a need for a harmonizing of efforts by all involved in the process. This spectrum includes the politicians, bureaucrats, administrators, academics, and practitioners who are all involved to varying degrees in determining how teachers are prepared for the classroom. Secondly, Mroz argues that funding is required to improve teacher education, and at time when the global economy is struggling, monies are not going to be allocated for this problem.

There is considerable evidence that many professional development programs provided to teachers fail because they deliver knowledge and information which is not meaningfully situated or contextualized (Bell & Morris, 2009). Effective professional development programs have typically integrated authentic, real-world situations which incorporate collaborative work and which are sustained over a period of time (Blankenship & Kim, 2012; MacDonald, 2008; Zhang & Watts, 2008). Professional training which is specific to online teachers involves a defined set of challenges which range from technology integration to the modification of classroom pedagogy to fit the virtual environment which lends itself to the development and use of cognitive and social constructivism (Palloff & Pratt, 2011; Powell & Kalina, 2009). Moreover, the question of professional development for professionals in the domain of e-learning was explored inside the expanding dynamic of the exploding world of online instruction.

In a study conducted by Korth, Erickson, and Hall (2009), they indicate that a vast majority of teachers view themselves as teacher educators, that is, teachers who after a number of years of experience are poised to help other teachers in their progression as professional educators. These teacher educators consider that their field experiences which they are ready to share can be more purposeful and focused than what teachers typically receive from universities or in typical professional development situations (Korth et al., 2009). Implicit in this view teachers have of themselves as teacher educators is that professional development must be tied to classroom experience that is meaningful and authentic thereby supporting the views expressed by Bell & Morris (2009). Kostadinovic (2011) describes professional development in a context where it is stated-mandated and primarily driven by universities. It is expected that it be ongoing and formalized and inextricably linked to teacher certification though there is little reference in her study as to the efficacy of the professional development programs. However, she concludes by stating that teachers must remain current as the educational context is constantly evolving and that professional development is at the core of an effective educational system (Kostadinovic, 2011).

Penuel, Fishman, Yamaguchi and Gallagher (2007) conducted a study which explored the effectiveness of a professional development program for 454 Science teachers with the goal of identifying which features of the program were most effective in implementing change in the classroom practice and aligning the work with the prescribed curriculum. Penuel et al. argue that most of the research tied to professional development has not been generally useful since much of the data accumulated depended on teacher self-reporting and that there was also little objective measure of outcomes especially in the area of curriculum alignment. Similar to Kastadinovic, they point out that professional development design has generally been derived from policy-maker expectations and did not engage those who would be involved in the actual process. Penuel et al designed their study so that the focus was not simply on teacher satisfaction but on actual change in classroom practice as well as student outcomes. Referencing previous studies which identified effective professional development traits, they designed their program in order that teacher engagement be assured from the outset and that the process require active learning by the participants (Penuel, Fishman, Yamaguchi, & P.Gallagher, 2007). In addition, they recognized the need to extend the process over a duration of time and to establish a climate of collaboration and inquiry which in turn would help establish trust among the participants and a sense of mutual support (Suppovitz & Turner, 2000).

When teachers are involved in professional development which leads to certification, there also seems to be a higher level of success as measured by changes in classroom practice (Frye, 2000). Sato, Chung-Wei and Darling-Hammond (2008) conducted a three-year study during which they explored the effectiveness of a professional development program that was intended to improve teacher assessment skills, especially in the area of formative assessment. They found the program to have been successful because the teachers felt the program was tied to their classroom realities and the knowledge and skills they developed were both meaningful and practical. Similar to Penuel et al. (2007), the teachers in this study found that collaborative professional development with a high degree of collegiality not only built trust among the participants, it helped them develop a greater sense of self-confidence. In this program, Sato et al. found that active learning and inquiry were essential components.

In studies that describe effective professional development for educators, the recurring notions of collegiality and collaboration are highlighted as vital components; however, Stanley (2011) addresses both the pitfalls and promises of collaborative teacher groups. Collaboration is understood to be valuable since it offers the opportunity to tap into a collective experience and wisdom and simultaneously provides an opportunity for reflective practice and inquiry (Stanley, 2011). Professional development that incorporates collaboration stands in stark contrast to one-size-fits-all workshops and clinics in which teacher-participants are generally passive note-takers. Darling-Hammond, Wei, Andree, Richardson, and Orphanos (2009) found,

however, that in general, teachers do not engage in collaborative professional development and that less than 14% thoughtfully collaborated on curriculum content. They point out how teachers are not trained or skilled in collaborative skills. Stanley (2011) argues that the isolated teacher can be replaced by the balkanized teacher group set fast against the outside world. She concludes by detailing six elements essential to successful teacher collaboration: (a) There must be both individual and group commitment to collaboration. (b) There needs to be an understanding of goals and recognition of the tension between knowledge acquisition and pedagogical skills. (c) Teacher participation must be active and engaged. (d) There necessarily must be within the group a high level of openness and integrity. (e) The teaching assignments of the participants must be connected in some fashion. (f) The participants must be ready for new ideas and approaches and feel supported in the process.

Beyond collaboration, effective professional development typically requires active learning and inquiry-related activities which engage the participant in acquiring greater content knowledge and pedagogical (Ali-Corlu & Sencer-Corlu, 2012; Penuel et al., 2007). Ali-Corlu and Sencer-Corlu (2012) describe a program in a Turkish university in which teachers were taught scientific inquiry-based skills because it was recognized that the students of these teachers would greatly benefit from classroom pedagogy that incorporated the very skills the teachers themselves were acquiring. This approach of modeling required that teachers plan, prepare, and present an experimental design and in doing so learn, the inquiry concept and then be able to teach it effectively. The program included progressively more complex problems that taxed the teachers and required them to push beyond their current levels of knowledge and ability. This action-research based project demonstrated significant changes in teacher practice but also illustrated the difficulties in training teachers' high-level skills. Corlu & Corlu (2012) conclude with a recurring observation that content mastery is, in and of itself, not sufficient to assure positive student outcomes and that there is a balance required between content mastery and pedagogical skills.

## 2.1 Professional Development and Online Educators

In an era of regular and ongoing educational reform, the importance of professional development is particularly acute (Palloff & Pratt, 2005). This issue is accompanied by the need for educational leaders to initiate growth and change, to view professional learning in terms which are both personal and engaging for the leader and the participants, and to move away from models of professional development which have failed to prepare teachers for a new educational reality (Baran, Correia, & Thompson, 2011; Fullan, 2001). Fullan (2011) points out the importance of the creation of an environment essential for meaningful and sustainable professional development/learning. This position is supported by Webster-Wright (2009) whose meta-analysis illustrates that professional development must integrate authentic learning and evaluation situations. Webster-Wright (2009) maintains that professionals learn in a fashion which not only shapes their practice but that they seek professional training which is inextricably linked to their personal realities. Burden (2010) builds on the view of learning as an ongoing process which incorporates the active participation and involvement of the professional. Moreover, he considers the significance of the experience, the use of reflection, the construction of knowledge, the contextualized nature of learning, and the social and collaborative nature of teacher learning. Burden's research draws on a large body of material on the subject of teachers and professional learning; however, there is a particular focus on Web 2.0. He employs this corpus to provide a theoretical framework for professional development which is relevant in the current times and which integrates tools and learning environments which resonate for educators. Pratt and Palloff (2011) view professional development for the online instructor in a manner which is similar to the professional learning of any educator; however, they highlight the differences of the online environment and the impact and influence of technology. For online instructors, they suggest that professional development must also be an organizational endeavor which integrates a systems-wide approach and that effectiveness in the virtual environment relies on coordinated team effort. In the context of this narrative inquiry which examines a professional development program for online instructors, the process is viewed both from the perspective of the teachers involved in the program as well as from the administrators' organizational perspective.

In a study conducted by Penuel, Fishman, Yamaguchi, and Gallagher (2007), they undertook a meta-analysis of research conducted in the last fifteen years on the topic of professional development for educators in general. This study specifically considers those models which have been proven effective as measured by the transfer of skills and knowledge acquired by educators in the process of professional development into

the actual curriculum in which they teach. In the course of their study, they bring into question many of the previous studies which relied primarily on teacher feedback and self-analysis because of the inherent bias and lack of detachment noted in the studies. The authors surveyed over 1300 teachers and employed a quantitative methodology in order to determine which professional development process was most successful in changing teacher practice. They conclude by stating that any professional development program which is sustained and communal tends to have the most impact. Communal also includes online communities of practice which tend to reinforce the strengths of online learning and simulaneously illustrate the inherent challenges (Cook, 2007; Zhang & Watts, 2008). These studies underscore the complexities of professional development for educators and demonstrate that more research is required in this field in general and more specifically in the area of e-learning.

Smith (2009) examined a number of studies dealing with online teaching standards, the perceptions of online teachers, and national standards for online education. His conclusions are significant as he argues first that standards for online teachers are not truly reflective of the roles that online teachers must perform and secondly that most online teachers are themselves not even aware of any standards which apply to online teaching. In this study, Smith also points out that online education is offered using different platforms and delivery modes. These, in turn, require different training and offer different pedagogical options which implies that professional development for online teachers needs to be improved.

In a survey conducted by Rice and Dawley (2009) of 259 online teachers, they highlight many of the same deficiencies identified in earlier studies by D'Alba and Sandberg (2006). There is little empirical evidence of effectiveness and all too often professional development programs fail to consider the importance of contextualized training versus the acquisition of skills and knowledge which does reflect the realities of the teacher involved. Rice and Dawley cite the rapidly evolving nature of technology as one key issue in professional development programs for online teachers, but a significant proportion of online teachers involved in this survey indicated that they received either no training prior to teaching online, or they stated that their training was inadequate. Moreover the teachers involved in Rice and Dawley's survey described the topics involved in their professional development as those which covered technology usage, lesson design, facilitation strategies, and foundational knowledge. Ultimately, pragmatic issues drive the type of training online teachers receive, but as Rice and Dawley conclude more must be given over to what constitutes best educational practice in the virtual school setting.

What constitutes effective professional development for online teachers is not very easy to demonstrate as evidenced by the study conducted by Hathaway and Norton (2012). The initial premise put forth by the authors is that there are aspects of online teaching which are significantly different from conventional brick and mortar classroom instruction, and for this very reason, those teaching online require a robust, ongoing, and effective professional development program. As indicated by Archambault and Crippen (2009), the vast majority of online teachers have been recruited from the conventional classroom, and most are identified as highly effective teachers whose skills can and should transfer well into the virtual classroom. Hathaway and Norton examined two programs used to prepare classroom teachers for the online environment. In essence, one program was a light program which provided only the basics with an emphasis on the technology, while the second program covered a wide range of topics relevant to the online classroom. What the authors had anticipated was that those who had received indepth preparation would be more comfortable in the online classroom and they would report greater success when compared to those who had received only minimal training. The results surprised the authors as this correlation could not be drawn suggesting that classroom teachers who mastered their subject content and who could communicate effectively would transition comfortably into the virtual environment and that additional training was not as essential as suggested by others. Hathaway and Norton contextualized their findings by stating that much of the data came from the online teachers themselves in self-reporting and that their respective interpretations likely varied considerably.

When preparing educators to teach in the virtual classroom, modeling online instruction for prospective online teachers is a productive and effective means of introducing the technology, the tools at the teachers' disposal, the challenges and the potential that this educational environment provides (Bell & Morris, 2009; Cook, 2007). Beyond the value of acquiring the relevant competencies to teach online, prospective instructors engaged in effective professional development, according to Cook (2009), also have the opportunity to live the experience as learners and to understand the situation from the learners' perspective. In this way their knowledge and understanding is constructed collaboratively and in a manner which typifies the basic tenets of social constructivism.

## 2.2 Social Constructivism

In the context of this case narrative inquiry, Vygotsky's (1978) principles are particularly relevant as the professional development must be experienced as authentic and meaningful given that change occurs most effectively when it is the by-product of human interaction and exchange (Andrews, 2012).

Sutinen (2008) situates social constructivism as a theory of learning within the larger framework of educational theorists ranging from Dewey to Piaget and Vygotsky. Sutinen (2008) maintains that constructivism is based on the assumption that the individual's construction processes cannot be influenced from the outside. Furthermore, constructivist theories of learning often rely on a notion of development in which it is assumed that the individual's learning process will develop following an intuitive and native capacity which takes into consideration an individual's place in the world and that individual's interaction with everyone and everything. Moreover, Sutinen (2008) points how learning theories by Dewey and others are frequently embedded with social constructivist concepts and modalities that situate the learner in a context where there is constant and ongoing interaction. Consequently, and in the context of the professional development program, the narrative inquiry describes learning as an important collaborative and social process for the online teachers involved.

## 2.3 Study Group

The virtual school staff involved in the study was located in Shawville, Quebec. The staff included 8 teachers and two school administrators. The virtual school delivers a high school curriculum to students across Quebec using teachers who were selected from the regional school boards because of their subject mastery as well as their willingness to tackle the challenges of a synchronous-asynchronous blended delivery model. Initially, and as expected, their methodology reflected conventional brick and mortar styles. It became quickly apparent that this approach did not engage the students and did not optimize the potential of the virtual setting. The professional training program in which they embarked was intended to model what was to be expected of them in the online classes and to parallel the provincial curriculum which is grounded in social constructivist principles.

## 3. CONCLUSION

Research suggests that professional development should be a continuous process which allows teachers time to practice, to provide modeling of instruction, and to offer feedback (McMaster & Tschannen-Moran, 2009). Moreover in the field of e-learning, professional development functions as the path for developing faculty members to be effective online and to increase student outcomes (Keengwe, Kidd, & Kyei-Blankson, 2009). Currently there is an urgent need for effective professional development for educators in virtual schools; however, there is simultaneously a dearth of research on professional development models for the many forms e-learning may take.

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