

The Digital Internship Project 2.0: Implementing Digital Learning in the Teacher Education Internship

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Abstract: In this paper, we report a project in a teacher education program designed to implement digital learning in the student internship. Intern perspectives on the project are reported in four major themes: effects of the intern and the school, effects on teaching, effects on students, and barriers. As well, administrative peripheral perspectives are reported in six themes: laptops are beneficial to interns; intentional communities are difficult to maintain; parental education and involvement are vital; liberal policies and support are beneficial to technology-infused practice; exemplary approaches need to be celebrated; the project stimulated change in the incorporation of technology in teacher education.

Keywords: Digital learning, teacher education, technology-infused instructional approaches

Introduction

This paper is about a project undertaken in 2007 to integrate digital learning into a teacher education program. The project reported is the latest building on a series of IT projects in a faculty of education in Canada spanning a number of years.

With the increasing availability of computers in schools and universities, and with a provincial curriculum calling for inquiry-oriented teaching and learning, possibilities for integrating technology into the school curriculum are expanding. Unfortunately, classroom teachers and university faculty are generally ill-prepared to adapt quickly to changing learning environments and changing pedagogies that our technological world demands. Our experience as faculty members exploring information communication technologies (ICTs) over the past 6 years convinces us that the preparation of teachers is not hierarchical; university teachers, preservice teachers along with classroom mentor teachers need to work together in meaningful situations that explore the different ways that ICTs can be appropriately employed in teaching and learning especially during the extended teaching internship. We need to learn and grow together because of differing levels of expertise and because the ICT landscape is constantly evolving as we are learning.

The Faculty of Education at the University of Regina has made concerted efforts in recent years to develop the skills of preservice teachers and faculty members in the use of ICTs in the teaching and learning process. Currently, preinternship students in the elementary program are exposed to ICT modules in two semesters, preparing them to explore the use of technology in their classrooms. As well, the Faculty of Education offers two undergraduate ICT courses, ECMP 355 and ECMP 455, that focus on the integration of ICTs in the classroom across subject areas. Unfortunately, due to restrictions imposed by students' individual programs and subject areas, as well as few available seats in these

classes, many students do not have the opportunity to take either of these classes. Therefore, the Digital Internship Project and, subsequently, the Digital Internship Project 2.0 were developed as action-research projects to complement existing programs and to assist in preparing preservice teachers to effectively integrate ICTs in their teaching and learning.

1. Project Overview

The Digital Internship Project 2.0, which was implemented in 2007-08, was an extension of the iTeacherEd project (2002-04) funded by Industry Canada (SIDRU, 2004) and the original Digital Internship Project in 2006-07, funded by the provincial Ministry of Learning. These projects were shaped largely by a national conversation on the use of technology in teacher education that produced a useful framework document in 2004 (University of Calgary). A number of recommendations were made that related to teacher education and proposed strategies to use ICTs to develop communities of practice and knowledge building among preservice teachers, cooperating teachers, and education faculty members. The report encouraged research on exemplary practices in teacher education. While the iTeacherEd project focused on developing an integrated model of infusing technology into teacher education, the Digital Internship Project focused on preparing and working with interns to achieve higher levels of integration of ICTs into the learning environment during their 16-week internship. Our earlier experiences showed us that it is very difficult to implement a model for technology integration that all students would experience in preparation for internship. For example, preinternship ICT modules were not very successful unless faculty members used the knowledge and skills that students developed in the workshops in specific student assignments. Faculty members were often not knowledgeable in the skill set that the students were learning in the ICT modules and were, therefore, unable to demonstrate the effective and seamless integration of these ICTs into their subject area classes. Therefore, the Digital Internship Project specifically focused on the internship as a more manageable place to provide support to students in their attempts to more meaningfully use ICTs in their planning and teaching.

In the fall of 2007, the Digital Internship Project 2.0 sponsored by the Ministry of Learning was launched. The purpose of the Project was to work collaboratively with interns, cooperating teachers, faculty advisors, and IT consultants to assist interns to effectively integrate ICTs into the 16-week internship. The project enabled the Faculty of Education to create a learning experience for 34 interns and their cooperating teachers that was qualitatively different from the experiences of the other 250 plus interns. The experience provided workshops throughout internship to enable these interns to form a community with each other, with members of the Educational Technology community, and with the project researchers. During these workshops, interns were not only exposed to new ideas, but they were also given opportunities to share their ICT adventures with the community and were provided with time to plan and problem solve with the workshop leaders and their peers. The interns were also given laptop computers to use during the internship experience. They were also part of an online learning community. The project also attempted to foster the development of authentic digital learning communities by grouping interns with experts in the teaching profession who have been integrating technology in the classroom in innovative ways.

The new project continued to focus on initiatives established in the original Digital Internship Project such as:

- facilitating intern-developed integrated units and materials for a lesson repository

- providing pedagogical and technical support for interns to engage with technological change and to be innovative in their use of available technological resources
- increasing interns' level of awareness and skill surrounding the use of emerging digital literacies (such as wikis, blogs, and podcasts) to enhance classroom instruction and to facilitate student learning.

A new focus involved preparing interns to share information about technological media with their school community (parents, teachers, administrators, and students). During the workshops, interns prepared training materials and/or workshops to share with their school communities on the following media-awareness issues:

- Cyberbullying and cybersafety
- Understanding digital communities as producers and consumers of media
- Commercialism and marketing on the Internet
- Taking responsibility as a *netizen* (i.e., a responsible Internet citizen).

The project team at the University of Regina consisted of 3 faculty members and a graduate student researcher (Digital Internship team). Building on partnerships developed in the original Digital Internship Project, IT consultants from the school divisions involved provided a conduit to the eight participating school divisions in and around the Regina.

2. Research Process

Data collection in this project took place throughout the internship semester and included online surveys for all interns (digital interns and nondigital interns), online surveys for cooperating teachers, individual interviews and focus groups with digital interns, and visits to interns' schools to observe the use of ICTs in the classroom.

Data-analysis procedures most closely adhered to the social constructionist application of Grounded Theory (GT) methods as outlined by Charmaz (e.g., see 1983, 1990, 1995, 2005, 2006). Nevertheless, methods, techniques, and suggestions from Strauss (1987), Strauss and Corbin (1990, 1998) and Glaser (1978, 1992, 1994, 1998) also imbue the present application and analysis.

3. Findings

3.1 Intern Perspectives

The interns, perceive the project as a positive, transformative educational experience. Intern growth is a key finding, and the data analysis supports the development of self-efficacy, greater use and access to educational resources, formation of knowledge networks and changes in the understanding of technology within the context of instruction, and student learning, motivation and assessment. The data analysis also supports the positioning of digital interns as technology leaders in several instances. Tech-savvy interns may provide cooperating teachers and their schools with emerging, innovative approaches to practice in cases where more traditional approaches are prevalent.

The findings that follow have been grouped into four major themes:

3.1.1 Effects on the Intern and the School

The digital internship project had an impact on the development of the intern, as well as on the host school, in a variety of ways. For the interns, these effects included: *staying current, developing self-efficacy, forming a support network and creating an arena for sharing and springboarding*. In terms of the school, the interns were perceived as

welcomed *additional technology resource personnel*, acted as *catalysts of change* facilitating the adoption of technologies, and were the *recipients of supplementary mentorship* and tutelage from more technologically savvy cooperating teachers.

3.1.2 Effects on Teaching

Participation in the digital internship project had a variety of implications for teaching. Intern teaching was perceived to be benefiting from: *the allocation of hardware and support, greater access to a wide array of teaching tools and authentic resources, enhanced assessment possibilities and options, and increased ability to engage parents.*

3.1.3 Effects on Students

Digital interns felt that employing the newer technologies had a number of positive effects on their students' learning in terms of the *quality of the resources* they were accessing, their *motivation and comportment in the classroom*, how they *perceived lessons as more accommodating and personally relevant*, how the project *fostered digital literacy*, and how it instilled a greater *confidence and sense of responsibility*.

3.1.4 Barriers

The main barriers to the implementation of technology into the digital internship classrooms were perceived to be *time, resources in the school, disparate school board policies, and initial parental resistance.*

3.2 Peripheral Perspectives

The previous section details the findings of the project from the perspectives of interns. This section will begin with observations gained through the administration and coordination of Digital Internship 2.0 and from peripheral perspectives gained through the challenges inherent in the promotion of technology and media literacy strategies at the Faculty of Education. The themes presented here are derived directly from the data analysis and informed from a project administration perspective.

3.2.1 Laptops are beneficial to students

For the term of the project, interns stressed the importance of having access to a personal laptop for lesson planning, resource gathering, instruction and student assessment. Students were reluctant to return the laptops and the majority spoke of how important the hardware resources were to their internship experience. Anecdotal reports from teachers in teacher/laptop projects support the idea that the personal laptop may help to transform the ways in which teachers search and manage resources and apply gathered media to instructional practice. Since the end of this project, several of the digital interns have purchased laptops to prepare and plan for their first year of teaching.

The intern/laptop piece of this project comes at an important time when the benefits of personal laptop projects in schools are being touted (e.g., 1:1 projects) and hardware costs have decreased significantly (e.g., OLPC/XO¹, Asus Eee²). Alberta Education has recently launched the *Emerge – Learning Project*³, a wireless 1:1 laptop project that will involve

¹ <http://www.laptop.org>

² http://en.wikipedia.org/wiki/ASUS_Eee_PC

³ <http://education.alberta.ca/admin/technology/emerge.aspx>

over 200 teachers and 2000 students in 49 schools across the province. Digital Internship 2.0 supports the idea that the practice of preservice and practicing teachers is benefited by the use of personal laptops. One:one programs are not simply hardware expenditures; they require intricate systems of support, professional development, teacher training and parental input for any measure of success.

3.2.2 Intentional Communities are Difficult to Maintain

A social networking service called Ning⁴ was used to facilitate and maintain the connections between digital interns, project coordinators, faculty and teachers. This site <<http://digitalinterns.ca>> replaced the Drupal-based⁵ community from the first year of the project. While the technical skills required to setup a social network service are minimal, facilitating and maintaining a sense of community that promotes communication and resource sharing is difficult. While some of the digital interns frequently utilized the site for posting and sharing their work or for asking questions, there were other much less frequent users. While it was found that some of the interns embraced the social network we provided, others used it very minimally.

PEW Internet & American Life Project⁶ released several reports in 2007 that speak to the high adoption of social networking sites by tweens, teens and young adults. Without closely analyzing the allure of social networking services, educators may assume that the technology itself is enough to attract and maintain educational, online communities. Remnants of McLuhan's (1962) "global village" metaphor entice us as we envision the potential of technologies empowering personal relationships across vast geographic and cultural divides. Yet, research into the use of social software by this population seems to indicate that the tools are more commonly used to maintain existing relationships with people in close physical and social proximity; they are less likely used to create or discover new relationships (Licoppe & Smoreda, 2005). Thus, it is important to better understand the possibilities for social software and the implications for educational communities of learners/practice.

3.2.3 Parental Involvement and Education are Vital

While parental resistance to educational technology initiatives was mentioned earlier as a barrier, it is an important prevailing theme that deserves additional attention. It is stressed because it is clear that without parental permission, many of the more innovative practices with technology would not have been possible. Several interns reported having difficulties with parental consent and perceived many parents to be fearful of technology in schools. Popular news sources inundate the public with negative stories regarding technology and use and do not aid in promoting an image of technology in education as either appropriate or safe.

The narratives often lost to the public, teachers, administrators and parents alike, are those of critical researchers who debunk the myths of the wildly unsafe, predator-abundant Internet environment. For instance, a recent study asserts "The publicity about online 'predators who prey on naïve children using trickery and violence' is largely inaccurate" (Mitchell, Finkelhor, & Wolak, 2007). Parents need to better understand the realities of the Internet. This knowledge is not to be gained from the literature alone, but may best be discovered through participation in online communities focused on parental awareness of

⁴ <http://www.ning.com>

⁵ <http://www.drupal.org>

⁶ <http://www.pewinternet.org/>

emerging social technologies. Parent 2.0⁷, a site initiated by Cindy Seibel, Director of Information Technology Services, at the Calgary Board of Education, is an engaging point of entrance.

3.2.4 Liberal Policies and Support are Beneficial to Technology-infused Practice

Digital Internship 2.0 partnered with eight school divisions across the province. Disparate school policies and technology support structures were earlier in this paper identified as barriers. While this disparity was problematic for interns, the researchers gained insight into the diversity of technology governance approaches across the province and how specific policies affect practice. The availability of resources like YouTube or Edublogs, content-filtering policies, wireless accessibility, the ability to install educational software or the availability of technical support varied greatly in each division and, in some cases, varied from school to school.

From a review of examples of technology-infused practice throughout the project, it can be concluded that interns who worked in divisions with more liberal technology policies and well-structured technology support tended to demonstrate more innovative practice than interns who worked in more restrictive environments. While there are exceptions, interns that excelled in the more restrictive environments possessed great technical skills to compensate for policy limitations. The effects of technology policy on teacher practice are likely of interest to divisions that are investing heavily in hardware, software, and professional development programming. Additionally, a forum for technology policies and implementation approaches should be shared with educational partners for comparison, contrast and general awareness.

3.2.5 Exemplary Approaches Need to be Recognized, Utilized and Celebrated

Digital Internship 2.0 would have not been possible without the assistance of our partners and, especially, the cooperating teachers. While there was evidence to support the positive influence of the interns in their schools, there were also many examples of innovative, technology-infused approaches to student learning frequently used by several of the cooperating teachers. When these types of strategies were prevalent, interns felt more comfortable using technology and less comfortable with traditional approaches to instruction.

This is not surprising, and it emphasizes the importance of viewing the internship as a mentoring relationship. For most interns, it is likely that they need to view and experience innovative instructional strategies before they will feel comfortable with their own. It would be impossible, and likely inadvisable, to pair every intern with a teacher who excels in technology-infused instructional approaches. However, the exemplary approaches are important and need to be celebrated, observed and studied. Interns and teachers alike would benefit from having these examples widely available and accessible.

3.2.6 The Project has Stimulated Change in the Incorporation of Technology in the Teacher Education Program

Digital Internship 2.0 and related initiatives have influenced recent undergraduate programming changes at the Faculty of Education. Changes have been made to reflect the needs identified by school divisions and the needs of preservice teachers. While the changes

⁷ <http://parent20.wikispaces.com/>

are far from ideal, they indicate more responsive approaches to technology integration at the Faculty of Education.

ECMP 355 and ECMP 455 are currently the only two courses available to undergraduate Education students that focus on educational technology and media, and only offered as electives. Recent changes have made ECMP 355 mandatory for Math Education and Business Education students for Fall 2008. It has been mandatory for the Arts Education Program for some time.

The Business Education program has proposed a recent change to encompass a greater emphasis on educational technology and media. The proposed new program will be dubbed Business, Technology and Media Education (BTME) and will include a technology-rich course stream.

The Faculty is undergoing a larger, program renewal process. One of the relevant changes is the introduction of four Educational Core Studies (ECS) courses that will be required for all students, and will be shared among program and subject areas. Planned for each of these courses is a built-in technology component. With proper implementation, this would assure that all preservice teachers are exposed to some level of educational technology theory and practice through various stages of their program.

Conclusion

While the project is viewed as a success, it has been made clear throughout the project that various implementation issues at the Faculty of Education, in school divisions, and in the classroom can impede the educational benefits of carefully planned technology integration. Fortunately, most of the identified issues can be improved or eliminated through fostering improved communication and collaborative policy development among government agencies, teacher education programs, and school divisions.

While many of the identified barriers can be resolved, it is in this final note of consideration where urgency is necessary. While the focus of this study was not on the student learners themselves, it is through the perspective of the interns that the increasing disparity of technological knowledge between teacher and student becomes apparent. It can be generalized that students are learning in new ways, with new tools, and that much of this learning happens outside of school. Acknowledging that this gap exists does little to mend the issue, but it is a start, a first step to understand that the world has changed drastically, and schools are being left behind.

We've reached the point in our (disparate) cultural adaptation to computing and communication technology that the younger technical generations are so empowered they are impatient and ready to jettison institutions most of the rest of us tend to think of as essential, central, even immortal. They are ready to dump our schools. (Cringely, 2008)

References

- [1] Charmaz, K. (1983). The grounded theory method: An explication and interpretation. In R. M. Emerson (Ed.), *Contemporary field research* (pp. 109-126). Toronto, ON: Little, Brown and Company.
- [2] Charmaz, K. (1990). 'Discovering' chronic illness: Using grounded theory. *Social Science & Medicine*, 30, 1161-1172.
- [3] Charmaz, K. (1995). Grounded theory. In J. A. Smith, R. Harre, & L. Van Langenhove (Eds.), *Rethinking methods in psychology* (pp. 27-49). Thousand Oaks, CA: Sage.

- [4] Charmaz, K. (2000). Grounded theory: Objectivist and constructivist methods. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (2nd ed.) (pp. 509-535). Thousand Oaks, CA: Sage.
- [5] Charmaz, K. (2005). Grounded theory in the 21st century: Applications for advancing social justice studies. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (3rd ed.) (pp. 507-535). Thousand Oaks, CA: Sage.
- [6] Charmaz, K. (2006). *Constructing grounded theory: A practical guide through qualitative analysis*. London: Sage.
- [7] Cringely, R. (2008, March 21). I, Cringely. *The Pulpit. War of the Worlds|PBS*. Retrieved March 21, 2008, from http://www.pbs.org/cringely/pulpit/2008/pulpit_20080321_004574.html.
- [8] Glaser, B. G. (1978). *Theoretical sensitivity: Advances in the methodology of grounded theory*. Mill Valley, CA: Sociology Press.
- [10] Glaser, B. G. (1992). *Basics of grounded theory analysis: Emergence vs. forcing*. Mill Valley, CA: Sociology Press.
- [11] Glaser, B. G. (Ed.). (1994). *More grounded theory methodology: A reader*. Mill Valley, CA: Sociology Press.
- [12] Glaser, B. G. (1998). *Doing grounded theory: Issues and discussions*. Mill Valley, CA: Sociology Press.
- [13] La Grange, A., & Foulkes, E. (2004). *Emergent framework for ICT integration within faculties of education in Canada*. Calgary, AB: Faculty of Education, University of Calgary.
- [14] Licoppe, C., & Smoreda, Z. (2005). Rhythms and ties: Toward a pragmatic of technologically mediated sociability. In R. Kraut, M. Brynin, & S. Kiesler (Eds.), *Information technology at home*. Oxford, UK: Oxford University Press.
- [15] McLuhan, M. (1962). *The Gutenberg galaxy: The making of typographic man*. Toronto, ON: University of Toronto Press.
- [16] Mitchell, K. J., Finkelhor, D., & Wolak, J. (2007). Online requests for sexual pictures from outh: Risk factors and incident characteristics. *Journal of Adolescent Health, 41*, 196-203. (CV155)
- [17] Strauss, A. L. (1987). *Qualitative analysis for social scientists*. New York: Cambridge University Press.
- [18] Strauss, A., & Corbin, J. (1990). *Basics of qualitative research*. Newbury Park, CA: Sage.
- [19] Strauss, A., & Corbin, J. (1998). *Basics of qualitative research* (2nd ed.). Thousand Oaks, CA: Sage