INTERNATIONAL JOURNAL OF INSTRUCTIONAL TECHNOLOGY AND DISTANCE LEARNING

September 2015
Volume 12 Number 9

ISSN 1550-6908

PUBLISHER'S DECLARATION

Research and innovation in teaching and learning are prime topics for the *Journal of Instructional Technology and Distance Learning* (ISSN 1550-6908). The Journal was initiated in January 2004 to facilitate communication and collaboration among researchers, innovators, practitioners, and administrators of education and training involving innovative technologies and/or distance learning.

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In its first decade, the Journal published more than 600 articles; 7,500 pages of research and theory by over 1,000 authors. It logged over ten million page views and more than a million downloads of Acrobat files of monthly journals and eBooks. Many authors benefited from refereed publication for retention, promotion, tenure, and advancement in their profession

International Journal of
Instructional Technology & Distance Learning

Vol. 12. No. 9.

ISSN 1550-6908

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Editorial

Global Vision

Donald G. Perrin

It is almost twenty years since I published the University of the Future in the Journal of the United States Distance Learning Association. It envisioned a computer management System as the core that managed learning and all of the administrative functions related to learning – counseling, scheduling, registration, testing, scoring, evaluation, record keeping, and delivery of instruction in various interactive and multi-media formats. Within a decade this became the mode for distance learning programs worldwide, fueled largely by growing enrollments, budget pressures and rising costs.

The paper also envisaged widespread collaboration between institutions, sharing of instructional materials and broader acceptance of courses and units from other institutions - even multi-institutional adoption of some courses. These changes are still in early stages of development. Small and rural intuitions of higher education have adopted distance learning, including courses from other institutions, to offer a more comprehensive curriculum. Large institutions have pushed their own brand of distance learning with varying success. However, budget pressures and rising costs are forcing them to look for other ways to broaden curriculum, increase quality and attract top students.

The next step is globalization of degrees and programs. Some universities are setting up campuses in foreign countries, as with American Universities in China. Some universities are introducing bilingual programs to increase their global footprint. And many universities are recruiting students, and sometimes faculty, from across the globe. Accreditation is still a local issue, and professional associations play an important role in setting curriculum and standards for a region. Corporations and governments recruit widely in foreign countries, but local standards and accreditation for professionals, such as medical doctors, make it very difficult to transition to foreign countries, even if they have the necessary language skills for that country.

Let me explain.

Fifty years ago my wife taught English as a Second Language (ESL) to Cuban immigrants who were highly qualified in their professions – doctors, nurses, lawyers, and teachers. But this did not qualify them to practice in the United States. Today, I learned about a refugee medical doctor who was experiencing the same problem. I understand that in the United States mastery of the English Language is a prerequisite. There may be some regions where Spanish or bilingual language skills are required. However, the only way such persons can work in the profession, in which they are already expert, is to enroll and graduate from an accredited United States University. Only then will they be allowed to take exams required for their license to practice.

With turmoil in North Africa, the Middle East, Western Europe and elsewhere, there is a growing flood of refugees that includes thousands of qualified people who need assistance to regain their professional status in a foreign country. Many professions that are under greatly under-staffed could benefit greatly from this influx of qualified people. It will need the collaboration of professional associations, government regulators, industries and institutions of higher education to formulate meaningful programs to transition these professions for re-employment.

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Editor's Note: This comprehensive study embodies best practices and empirical data to develop an instrument for 360 self-evaluation for online instructors. It offers guidelines and flexibility important for successful use in a wide variety of online courses.

Enhancing the effectiveness of online teaching by using peer review

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USA

Abstract

Increasing numbers of students are taking online courses. Therefore, it is imperative to investigate ways to improve teaching effectiveness in an online environment. This article describes the development of a peer review process and instrument to help professors improve their online teaching. To initiate the study, the authors designed and piloted a peer review instrument while reviewing the literature for best practices in online instruction. After revising their instrument, the authors assembled ten online instructors in focus groups to test the instrument's validity and usefulness. Based on input from the focus groups, the authors developed a new process and instrument. This new peer review worksheet was then evaluated for usefulness and validity by three instructional designers. The findings of this study suggest that the peer review process is helpful for experienced online instructors but not for instructors who are new to online teaching. The findings further suggest that the online peer review process should include a face-to-face orientation for peer dyads and a worksheet that contains open-ended questions and is adaptable to changing technology and a variety of disciplines. In the end, the authors recommend a 360-degree review process that incorporates self-review, peer review, and student evaluations. The peer review materials the authors created are included.

Keywords: improving online teaching, peer review of teaching

Introduction

The number of college students taking online courses continues to increase (Brooks, 2009; Community College Research Center [CCRC], 2013b). Therefore, college professors are in need of effective and accessible forms of professional development for online teaching. One very helpful way for college professors to enhance their online teaching skills is to ask a qualified peer to review their online course (Chism, 2007; Conrad & Donaldson, 2004; Elbaum, McIntyre, & Smith, 2002). The conversation that results from the peer review process can assist both professors in further honing their online teaching skills and revising their online courses.

Three of the researchers in this study began utilizing the peer review process in their online courses in 2008, and while we benefited from the process, we identified a need for a valid instrument to review online teaching. So we set out to develop a peer review instrument that could be used in the online teaching environment. One of the researchers created an initial version of the instrument, and then three members of the research team tested the instrument by using it to review each other's online courses. Following this initial trial of the instrument, we conducted a literature review.

Literature review

The literature review proved to be particularly helpful in further revising the peer review instrument. We examined articles, books, and web-based materials in order to learn more about online instruction and the online peer review process.

Best practices for online instruction

We began our review of the literature by exploring writings related to best practices in online instruction. In an article by Simonds and Brock (2013), the researchers reported findings from a study of graduate education students taking online courses at a university in the United States. In order to determine what the students thought were the best ways to learn in online courses, the researchers employed an e-survey and e-focus groups. Students reported that emails to the instructor were an effective way to ask course related questions. In a similar study conducted in the United Kingdom, Cooner (2010) also noted that students found email to be an effective means of communicating with an online instructor.

Students in the studies conducted by Simonds and Brock (2013) and Cooner (2010) also reported that pre-recorded video lectures provided an effective means for them to learn in online courses. Students noted that these e-lectures facilitated good learning because they could watch the lectures at a time that fit their schedule and they could return to parts of the lecture later to review concepts and deepen their understanding of the material. However, in a second article, Simonds and Brock (2014) cautioned online instructors to balance the use of pre-recorded video lectures with other learning strategies because not all students find pre-recorded lectures helpful for their learning.

In this same vein, Simonds and Brock (2013, 2014) noted that the use of pre-recorded video lectures is just one way to develop a functioning online learning community. The researchers stated, "If students do not feel connected to the people in the class, their learning is adversely affected" (Simonds & Brock, 2013, p.100). The researchers described methods an instructor can use to bring people in an e-class together in the digital realm; for example, responding to student questions in emails and on the discussion board promptly using a respectful tone, ensuring peer-to-peer communications are respectful by establishing policies and reviewing discussions in e-groups, teaching students to help each other with learning in the course (peer helping), and following up with students who are inattentive to posting on the discussion board.

Simonds and Brock (2013) also stated that the online asynchronous discussion board can become the virtual classroom if the instructor consistently responds to student posts, encourages students to be peer-helpers in this setting, and establishes clear expectations for consistent student participation. Carefully crafted discussion prompts that flow from course learning outcomes can provide an effective means to challenge students and get them thinking about course material in new and creative ways (Conrad & Donaldson, 2004). When students read comments to their posts by the instructor and their peers, they are able to extend their learning through feedback from multiple people (Simonds & Brock, 2013).

Students in the online courses studied by Simonds and Brock (2013) reported that they appreciated online courses in which they were challenged to explore innovative ideas. According to the researchers, instructors can introduce students to innovative and challenging material by providing links to quality e-materials. There are an uncountable number of videos, articles, and pages of material available on the world-wide-web, but the instructor must carefully review this material to check quality and also choose material that maps to course learning outcomes.

Conrad and Donaldson (2004), Elbaum et al. (2002), and Simonds and Brock (2013) noted that online instructors can also provide opportunities for students to apply their learning and thus add depth to the learning experience. Some examples of authentic learning activities related by these scholars include: student interviews of people working in their chosen profession, discussion of case studies based on current world issues or emerging topics in the student's future profession, or practicum experiences in which the student works in a chosen field and then reflects on the experience by posting online.

Studies conducted by the Community College Research Center [CCRC] at Columbia University established that not all students have a positive experience in online courses. In one study, researchers at the Center discovered that community college students did not perform well on the whole in online courses (CCRC, 2013b). Student failure and withdrawal rates were an average of 11% higher for students in online courses compared to students in courses taught on campus.

In another study by the Community College Research Center, researchers interviewed community college students about their experiences of taking online courses, and the students identified why they found it more difficult to learn in these e-classes (CCRC, 2013a). Students said that the instructor did not seem present and was difficult to contact when they needed help. The students also disliked the lack of peer interaction and thought online courses required more time than courses they took on campus. Faculty members interviewed by the researchers stated that they expected students in online courses to be independent learners, but students said they needed help learning how to become independent learners. Based on these findings, the researchers at the Center recommended that colleges require students to complete a course in online learning strategies before being permitted to enroll in an e-course. The researchers also recommended that faculty take advantage of professional development opportunities in order to enhance the effectiveness of their online teaching.

In a third study by the Center at Columbia University, researchers discovered that high levels of interaction among students and between students and the instructor are essential for positive student learning outcomes in online courses (CCRC, 2013c). Researchers observed online courses at two community colleges in the United States, interviewed the students and faculty, and reviewed student grades in the courses. The researchers rated the courses they observed as either low interaction courses or high interaction courses. The average final grade for students in high interaction courses was 2.67, while the average final grade for students in low interaction courses was 1.87; a difference of almost one letter grade (0.8).

A number of ways to boost human interaction in online courses were identified in this third study by researchers at Columbia University (CCRC, 2013c). Strategies recommended for creating an online learning community included: participation in live sessions by students and the instructor, regular posting and responding on discussion boards by students and the instructor, and frequent communication between the instructor and students through email and electronic feedback on assignments.

Conrad and Donaldson (2004) also underlined that developing interactive online learning strategies is the key to effective online instruction. In addition to the strategies for online interaction already mentioned, Conrad and Donaldson also recommend the use of instant messaging and web-based tools that facilitate small group discussions. According to Conrad and Donaldson, effective online instructors must avoid using a novel teaching tool just because it is available. The online instructor must focus on student learning outcomes and map content and methods to the specified learning outcomes.

In addition to learning activities that create human connections, students also benefit from engaging in learning activities that offer them the opportunity to reflect individually on their learning (Conrad & Donaldson, 2004). Open-ended discussion, prompts, journals, and creative activities in which students summarize their learning are all ways to help students discover how to be reflective learners in online courses.

Peer review in online courses

In addition to exploring research and practice-based literature addressing the best ways to teach online, we also reviewed a study by Matchett and Main (2010) in which the two researchers described how they used a peer review process in their online courses. Matchett and Main were

residing in different countries, so they conducted the peer review process electronically by visiting course sites on the internet and by using live conferencing tools.

Reflecting on their experience, Matchett and Main (2010) thought that because they were not living in close geographical proximity, and because they taught in different disciplines, their experience mirrored the experience of online students. Each peer reviewer entered the course, just as a student would do, and attempted to navigate through the course while seeking to determine if specific best practices were evident.

It would no doubt be helpful to review an online course from the perspective of a student who would take the course, as noted by Matchett and Main (2010), but without some orientation materials and experiences, the peer reviewer may not have the same experience as a student taking the course. The most effective online instructors provide information about the course to students by email or other means prior to the first day of class (Boettcher & Conrad, 2010; Conrad & Donaldson, 2004; Elbaum et al., 2002; Palloff & Pratt, 2011). Instructors also create an orientation module to acclimate students to the new online environment (Conrad & Donaldson, 2004; Elbaum et al., 2002). Without any orientation to the course, the peer reviewer would not have the same experience as a student taking the course and the reviewer may be overly critical of the online instructor.

A peer review process somewhat like the one described by Matchett and Main (2010) is recommended by several authors as an effective way to develop and improve online teaching (Chism, 2007; Elbaum et al., 2002; Palloff & Pratt, 2011). According to these authors, a peer review instrument developed by a group of faculty teaching online can be an effective way to define guidelines and standards for online course development and teaching. Peer review of an online course can also serve as a way to test how easily a person is able to navigate within the virtual classroom. Palloff and Pratt (2011) emphasized that the peer review process works best when instructors see themselves as equal members of a learning group. This concept of true peer review void of formal job-related review provided the insight we needed to develop the conceptual framework for this research project.

Conceptual framework for this study

Palloff and Pratt's (2011) encouragement to develop communities of inquiry to enhance teaching among college instructors serves as the foundation for the conceptual framework for this study. Palloff and Pratt's idea of a community of inquiry is built into a complete conceptual framework for effective online instruction by Fecho (2011) and Palmer (1997, 1998).

Fecho (2011) approaches the concept of a community of inquiry from a perspective of social transformation. Palmer (1997, 1998) addresses the concept from a perspective of personal transformation. But despite different approaches, both writers describe the same concept. Fecho and Palmer both lament the fact that educators have become isolated from one another and from their students. These two writers suggest that one effective way to break down this isolation is by developing communities of inquiry. These small learning communities will be most effective, the writers state, when instructors decide to develop the communities on their own out of a felt need to enhance their practice of teaching.

In our university, great courses and seminars are offered on how to teach online. Instructional designers are available to help us develop new courses. But what we were missing was a conversation among ourselves about what works best for our online students. We felt even more isolated teaching online than we did teaching on campus. At least in an on-campus course, a peer could sit in on a class and then we could have a conversation about our instructional practices. But in our online courses, we did not have a similar process and we needed one.

Method

One member of our research team began teaching online in 2007, and since that time has been seeking to discover ways to enhance online teaching skills. In the course of conversations with colleagues at our university, he became intrigued by the concept of peers helping each other develop their online teaching skills. After reviewing material by Chism (1999), he developed an instrument that university professors could use in teams to review online courses. He then shared this instrument with the other members of our research team and we decided to further refine the online course review instrument.

Pilot study

We met online using a live conferencing tool to discuss the draft version of the instrument and then developed version one of the instrument. Subsequently, we met face-to-face to discuss how we would conduct a pilot study of the instrument. We decided to carry out a two-stage pilot study. In the first stage, we used the instrument to perform self-reviews of our online courses. We then shared some brief explanatory comments with each other about the layout of our online courses as suggested by Conrad and Donaldson (2004) and Elbaum et al. (2002).

In stage two of the pilot study, we used the instrument and the explanatory comments to review each other's online courses. The courses we reviewed were graduate online education courses. These courses were all conducted on the Internet with no face-to-face contact between the students and instructors required to complete the courses.

After completing the pilot study, we met to discuss our experiences and developed version two of the peer review instrument. Then after consulting and discussing literature about online instructional practices, we made additional changes to the instrument, creating version three.

Approval by institutional review board

Once the pilot study was completed and the peer review instrument had been revised, we submitted our research proposal, including the peer review instrument, to the social science review board at our university. The review board approved our study.

Validity and usefulness of the instrument

We then assembled a group of online instructors teaching at our university in order to establish the validity and usefulness of the instrument. We sent an email invitation to instructors asking them to consider participating in this study (Appendix A). We sent one follow up reminder email (Appendix A).

Ten instructors consented to participate in this study. Each of the ten participants used version three of the peer review instrument to conduct a review of one of their own online courses. The participants then met in three different focus groups (Table 1).

The facilitator of each focus group asked participants pre-determined questions and took notes recording participant's responses and suggestions. The questions we asked in the focus groups are included in Table 2 below.

Table 1

Focus Groups

N =10 Online	**Participants**	**Years of teaching**	**Field**	**Highest earned degree**
Focus Group One	A[a]	04	EDU Leadership	MS
Facilitator: TAS	B	06	Theology	PhD
	C	02	Philosophy	PhD
Focus Group Two	D	04	EDU Leadership	MA
Facilitator: BLB	E	13	EDU Leadership	PhD
	F	05	EDU Leadership	EdD
	G	01	Law	MA
Focus Group Three	H	01	Teacher Prep	Med
Facilitator: MTE	I	02	Teacher Prep	MS
	J	02	Teacher Prep	PhD
Average Years Teaching Online		04		

Note. [a]Participant (A) shared responses to questions via email.

Table 2

Focus group questions

How long have you been teaching online?
What courses do you teach online?
Do we need to add any items to the instrument?
Do we need to delete any items from the instrument?
Do we need to change any items on the instrument?
Did you find that your use of the instrument helped you enhance your online course?
Is there anything else you would like to say about the completeness or usefulness of the instrument?

To ensure the accuracy of our analysis of the focus group data, three members of our research team individually coded the data by instrument item number and theme. We then met as a group to seek consensus on the coding, reaching consensus after collectively evaluating the individually coded data.

Based on recommendations from the focus groups, we decided to scrap the instrument we had developed and create a completely new process that included a peer review worksheet as just one piece of a larger document. We decided to make this significant change based on input from our online instructional colleagues in the focus groups.

The initial instrument we had developed and revised three times was too similar to the instrument we used in on campus courses at our own institution. The instrument did not have enough flexibility built into it for either the nature of online instruction or for use across disciplines and institutions of higher education.

After we had developed a completely new peer review worksheet, we sought input on the validity and usefulness of this new document from three instructional designers at our university. All three online course designers had earned master's degrees in their field, specialized training in online course design and instruction, and had an average of five years' experience designing online courses (range 1.5-10).

We asked each instructional designer to review the peer review worksheet independently. Then two members of our research team met with the group of instructional designers. The two researchers independently took notes throughout the meeting. After the meeting, the notes were coded independently by the two researchers for themes. Then the two researchers met, reviewed their coded notes, and reached consensus about the instructional designers' recommendations for changes to be made to the worksheet. Our research team then developed the final version of the peer review worksheet (Appendix B).

We decided not to create a reliability panel to assess the peer review worksheet. Precise questions that would remain fixed over time did not fit the context of online instruction. With continual changes in online teaching tools and strategies, the long-term continuity necessary to develop a form that could be tested for reliability did not seem feasible. Instead, we created a working document that provides online instructors with a template to describe and review their online instructional practices (Appendix B). In this way changes in technology, diversity among instructors, and differences between disciplines and institutions of higher education can be easily accommodated.

Findings

We analyzed two sets of data. The first set of data was collected from ten instructors teaching online courses at our university. The second set of data was collected from a group of three instructional designers who evaluated the validity and usefulness of the peer review worksheet.

Analysis of data set one

As our research team reviewed data set one, we noticed a difference among the ten online instructors according to their years of experience teaching online. Instructors who had four or more years of online teaching experience all found the peer review process to be helpful for improving their online instruction.

For example, instructor (A), who had four years of online teaching experience commented: "I felt [the peer review instrument] gave me some ideas on how to improve my class." Instructor (D) who also had four years of online teaching experience commented: "I used [the peer review instrument] to review my course after I read student evaluations. I found it helpful." Instructor (B) who had taught online for six years remarked: "Item 23 [on the peer review instrument] got me thinking about the importance of mapping assessments to course objectives. I plan to do more of this in a new course that I will be developing."

However, instructors with less than four years of online teaching experience did not find the peer review instrument helpful. Instructor (H) who had taught online for only one year noted: "No, [the form] did not really help me enhance my online course. The required university course for online instructors that I just recently completed helped me examine my course." Instructor (I) who had taught online for two years stated that, "the self-review wasn't particularly helpful."

In addition to noting a difference among the instructors according to online teaching experience, our analysis of the data collected from the online instructors yielded a number of other important findings. First, seven out of ten instructors participating in the focus groups were confused about the process they were to use to review their own online courses. We provided instructors with a written step-by-step explanation of how to conduct the review of their online courses (Appendix A), but this proved to be insufficient for 70% of the instructors participating in this study.

Second, after much reflection on the comments the focus group members made about the peer review instrument, we realized that the instrument we had created had to be set-aside. Participants in the focus groups stated that the instrument and the peer review process should be applicable across a variety of teaching styles and course formats, useful across the range of academic disciplines, and adaptable to the variety of institutions of higher education spread across the United States. Participants also noted that the process and the form needed to reflect the terminology and functionality of different online learning management systems and be flexible enough to accommodate the continually changing set of tools employed by online instructors.

So rather than revising version three of the peer review instrument, we decided to create an entirely new document with a detailed explanation of the peer review process and a worksheet to guide the process. As we crafted this new document, we included key recommendations from members of the focus groups, as described in the bullet points below.

In light of the fact that 70% of focus group members were confused about how to engage in the peer review process, we included an extensive explanation of the peer review process in the document, and we also included language to strongly recommend that groups begin the process with an orientation meeting.

On the worksheet used to guide the course review process, instructors are asked to describe how they engage in best practices within their online courses. The open-ended questions provide for greater flexibility and adaptability.

We avoided using words such as effectively, consistently, and regularly. One focus group member pointed out that these words are too subjective. Instead we ask instructors to describe what they do in their online courses so that they themselves create the description their peer will use to review their course.

We used bullet point examples on the worksheet to enhance understanding of best practices, but these examples are broad enough to be applicable across disciplines and institutions, and do not specify technologies that are only relevant to one learning management system or that may change over time.

We changed the format from evaluative to formative by not including a five point Likert scale that we had included on the old peer review form.

In addition to making suggestions for changes to the peer review process and instrument, participants in one of the three focus groups also suggested that the peer review process could be one part of a course review that utilized multiple data points. Participants stated that this would be akin to the 360-degree review process used with leaders of institutions (Lublin, 2011). Three data points were suggested by members of the focus group: the instructor's own insights, comments by a peer, and student evaluations of the course and the instructor. The focus group participants emphasized that this expanded review process ought to be exclusively for the benefit of the instructors and not be a component of a supervisor-implemented summative review process related to employment.

Analysis of data set two

After we developed the peer review worksheet, we asked three instructional course designers at our university to review the new document. The course designers noted that the worksheet included most of the essential items. However, our analysis of comments made by the instructional designers did lead us to add one item in which instructors describe how they assist students to attain course learning outcomes.

The course designers also stated that the number of items on the worksheet ought to be reduced. Therefore, we combined some items so that the same concepts would be covered in eight sections on the worksheet instead of the thirteen sections we had originally created.

The instructional designers also pointed out that changes to the wording of some questions would enhance understanding across institutions. Therefore, we inserted generic terms instead of using "learning management system," "discussion post," or "course module."

After further analysis of data set two, we noted that the course designers thought that the peer review worksheet could be used to develop or revise a course prior to teaching a course, as well as to evaluate how well an instructor had taught a course. So we changed the wording of the instructions section of the worksheet to give instructors greater flexibility in how they decide to use the worksheet.

Conclusions and recommendations

Analysis of the data indicate that the peer review process will benefit experienced online instructors by providing a collegial environment in which they will be able to enhance their online teaching skills. Focus group participants noted the rapidity of technological change as a factor supporting a need for continuous professional development for online instructors. As instructor (B) explained, "Ongoing mentoring and support over time is…important for veteran online teachers because the technological tools used to teach online will always change over time."

However, study findings also indicate that instructors with less than four years of online teaching experience are less likely to benefit from the peer review process. This conclusion is consistent with research by Boice (1992) and Buskist and Benassi (2012). These researchers note that new faculty are focused on establishing basic teaching skills and negotiating the culture of higher education, and are not yet ready to expand their repertoire of skills.

Regarding the optimal type of document to use for peer review of online courses, analysis of the data helped us to realize that a review instrument for online courses had to be completely different from what we had initially developed based on face-to-face course review documents. So we scrapped our initial instrument, and created a completely new document based on recommendations from online instructors and online course designers. The worksheet we created is flexible and broadly applicable to a variety of academic disciplines and pedagogical styles. This flexibility will enable groups of online instructors using the worksheet to make modifications that best serve their instructional needs. Additionally, the worksheet can be adapted in response to changes in technology (Chism, 2007). So we look upon the worksheet we have created as a living document that each peer review team can adjust to fit emerging technologies and teaching strategies.

We recommend that the peer review worksheet included in Appendix B be used solely as a tool for college professors to create more effective online courses and not be used for the purpose of external or internal evaluation. We have found that online instructors need a forum in which they can experiment, discuss, and receive collegial feedback, and the worksheet and process we share in this article provides such a forum (Fecho, 2011; Palloff & Pratt, 2011; & Palmer, 1997, 1998).

In the interests of fostering collegiality and avoiding confusion before beginning a peer review process, we recommend that participants meet face-to-face for an orientation and arrive at consensus on how to move forward. We recommend that faculty form dyads so that the initial review of online courses is manageable and truly collegial (Chism, 2007; Palloff & Pratt, 2011). The dyads can then share their experiences and best practices with a larger group of faculty who have also engaged in a dyad-based peer review process of their courses. By working together in an atmosphere of collegiality, college faculty members will be able to continue to provide the very best educational experiences for their students in the new online class environment.

In closing, we note that we integrated the 360-degree review process within the peer review worksheet. Initially we had planned to recommend using a course self-review followed by a peer review to improve online teaching practice. We added student teaching evaluations to our suggested format based on the recommendation of one of our focus groups. We believe that this expanded review process will provide a helpful way for college faculty to utilize student course evaluations within a collegial atmosphere of respect and ongoing learning from practice. Also, the instructional designers who reviewed our peer review worksheet wondered out loud how they could be more involved in a collegial process of what works best for online instruction. This could be a fruitful avenue for future research.

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Appendix A

Emails Sent to Participants

Invitation Email

Dear Joe Smith,

Names of research team members; all members of University X's Education Department, are developing a process that instructors may use to develop or enhance online courses. I am writing to ask if you will assist us with this research project.

Your participation in the study would involve using a form we have created to perform a self-evaluation of an online course you currently teach or are developing. The self-evaluation will likely take one hour to complete. This self-evaluation process may help you develop or enhance an online course. Following the self-evaluation process, you would participate in a focus group with one member of our research team and 3-4 other professors from University X. The purpose of the focus group is for us to hear from you how the process worked and what you would suggest we do to improve the form. The focus group may also be helpful for you as you develop or enhance an online course. The focus group will be scheduled for one hour.

Please respond to me by email if you would be interested in participating in this research project. I would appreciate your response before December 1st, 2013. You will be able to perform the self-study anytime between December 15th, 2013, and January 30th, 2014. The focus groups will be conducted in February, 2014.

Thanks for considering this invitation,

Research Team Member

Follow-Up Invitation Email

Dear Mary Smith,

I am conducting a research project related to online teaching. The goal of the project is to design a form instructors may use to enhance or develop online courses. If you would like to participate in this study, please contact me and I will send you more information. This is a follow up to a previous email, and if I do not hear back from you I will assume you would prefer not to participate in this study.

All my best,

Research Team Member

Participant Directions Email

Dear Joe Smith,

Thank you for agreeing to participate in our research project. Attached to this email you will find the form you will use to conduct a self-evaluation of one of your online courses.

Please download and print the form attached to this email.

Using the hard copy form as a guide, log onto one of your University X courses in our LMS and check to see if your course meets the criteria listed on the form.

As you work through each item on the form, write notes on the hard copy of the form that indicate how well your course meets the criteria listed.

Also write comments on the hard copy noting changes and additions to the form that you believe would be helpful. It is important for you to write your thoughts and suggestions on the hard copy form since you will not be sharing your feedback with us until we meet with you in a focus group in February.

You may complete the self-evaluation process at any time between December 15th, 2013, and January 30th, 2014. You need not complete the self-evaluation process in one sitting, but you may find it helpful to do so. We estimate that the self-evaluation process will take one hour to complete.

If you have any questions, please contact me by email. If you have decided that you would rather not participate in this study, please let me know; otherwise, I will get back with you in January to schedule a focus group meeting for February.

With My Thanks,

Research Team Member

Appendix B—Peer Review Document

(Revised March 30, 2015)

Explanation of the Peer Review Process

The peer review process is designed to give you helpful information about your online courses so that you can improve your courses and your online teaching. The peer review process is akin to a 360-degree evaluation process used to help people enhance their leadership skills.

We developed this peer review process, including the course review worksheet, based on our own professional practice of teaching online, an extensive review of literature, and three published research studies we conducted. Based on the findings of our research studies, we recommend that the peer review process be used by college professors with at least four years of online teaching experience.

To begin the peer review process, create a group of between four and eight interested faculty. This group ought to meet in person or via live web conference. This initial group meeting is crucial to the success of the process. By-passing the initial meeting step of the process will likely result in participant confusion, frustration, and an overall breakdown of the peer review process.

During the first meeting, the group will seek a common understanding about the process to be used and will also look over the worksheet that will guide the course review process (the worksheet is included below). We recommend that you use the worksheet once before making modifications, but you may want to make some changes to the worksheet before using it for the first time. By making modifications to the course review worksheet, the team can adjust the worksheet to fit the context of their own institutions, disciplines, teaching styles, and course formats. Adjustments may also be made in light of new online instructional tools & strategies.

Once the team has met to discuss the course review process and has reached consensus about how the group will move forward, then the team forms small groups with two instructors in each group. Each instructor will then choose one of their own courses to review.

Bullet Point Summary of the Peer Review Process

- Talk with other instructors about the process and seek to develop a team of four to eight instructors interested in the peer review process
- Organize the team into small groups of two instructors each
- Each instructor chooses to review one of their own online courses
- Each instructor considers student evaluations of the course, if possible, to identify some areas to check on during the review process
- Instructors each use the course review worksheet to review their own courses
- Instructors then meet with their peer to discuss what they both have learned from reviewing their own online courses
- The two instructors then exchange worksheets electronically and complete the peer comment boxes while reviewing their peer's course
- The two instructors meet again to discuss what they both learned from the process
- The larger team of four to eight instructors may want to meet again in order to learn from each other and establish group action steps

Peer Review Worksheet

Name of Instructor:

Course & Section Reviewed:

Name of Peer Reviewer:

Instructions for Using the Worksheet

The worksheet is divided into eight sections. Each section enables you to explore one important aspect of online instruction. Begin on the left side of the worksheet by reading the online teaching and learning strategy in the first section; "Get students started in a course." Bullet point examples are provided just below the instructional strategy to help you better understand the strategy. After reading the strategy and the bullet point examples, then look across to the right on the worksheet and read the instructor prompt. After you read the instructor prompt, then review your own course and type your response in the box on the worksheet. The size of the text box will expand as you type your response. Continue to complete each section on the worksheet until you have completed all the sections. After you have completed the review of your course, then you are ready to meet with your peer. We estimate that the review of your own course will take between 60 and 90 minutes to complete.

Team Taught Courses

We recommend that instructors engaging in team teaching initially work with each other to review their team taught course using the worksheet as a guide. Then a third instructor could provide additional insights about the course using a process similar to the one outlined above.

Online Teaching & Learning Strategies	Instructor & Peer Comments Based on Review of Course
Get students started in a course **Examples** Welcome email Welcome video Explain how to move around within the course	Prompt for Instructor Describe two ways that you provide students with an orientation to your course.
	Instructor's Response to Prompt
	Peer Comments
Communicate course objectives **Examples** Syllabus Course objectives included in weekly overviews Grading rubrics	Prompt for Instructor Describe two ways that you communicate course objectives to your students.
	Instructor's Response to Prompt
	Peer Comments

<table>
<tr><td rowspan="3">Communicate with students
<u>Examples</u>
Post video each week
Respond to online discussions every week
Participate in live sessions each week</td><td><u>Prompt for Instructor</u>
Describe three ways that you communicate with your students each week during the course.</td></tr>
<tr><td><u>Instructor's Response to Prompt</u></td></tr>
<tr><td><u>Peer Comments</u></td></tr>
<tr><td rowspan="3">Facilitate communication between students
<u>Examples</u>
Require peer review of assignments
Require students to respond on peer blogs
Require students to respond to peer discussion comments</td><td><u>Prompt for Instructor</u>
Describe two strategies you use to ensure that students communicate with one another.</td></tr>
<tr><td><u>Instructor's Response to Prompt</u></td></tr>
<tr><td><u>Peer Comments</u></td></tr>
<tr><td colspan="2"></td></tr>
<tr><td rowspan="3">Facilitate critical thinking
<u>Examples</u>
Wording of discussion group prompts
Ask students to discuss and evaluate different points of view
Case studies</td><td><u>Prompt for Instructor</u>
Describe two ways that you facilitate critical thinking in your course.</td></tr>
<tr><td><u>Instructor's Response to Prompt</u></td></tr>
<tr><td><u>Peer Comments</u></td></tr>
<tr><td colspan="2"></td></tr>
<tr><td rowspan="3">Assist students during course
<u>Examples</u>
Timely follow up when assignments not completed
Facilitate peer mentoring
Adjust due dates</td><td><u>Prompt for Instructor</u>
Describe two ways that you assist students in accomplishing course learning objectives.</td></tr>
<tr><td><u>Instructor's Response to Prompt</u></td></tr>
<tr><td><u>Peer Comments</u></td></tr>
</table>

<table>
<tr><td rowspan="3">Assess student progress in meeting course learning objectives
<u>Examples</u>
Grading rubrics
Quiz at end of each week aligned with course objectives
Weekly discussion questions aligned with course objectives
Final project aligned with course objectives</td><td><u>Prompt for Instructor</u>
Describe two ways that you assess how well students have met the course learning objectives.</td></tr>
<tr><td><u>Instructor’s Response to Prompt</u></td></tr>
<tr><td><u>Peer Comments</u></td></tr>
<tr><td colspan="2"></td></tr>
<tr><td rowspan="3">Share assessment results
<u>Examples</u>
Return assignments with media comment and grade within one week of submission
Post student grades in online gradebook weekly
Send feedback to students weekly when they participate in online discussion groups</td><td><u>Prompt for Instructor</u>
Describe two ways you share assessment results with students and include your timeline for sharing the results.</td></tr>
<tr><td><u>Instructor’s Response to Prompt</u></td></tr>
<tr><td><u>Peer Comments</u></td></tr>
</table>

About the authors

Thomas A. Simonds, S.J., Ed.D. is associate professor of education at Creighton University in Omaha, NE, USA. He holds a doctoral degree in education from the University of San Francisco as well as master's degrees from Gonzaga University and Boston College. Tom Simonds is the author of more than twelve articles on spirituality, faith-based values education, online learning, and school violence prevention. His published books include: *School Violence Prevention Workbook: Stopping Harassment and Hazing*, and *Advent and Christmas Reflections: Ideas for Teaching the Catholic Faith in the Home, School, and Parish*, both published by the National Catholic Educational Association. Tom Simonds has been teaching online since 2007, and has been conducting research into the best ways to learn online since 2008.

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Barbara L. Brock, Ed.D. is professor of education and teaches in the online Doctor of Education in Leadership Program at Creighton University. She is a past chair of the Education Department and former director of the online Master's Program in Educational Leadership. Her publications include eight co-authored books and numerous book chapters and journal articles. She presents internationally and nationally on topics related to her research, which include the career development of educational leaders, and most recently, the online learning preferences and needs of graduate students.

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Editor's Note: Learning style preferences can impact the effectiveness of learning. In online learning it is possible to include a variety of learning options and it is helpful if students can adapt to a greater variety of learning styles.

How online learners perceive preparedness and learning after discovering personal learning-style preferences

Shannon Voyles
USA

Abstract

Many students withdraw from online learning because of their low levels of satisfaction and preparedness, and students are often unprepared to adapt their learning habits to meet the demands of online learning. However, the way in which students incorporate knowledge about their own learning styles into their self-concept as learners and their perceptions of preparedness to be an online student has not been understood. The purpose of this qualitative, exploratory, single-case study was to discover how students incorporate knowledge about their personal learning preferences into their perceptions of preparedness in the online college classroom and into online learning in general.

Keywords: online learning, learning styles, perceptions, preparedness, metacognition, distance education, Index of Learning Styles, beginning online learners

Introduction

Online education is becoming increasingly popular among students of all ages, abilities, and locations (Allen & Seaman, 2010, 2013; Armstrong, 2011; Bristow, Shepherd, Humphreys, & Ziebell, 2011; Gaytan, 2009; Park & Choi, 2009). However, with increased enrollment, the number of students who withdraw also increases (Scot, Callahan, & Reed, 2008). Many students withdraw from online learning because of their low levels of satisfaction and preparedness (Hsieh & Dwyer, 2009). Students are often unprepared to adapt their learning habits to meet the demands of online learning (Hsieh & Dwyer, 2009).

Learning style theory is an area in the field of education that includes many definitions, opinions, and applications (Bergsteiner, Avery, & Neumann, 2010; Evans, Cools, & Charlesworth, 2010; Ivie, 2009; Kinshuk, Lui, & Graf, 2009; Rakap, 2010; Scales, 2008; Turnbull, 2009). Many instructors gather information about learning styles as a preassessment tool to determine if a student will be successful in the online education environment (Cagiltay, 2008; Milligan & Buckenmeyer, 2008; Park & Choi, 2009). Other instructors use a knowledge of learning styles as a basis for designing the curriculum and content of a course (Cagiltay, 2008; Featro, 2011; Graf, Kinshuk, & Lui, 2009; van Rensburg, 2009). This study was designed to meet the need to understand ways in which students incorporate information about their learning styles in describing their perceptions of online learning and their own level of preparedness for an online program. Understanding the perceptions of the students enrolled in online courses may improve retention rates (Dobbs, Waid, & Del Carmen, 2009).

Purpose of the study

The purpose of this qualitative, exploratory, single-case study was to discover how students incorporate knowledge about their personal learning preferences into their perceptions of preparedness in the online college classroom and into online learning in general. A phenomenological approach was used. Participants included a purposeful sample of 14 first time students enrolled in their first or second course in an online degree program within a traditional

university in the U. S. Midwest. The unit of analysis was an individual student. Initially, participants completed the Index of Learning Styles (ILS; Felder & Spurlin, 2005; see Appendix A), a questionnaire developed to measure learning styles as defined by Felder and Silverman (1988). In the ILS, learning styles were represented dichotomously (active vs. reflective, sensing vs. intuitive, visual vs. verbal, and sequential vs. global). Participants were informed of the learning style indicated in the results of their individual assessment. Each participant then completed diary entries about their initial perceptions and thoughts regarding online education and their preparedness to learn in an electronic classroom. A diary prompt was used (see Appendix B). Time was then allowed for students to consider their results and complete approximately a week of work in their classes, after which they completed another diary entry. Open-ended, semi-structured telephone interviews were then conducted using an Interview Guide (see Appendix C). Participants were again asked about their perceptions regarding online education and their preparedness to learn in an electronic classroom.

Literature review

Metacognition and self-knowledge

Theories of metacognition are applicable to the understanding of one's learning styles. Flavell, who first used the term 'metacognition', defined it as the use of monitoring and understanding of one's own cognitive processes (Zulkiply, Kabit, & Ghani, 2008). It is the knowledge and understanding that one has of him or herself as a learner and of learning (Ndidiamaka, 2010; Pimentel & Mackenzie, 2008; Schraw & Dennison, 1994; Zulkiply et al., 2008). This higher-order mental process enables students to control their own learning process (Heidari & Bahrami, 2012; Vukman, 2012), assess their learning, and use strategies to correct errors in their comprehension (Schraw & Dennison, 1994). Students who are aware of their cognitive abilities can adapt their learning methods as necessary (Huff & Nietfield, 2009). In their study, Khonamri and Kojidi (2011) found that there is a connection between metacognitive awareness and comprehension monitoring. Their participants were English Language Learners. Their results showed that participants with greater metacognitive awareness reading strategies did more comprehension monitoring (Khonamri & Kojidi, 2011).

Flavell (1979) broke the theory of metacognition into two dimensions, which include metacognitive knowledge and metacognitive experiences or regulation. He then broke knowledge down into three categories that include person variables, task variables, and strategy variables (Flavell, 1979). The person variables category of metacognition includes the knowledge that an individual has about his or her own learning. This knowledge includes beliefs about the person as a learner, the belief that he or she may learn more effectively using one learning style rather than another, and what the learner believes about how others learn information (Flavell, 1979). Baker & Brown (1984) later supported Flavell's categories by setting their own categories of knowledge about cognition and self-regulation.

The theory of metacognition and person variables centers on the theory of self-knowledge. Self-knowledge includes knowing one's strengths and weaknesses (Pintrich, 2002). By being aware of personal preference with learning strategies, students can avoid relying on only one method and find a more appropriate method for the material (Pintrich, 2002). The accuracy of this self-knowledge is important. Students need to have an accurate perception of their knowledge, strengths, and weaknesses in order to correctly apply them and learn (Chiu & Kuo, 2010; Pintrich, 2002). Metacognitive knowledge is linked to success in the classroom; students who are aware of different learning strategies are more likely to use them than students who are not metacognitively aware (Pintrich, 2002). Additionally, students who have metacognitive awareness are better able to reflect on their learning and performance (Kruger & Dunning, 1999). In their study, students with poor cognitive abilities estimated they performed better than their

peers and were less able to identify areas of an assessment where they answered incorrectly (Kruger & Dunning, 1999). However, students with stronger cognitive abilities more closely assessed their performance on assessments and could identify questions on the assessment they answered incorrectly (Kruger & Dunning, 1999). A lack of self-knowledge can hinder a student's success in learning and in the classroom. Pintrich (2002) provides an example of a student who knows that she does not understand mathematical material well when reading about it in the text. Knowing this, the student can apply other learning methods when learning the material to strengthen her understanding of the concepts (Pintrich, 2002). This is also an example of how metacognition helps students self-scaffold to solve problems through setting goals, organizing resources, evaluating information, and retaining information (Chiu & Kuo, 2010).

Metacognition has been defined in many different ways (Baker & Brown, 1984; Flavell, 1981). Because the theory is used in many disciplines, including cognitive psychology, developmental psychology, and education, it has been examined from multiple perspectives, contributing to the differing definitions (Rahman & Masrur, 2011). While many researchers agree that metacognition refers to knowledge and control of thinking processes, the details they include define it slightly differently for each use. Some define it by using knowledge, skill, and experience (Hacker, 1998); some take the definition further to include present thinking processes and having the knowledge of those processes (Pressley, 1995). Still others define it as knowledge and regulation of cognition (Nelson & Narens, 1992). Although researchers from a range disciplines define the theory differently, they agree to divide it to include metacognitive knowledge and metacognitive regulation and control (Rahman & Masrur, 2011).

Awareness of learning style benefits

There are many benefits in being aware of and using learning styles in the educational setting. Teaching students about their learning style preferences and how to manage those preferences is critical to their scholastic achievement (Moallem, 2007). Additionally, as discussed by Scales (2008), learning styles are most valuable when used as a tool for the student and their self-development, rather than used as a way to categorize students, as most current researchers do. Students should not only be shown what their learning style is, but also how to enhance that style and, as a result, their learning (Scales, 2008). In addition, by understanding personal preferences with learning styles, students can learn with increased motivation by using their strengths and strengthening their weaknesses (Bishka, 2010; Gantasala & Gantasala, 2009; Rakap, 2010). This also allows students to understand learning methods and to select the most appropriate one for their learning (Evans et al., 2010). This is vital for the growth of the learner (Evans et al., 2010).

Students do learn differently from one another (Naimie et al., 2010). Studies have shown that performance in different subjects is related to learning style preferences (Naimie et al., 2010). It is most useful when students identify their learning preferences at the beginning of their education (Guven & Ozbek, 2007), although it is not clear whether students incorporate and use this knowledge immediately after learning or after some time. When students understand their preferences, they are better prepared to use a variety of techniques to strengthen their learning (Romanelli et al., 2009). Additionally, when educators and students are aware that students learn differently, they can use methods to help students understand material differently and to make learning more effective (Kinshuk et al., 2009; Moallem, 2007).

Battalio (2009) found that learning styles are associated with student success. Using data from 120 participants, the researcher found that learning styles might also be a factor that influences student participation and attitudes about online learning (Battalio, 2009). The researcher analyzed the data from many perspectives, both on a dimension-by-dimension basis, as a group of dimensions, and in comparison with quiz grades. While the participants were located at the same university, they were enrolled in one of nine courses.

At the conclusion of their study, Zapalska and Brozik (2006) determined that teachers should use learning style assessments and provide their students with the results of their learning styles. By sharing this information, students are better able to take control of their learning to become active participants in their education (Zapalska & Brozik, 2006). The focus of their study was to show that learning styles should be considered when designing a course (Zapalska & Brozik, 2006). They furthered these findings with the data that was collected from participants who were enrolled in the same class at a university. In a study performed by Morris and Ozkan (2006), the researchers used the ILS and a self-developed questionnaire that focused on online learning. The researchers then used the information to examine strategies that can lead to student success in the online classroom. Sixty-four students participated in the study. The researchers found that by encouraging students to learn their preference and expand their methods for studying and learning, they could become more effective learners (Morris & Ozkan, 2006). Teachers should also ensure that they are using multiple styles in their classrooms to help students become more proficient in all styles, not just consistently teaching using their preferred style (Morris and Ozkan, 2006). The results of this study correspond with the findings of others who stated that when students are taught in methods that do not match their learning style, it could be difficult for them to learn the material (Zapalska & Brozik, 2006). It is important to teach students about their own styles; teachers cannot teach in every style at all times. When students are taught using different styles other than the one they prefer, this can help them learn to adapt (Kinshuk et al., 2009). When they are aware of their styles, they can purposefully adapt to expand their learning abilities to better understand in environments that do not match their preferences (Naimie et al., 2010). This is important for students because it will help them prepare for classes where the instructor does not teach to multiple styles and for other life skills that are not adaptable to preferences (Kinshuk et al., 2009). This can lead to improvements with learning and performance of students in a classroom as well as help students to expand beyond their preferences (Guven & Ozbek, 2007; Hawk & Shah, 2007). Teaching students to adapt in their learning style can affect them beyond their educational career as well due to the demand of flexibility in many careers (Moallem, 2007).

Student awareness

With the growing number of methods for how students can earn a degree, students must learn to make effective choices with regard to their learning and how they learn (Evans et al., 2010). Helping students become aware of their learning preferences can help them identify their strengths and weaknesses, which can aid them in enhancing their skills and their ability to self-regulate (Graf et al., 2009; Vonderwell & Savery, 2004). This can also help students to understand why they may have had difficulty with learning material in the past (Graf et al., 2009) and provide them with the critical ability to self-manage their learning (Pillay et al., 2007). In a study of onsite students conducted by Cagiltay (2008), to determine whether knowing their own learning styles is helpful to students, it was concluded that students should know their learning preferences in order to be able to adapt in the classroom to meet their personal learning needs. This awareness and adaptability was determined to lead to greater success in the classroom for learners, regardless of their learning preference (Cagiltay, 2008). According to van Rensburg (2009), students' needs are met when they are taught how to learn and when their personal preferences are viewed as acceptable differences. This can help students to realize the value in their differences and the insight that they learn differently from one another (van Rensburg, 2009). Equipped with this knowledge, students can see the value in their own personal learning style and the value in those differences (van Rensburg, 2009). This knowledge can also help students and instructors to form productive relationships (van Rensburg, 2009). However, students are often not aware of their personal learning preferences or about learning styles in general (Rogers, 2009). By having this unawareness, they students are not learning to their fullest potential (Rogers, 2009).

In a study to determine the effect of learning styles on student performance in the online classroom, Rogers and McNeil (2009) found that students should have the opportunity to be aware of and understand their learning styles. Additionally, they stated that students should also understand curriculum delivery and the methods that are more suited to their personal preferences so they can make informed decisions to support their learning (Rogers & McNeil, 2009). In their study, the 193 participants were distributed across many majors and attended the same online university. The participants completed the Myers Briggs personality test. The researchers' findings were that specific types of learners find success with different teaching methods, including face-to-face instruction and online learning. They added that instructors should be aware of learning style differences and that students should be aware of their personal preferences in order to select the most appropriate learning methods for their preferences (Rogers & McNeil, 2009). In a study with sixty-three on site MBA students, Gantasala and Gantasala (2009) found that students should be aware of their learning style preferences in order for them to choose the correct style for a given learning activity. The researchers also found that when students understand their personal styles, they can use these styles to learn with greater motivation. However, this study was performed at a single location and time.

Student perceptions

Perceptions of students are essential to understand; their perceptions influence their ease with online learning (Tanner, Noser, & Totaro, 2009). Students have a wide range of perceptions about online learning. These perceptions are essential for improving efficiency of online learning (Yaghoubi et al., 2008). Learning styles may be a factor that contributes to student attitudes about learning online (Battalio, 2009). While some may have concerns regarding interaction with instructors and peers, they typically state that online learning is effective (Conrad & Pedro, 2009). However, students are often less satisfied with online learning as compared to traditional learning in a brick and mortar classroom (Pillay et al., 2007). One study, performed by Seok et al. (2010) found that there is a difference in perception of online education based on the gender of the student. Scholars, including Seok et al. (2010) and Bristow et al. (2011), found that female students are more likely than males to state that online learning is effective and that female students were more likely to have positive perceptions of online education (Bristow et al., 2011; Seok et al., 2010). Seok et al. (2010) also found that students typically had a lower perception of online learning than instructors did. In another study, Bristow et al. (2011) found that of their sample, 30% had negative perceptions of online learning. Bristow et al. (2011) collected data from 801 students from a single university. While their sample size was large, the researchers noted that future studies should include a more geographically diverse population and in a wider range of college sizes and types (Bristow, et al., 2011). Seok et al. (2010) also used a large sample size with 193 instructors and 141 students participating. While their findings were robust, they also extended well beyond the two research questions posed in the study.

Online education provides learners with the freedom and flexibility that brick and mortar classrooms cannot provide (Park & Choi, 2009). This flexibility often translates into the perception that the online environment also creates an easier avenue for academic dishonesty (Gaytan, 2009; Spaulding, 2009). However, studies have shown that there is no increase in academic dishonesty based on the delivery method (Spaulding, 2009). In some cases, the less experience someone has with online learning, the more likely he or she is to believe that it is easier to cheat in an online course (Bristow et al., 2011).

Students often have the perception that online learning is faster, easier, less rigorous, and more flexible than classroom learning and is the method to use when the learner is uninterested in the content (Journell, 2010). In the study, performed by Journell (2010), eleven students and one instructor were interviewed regarding their perceptions of online learning. Participants were high school students who were all enrolled in the same course with the instructor who was also a

participant (Journell, 2010). While the researcher found perceptions of learners before they course began, he also found that as the class progressed, many perceptions of the participants changed (Journell, 2010). Participants stated that it was self-motivation rather than the delivery that caused them difficulty (Journell, 2010). However, this study included only a few participants for data collection. While the data was robust, further studies would help to increase the generalizability of the findings.

At the opposite end of the spectrum, students also may have perceptions that online learning is more enjoyable and is of a higher quality than classes without technology (Tanner et al., 2009). In a study conducted by Tanner et al., the researchers used a questionnaire on a pilot study of twenty business students. Once revised, the questionnaire was distributed to 890 participants who were enrolled in two universities. One hundred ninety participants had taken online courses, while seven hundred had not (Tanner et al., 2009). The researchers also collected data from faculty members in order to compare perceptions. The researchers used a convenience sample for students and a national random sample that included 1175 faculty members (Tanner et al., 2009). While the results strongly suggest that faculty and students have great differences in perceptions of online learning (Tanner et al., 2009), the study would have benefited by using faculty members who also work at the same university as the participants rather than compare a small location of students to a nationwide sampling of faculty. Student participants also reported that they perceived online learning to require more self-discipline and a sense that they taught themselves the material (Tanner et al., 2009).

Those who support online education argue that it provides students with a more meaningful educational experience as well as flexibility and convenience (Conrad & Pedro, 2009). Online learning can also help students to share more information with one another (Conrad & Pedro, 2009). Benefits to online learning include flexibility, immediacy of feedback, a reduction of pressure, and lifelong learning (Conrad & Pedro, 2009).

The preparedness of online learners is an important consideration for universities as they develop courses (Blankenship & Atkinson, 2010). Students have higher satisfaction when they have positive perceptions of preparedness (Ho, Tsung-Hsein, & Bishan, 2010; Park & Wentling, 2007). These areas of preparedness, or readiness as it is also called, include time management, adaptability, motivation, and an understanding of individual learning styles (Pillay et al., 2007). However, when students' perceptions are incorrect when compared to reality, their perceptions can make it more difficult to adapt to the online learning platform (Mahoney, 2009).

Research method

A qualitative single-case study design was used for this study with a phenomenological approach

Participants completed the ILS to identify their individual learning preferences. The data from the ILS were used only to inform the participants about their individual preferences. The aim of this study was to understand how participants incorporated the awareness of their learning preferences, rather than to determine or evaluate their actual learning preferences.

After completing the ILS and reviewing their individual results, participants viewed the explanation of their results, as indicated by the authors of the ILS (see Appendix D). Participants then completed diary entries and an individual telephone interview. The first diary prompt was sent to participants with the ILS information so that they could complete the diary immediately after being informed of the results of the ILS. In this way, initial responses were captured. Seven days later, the second diary prompt was e-mailed to participants along with a request to schedule an interview. Interviews were audio-recorded to increase accuracy and to permit more attentiveness to the participant (Patton, 2002).

After hearing the results of the questionnaire and reviewing an explanation of their learning preferences, participants wrote in their diaries about their perceptions of online learning and their preparedness to learn in an electronic classroom. One week later, after the participants had completed some initial coursework, a second, similar diary entry was completed. Data were collected through electronic communication and telephone interviews. This method of data communication was appropriate for communicating with participants located throughout the world and accustomed to communicating online for their learning programs.

The data were collected, organized, reduced, and analyzed for themes and clusters. Data were analyzed first for individual participants and then for the case as a whole. No direct incentive was offered to participants for their involvement in the study. Participants were told in the Informed Consent form (see Appendix E) that this information might help them with learning.

Sample

Participants included 14 undergraduate students enrolled in the first or second online course in their academic careers. This delimitation was chosen because students form their initial perceptions of their preparedness for a program at the beginning. Participants were selected purposefully from an online program within a traditional university in the U. S. Midwest. The purposeful sample included only students who were just beginning their online degree programs. The selected university provided e-mail addresses for all students enrolled in their first or second online course at the university. Participants were recruited by means of the e-mail information obtained from the university.

The sample size was determined based on data saturation (Francis et al., 2010; Glaser & Strauss, 1967). All participants who remained active in the study were interviewed, and diary entries were analyzed, until data saturation was met (Francis et al., 2010). The small sample size enabled in-depth responses from participants (Yin, 2009). Because the participants were online students, the study requirement of access to a computer and the Internet did not bias the sample against individuals without online access.

The unit of analysis for this study was the online university student enrolled in the first or second class of an online degree program. These students were the focus of the study because online students often have difficulty in adapting to the online learning environment when they begin their online education (Hsieh & Dwyer, 2009). Thus, the level of preparedness of these students for online education was an issue of concern.

Data collection, processing, and analysis

Before data collection began, the IRBs of Northcentral University and of the selected university granted permission to conduct the study. E-mail information was obtained from the university where participants were students. The selected university provided e-mail addresses for all students enrolled in their first or second online course at the university. Potential participants were then contacted by e-mail (see Appendix F). Those who responded were sent a link to access the ILS (see Appendix A) along with instructions for completing the instrument. They were also given a link to locate the instructions for analyzing the results (see Appendix D).

After participants completed the ILS, the information on the website informed them of their learning styles in terms of four categories: information processing (active vs. reflective), information perception (sensing vs. intuitive), sensory input (visual vs. verbal), and understanding process (global vs. sequential). Participants then received an e-mail prompt to complete their diary entries. At the same time, they received a brief set of demographic questions (see Appendix G). Participants returned the diary entries by e-mail, completed their school assignments for a week or longer, and then received an e-mail with the second diary prompt. They completed their diary entries and returned the entries by e-mail. After that, telephone interviews were conducted.

Data were collected over a period of 4 months, from March through June 2013. This time interval was sufficient for e-mailing additional potential participants as they enrolled in the university, which had a rolling enrollment and rolling course start dates. Most participants began and completed the study within a 2-week period.

During the individual interviews, questions were asked slowly and repeated when necessary. The questions followed a preset order but remained fluid (Moustakas, 1994; Yin, 2009). The interview was used to gather data regarding how students incorporated the knowledge acquired from ILS results about their learning styles to form their perceptions of preparedness and online learning.

Data processing. Immediately after the interview, the audio-recording was checked to ensure that the conversation was recorded correctly. There were no malfunctions in the audio-recording equipment. To ensure that data were not missed, areas of ambiguity were clarified by requesting more information or details from the interviewee (Patton, 2002). This verification was necessary with only two participants. Data verification strengthened the trustworthiness of the study (Baxter & Jack, 2008).

A case study database (Yin, 2009) was created. The database included the completed ILS forms, the ILS explanations, the diary entries, and the transcriptions. The transcriptions were completed immediately after the interviews. All responses were printed and stored together in a locked cabinet in my home office so they were private, yet easy to retrieve if needed.

Analysis. The unit of analysis for this study was the individual student. The results of the ILS were not used to inform the study. The data analyzed for the study were derived only from the diary entries and telephone interviews.

Before analysis began, the Epoche process was started to ensure that there were no preconceived ideas or biases present when analyzing the data. All data were treated as being of equal value, and all data were considered because no position was taken (Moustakas, 1994). This approach allowed for the phenomenon to present itself rather than permitting preconceived ideas to interfere with the analysis (Moustakas, 1994).

In a process called bracketing, personal experiences and biases had to be set aside so that the inquiry could be focused directly on the participants. For example, an assumption that participants would find the information about personal learning styles helpful, had to be bracketed and removed (Moustakas, 1994). By bracketing this preconceived assumption, it was possible to discover whether participants experienced the knowledge of personal learning styles as beneficial.

The qualitative, phenomenological method used to analyze the data was a modification of van Kaam's approach (Moustakas, 1994). The first step of this method included listings and preliminary groupings of every expression related to the experience (Moustakas, 1994). Each transcript and diary entry was read and highlighted for this step, including the relevant expressions and quotes. The second step was to determine the invariant constituents. This step helped to reduce and eliminate data that did not inform the study or address the research questions or problem. The third step was to cluster the invariant constituents into themes (Moustakas, 1994). Word tables were created for each participant based on the themes that emerged for each research question. The fourth step was to validate themes by checking them against the transcript and diary entries. The fifth and sixth steps were to create an individual textual description of the experience for each participant and then an individual structural description (Moustakas, 1994).

The final step in data analysis was to create the composite description (Moustakas, 1994). The composite description was also the final component of the case study database. During the writing of the composite description, the research questions were answered from both diary entries and interview transcripts. Using the data to answer the research questions ensured that the data were reduced to include only material that was specifically focused on answering the

research questions of the study (Miles & Huberman, 1994). Two distinct diary entries completed at two different times during the course program, along with data from personal interviews, ensured data triangulation (Yin, 2009).

After the data were analyzed and interpreted, and conclusions were drawn, participants member-checked the results. Member checking helped to clarify the interpretations and allow the participants the opportunity to contribute any additional perspectives that may have been overlooked (Baxter & Jack, 2008). As participants recommended no corrections or additions, no changes were made.

Data were verified for confirmability, dependability, credibility, and transferability (Miles et al., 2014). Confirmability was addressed because the conclusions were drawn only from the data (Miles et al., 2014), and personal assumptions were addressed using Epoche (Moustakas, 1994). The data trail for the study was detailed enough to be audited (Lincoln & Guba, 1995). Credibility for the study was achieved by including descriptions and data in detail, including direct quotations from participants. Dependability was addressed by ensuring that research questions were clear, data were collected as appropriate to address the research questions, and a field test was completed by colleagues (Miles et al., 2014). The findings were also verified for transferability. The sample was well described, and a similar sample could have been selected at other universities. The findings were sufficiently detailed so that they could provide insights to readers in other settings and could be assessed by other researchers in their individual settings (Miles et al., 2014).

Results

Table 1 contains the demographic information for the 14 participants. Nine participants were female. Eight participants (57.1%) had completed some college courses prior to beginning the online program. All reported their ethnicity as White or Caucasian. Participants ranged in age from 34 to 58 years old ($M = 42.2$).

Table 1

Demographic characteristics of participants

Participant	Gender	Age	Highest educational level
1	Male	50	General Educational Development[a]
2	Female	35	Some college
3	Female	39	Associate's degree
4	Female	34	Some college
5	Male	44	Some college
6	Female	58	Associate's degree
7	Female	51	Some college
8	Male	38	High school
9	Female	38	Some college
10	Male	51	Some college
11	Female	39	Some college
12	Male	36	High school
13	Female	45	General Educational Development
14	Female	34	Some college

[a]General Educational Development refers to the commonly known GED.

Following is a restatement of Research Question 1 and the results for the research question.

Research Question 1. How do students incorporate knowledge about their learning styles into their perceptions of online learning?

A summary of all themes for Research Question 1 is shown in Table 2.

Table 2
Themes identified in research question 1

Theme	Number of participants
Made no change	6 (43%)
Gained more confidence, felt less intimidation	6 (43%)
Realized online learning was more suited to some learning styles than to other styles	5 (36%)

Note. $n = 14$.

Following is a restatement of Research Question 2 and the results for the research question.

Research Question 2. How do students incorporate knowledge about their learning styles in terms of their feelings of preparedness for online leaning?

Table 3
Themes identified in research question 2

Theme	Number of participants
Felt more prepared for online learning	7 (50%)
Changing the study environment	4 (29%)
Changing the approach to studying	10 (71%)
Becoming aware of one's own style	13 (93%)

Note. $n = 14$.

Recommendations

Based on the findings of the current study, several practical applications are suggested. It is recommended that university administrators, course designers, and instructors educate first time online learners about their personal learning styles early in their educational journey. Given the diversity of online students, determining ways to prepare them effectively is important. The identification of learning preferences is most useful at the beginning of an educational program (Guven & Ozbek, 2007). Although only first time online students were included in this study, other students may also discover better methods for learning and studying after discovering their learning preferences.

The findings of this study demonstrated that educating students about their personal learning styles may provide them with information that results in higher levels of confidence. Thus, course and program designers can create courses that educate students about their personal learning styles to help improve learner confidence and lower the level of intimidation for first time online learners. Learning this information at the beginning of a degree programs would allow participants to use this information more effectively throughout their academic career. When students understand their preferences, they are better prepared to use a variety of techniques to strengthen their learning (Romanelli et al., 2009).

Educators in online educational institutions could educate learners about their personal learning styles in an orientation before courses begin or by adapting the first course that students take at the university. In this way, students would have this information in the first weeks of their program. By providing this information to students as early as possible, students would be able to incorporate this knowledge at the start of their degree program to become more confident, more prepared, and better able to establish the environment and approach to their education.

Conclusions

The results of this study indicated that many of the participants experienced a change in their perceptions of online learning, in some cases without being aware that their perceptions had changed. Some participants found the knowledge of learning styles useful for broadening their understanding of online learning. The findings imply that knowledge of personal learning styles is beneficial and may enable students to improve their academic performance. Educating students about their learning styles may help students to strengthen their metacognition. It is recommended that educators for online institutions educate first time online learners about their personal learning preferences at the start of their online programs as a way of providing them with the information they need to build confidence and improve their metacognition.

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Note: This is a revised/edited version of her dissertation.

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Editor's Note:

Investigating EFL teacher trainers' viewpoints on challenges to consolidating computer literacy of EFL teachers

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Jordan

Abstract

Computer literacy is an important characteristic of language teachers' Computer-Assisted Language Learning (henceforth CALL) cognizance. In spite of its significance, limited research has been conducted to analyze factors that might influence language teachers' computer literacy levels. This qualitative study investigated the viewpoints of 35 Jordanian EFL teacher trainers on possible challenges to EFL teachers' computer literacy amelioration. Results reveal that the teacher trainers deemed the role of computer literacy as significant in EFL teachers' vocations. The teacher trainers determined some challenges to EFL teachers' amelioration of computer literacy as well as measures to reduce the impacts of these challenges. Additionally, the trainers did not have adequate computer knowledge to prepare EFL teachers for instructing via CALL courses. The results further implied that the subjects recognized that EFL teachers need to be trained to improve their computer literacy. However, the trainers did not have unanimity on teachers practicing computer literacy for mainstream teacher training programs. Finally, computer skills related to utilizing the Internet and language teaching software instruments were considered as essential for EFL teachers to acquire. The researcher put forth some recommendations and implications for the development of mainstream teacher training programs in Jordan and other countries.

Keywords: CALL; EFL; challenges; teacher training; computer literacy

Introduction

Teachers are deemed the cornerstone in any educational system since they are verily a counselors, collaborators, evaluators, instructors, leaders, managers, models, monitors, guiders, and performers. Consequently, there is a de facto consensus among educationalists, pedagogists and stakeholders that a paramount attention must be paid to train them to implement the educational schemata appropriately and efficiently. Recently, technology being an intrinsic part of the educational system can play an inevitable role in any teacher training program. Thus, training EFL teachers via the computer has become essential to avoid counterreformation and counterproductively in the realm of education. Although the emergence of technology and its applications in education has displayed a wide range of eligibilities and affordances for all educational stakeholders, it has inspired certain challenges for those who are involved in the realms of teaching and learning. Accordingly, teachers are anticipated to adjust their pedagogical approaches in respond to these neoteric technological requirements. Particularly, one dimension of felicitous utilization of technology in education is teachers' knowledge of computers and their high confidence in the utilization of technology for their teaching objectives (Atkins & Vasu, 2000; Son, Rob, & Charismiadji, 2011).

In the contexts of language teaching, Son et al. (2011) defined computer literacy as "the ability to use computers at an adequate level for creation, communication and collaboration in a literate society" (p. 27). Son et al. (2011) maintained that a wide range of teachers' computer skills should be developed and implicated in the teacher training/education programs. Consequently, teacher training/education programs should not only include improving teachers' pedagogical and

teaching skills exclusively, but they should also take into consideration teachers' confidence, efficiency and belief in the utilization of technology for teaching and develop their perceptions toward these considerable variables of the implementation of CALL in TEFL contexts. Regarding the central role of teachers in society and educational systems, a few number of teachers might be eligible in utilizing computers and technology effectively (Kpai, Joe-kinanee, & Ekeleme, 2012). To encounter the requirements of students in educational contexts and teach more efficiently, teachers should strive to develop their computer literacy levels (Yanik, 2010). Milton and Vozzo (2013) argued that the nature of computer literacy is continuously changing. The changing nature of computer literacy might indicate that teachers should constantly develop their computer literacy levels. When teachers have high levels of computer literacy, they can provide their students with adequate computer literacy instruction and computer-assisted learning performances. Consequently, developing teachers' computer literacy skills will provide opportunities for both teachers and students to develop the quality of their teaching and learning processes.

The previous literature

Research has shown that teachers' computer viewpoints and literacy are two significant factors which overrun a considerable role in the successful application of CALL in EFL contexts (Milbraith & Kinzie, 2000). Blatantly, teachers who have higher levels of computer knowledge might be more confident in the utilization of technology for their insruction (Kessler & Plakans, 2008). Corbel and Gruba (2004) propose that language teachers should have the ability to teach computer literacy skills to their students. This issue would inspire a challenge for teacher practitioners and trainers. Nowadays, EFL teacher trainers and practitioners should take pre-service teachers' levels of computer knowledge into account and take measures to urge language teachers to develop their computer literacy. More significantly, as Hong (2010) maintains, "the ultimate goal of CALL teacher education is to enable l2 teachers to integrate CALL technology into their classroom with confidence and knowledge" (p. 53).

Recently, there is a rarity of research on teachers' development of their computer literacy and CALL knowledge in teacher training/education programs. To illustrate, Lam (2000) examined the factors which influenced teachers' use/nonuse of technology. The results of the qualitative research argued that teachers' nonuse of technology was essentially related to their limited competence level to utilize computers and paucity of CALL teacher training programs. In the same vein, Peters (2006) investigated the impact of a CALL training course on improving teachers' computer knowledge. He emphasized that the training course developed teachers' computer literacy and the teachers adopted positive perceptions toward it.

In a similar context, Aydin (2013) evaluated language teachers' perceptions of the application of CALL in EFL courses. Although the teachers espoused positive perceptions toward the utilization of computers in language teaching, they had very limited knowledge of how to utilize computers and software programs expeditiously. Fuchs (2006) investigated German language teachers' viewpoints on their electronic literacy dexterities. Computer-mediated peer cooperation was utilized to develop their electronic literacy. The results revealed that the teachers possessed various levels of electronic literacy. Generally speaking, the teachers showed various viewpoints on technology utilization in language instruction.

Locally, Al-Barakat and Bataineh (2008) conducted a study examine student teachers' utilization of the computers, as it provided the Teacher Education Program at Yarmouk University with feedback about its impact on providing prospective teachers with the necessary instructions on how to integrate computers into their teaching. The results revealed that student teachers have a tendency to utilize the computer to improve young children's literacy skills. The findings further revealed that even though the time allotted to utilizing computers for improving literacy skills is

limited, a high degree of use is evident compared to its use with other skills stated in the school curriculum. The results further showed little diversity in the way computers are used to improve young children's literacy skills, with a few student teachers using computers as a resource for playing games, drill and practice, homework, and assessing children's literacy skills, whereas the majority utilize them for presenting instructional content and designing instructional media and worksheets.

In a similar vein, Dashtestani (2014) in his qualitative study pinpointed the perspectives of 39 Iranian EFL teacher trainers on possible challenges to EFL teachers' computer literacy improvement. The results revealed that the teacher trainers deemed the role of computer literacy as significant in EFL teachers' professions. The teacher trainers maintained a couple of challenges to EFL teachers' development of computer literacy as well as measures to eliminate the impacts of these challenges. Moreover, the trainers did not have adequate computer knowledge to train EFL teachers for teaching in CALL courses. The results further implied that the participants perceived that EFL teachers need to be trained in order to improve their computer literacy.

Rationales for Conducting this Research

This qualitative research was undertaken for two fundamental reasons. The first reason for conducting this study is that former literature has maintained that computer literacy training for EFL teachers should be drawn in teacher training/education programs (Hong, 2010; Hubbard, 2008; Peters, 2006; Kessler & Plakans, 2008). Moreover, teacher trainers/ practitioners should consider the responsibility for helping EFL teachers develop their computer literacy. This issue would indicate that teacher practitioners/trainers should have satisfied levels of computer literacy and recognize the difficulties and challenges to improving EFL teachers' computer literacy levels.

Amazingly, very negligible attention has been directed toward exploring teacher practitioners'/trainers' viewpoints on the issue of computer literacy in EFL instruction. Accordingly, it appears that further research is needed to explore how computer literacy training can be integrated into EFL teacher education/training programs from the viewpoint of EFL teacher trainers/practitioners. Following the same path, Hubbard (2008) accentuated that one important hindrance to the insertion of CALL in teacher training/education programs is scarcity of knowledgeable and proficient practitioners and trainers. In order to normalize the implementation of CALL in EFL instruction, it is essential that teacher practitioners/trainers enjoy high competence in the use of computers. In terms of the aims of this study, the teacher trainers' ability to promote EFL teachers' computer literacy was investigated. Thus, it can be concluded that for the normalization of CALL, both EFL teachers and teacher practitioners/trainers should endeavor to eradicate existing barriers to the implementation of CALL (Dashtestani, 2012).Hence, this study was carried out to contribute to this uninvestigated topic of research. Explicitly, this study reported on Jordanian EFL teacher trainers' viewpoints on the role of computer literacy in EFL instruction Moreover, the potential challenges to computer literacy instruction for EFL teachers in teacher training programs were specified and discussed.

The questions of the study

To ascertain this objective, the following overriding research questions directed the research:

1. What are the perceptions of Jordanian EFL teacher trainers of the role of teachers' computer literacy in language instruction and EFL teachers' recent levels of the computer literacy?

2. What are the perceptions of Jordanian EFL teacher trainers of challenges to improving Jordanian EFL teachers' computer literacy and measures to remove possible challenges?

3. What are the perceptions of Jordanian EFL teacher trainers of computer literacy skills vital for EFL teaching and their abilities to train EFL teachers to develop their computer literacy?

4. How should computer literacy training for EFL teachers be applied in Jordanian EFL teacher training courses?

Methodology

To enlighten thoroughly insights into subjects' perceptions, qualitative research patterns were exploited and espoused (Merriam, 1998). Mackey and Gass (2005) emphasized that in the realm of second language research there has been augment interest in the utilization of qualitative research. Best and Kahn (2006) compile qualitative research into three approaches, including direct observation, in-depth-interviews,, and written document. As for interviews, direct quotations of subjects are revealed to show their views, perceptions, and knowledge. Applying in-depth interviews was considered practical and convenient for the assigned objectives of this study.

A number of steps were carried out to promote the questions of the interview. First, the pertinent literature on CALL teacher education and computer literacy topics in language instruction was investigated and anatomized to develop a list of questions. Thereafter, six teacher training programs were superintend to gather some data on the current computer-related practices in those programs. Additionally, 9 EFL teachers and seven teacher trainers were interviewed in order to condense the enquiries on the specific framework of the study. The questions were then assessed by a jury of five leading university professors of applied linguistics who have had the experience of teacher training\ education for several years. The gist of the questions was modified after holding a number of evaluation meetings with the jury of experts. Of the following questions concerning the subjects' demographic information, eight questions were utilized for the interviews:

1. What is your opinion about the role of teachers' computer literacy in their teaching profession?
2. What are the potential challenges which might repel the amelioration of EFL teachers' computer literacy?
3. What do you think of Jordanian EFL teachers' recent level of computer literacy? Do you think it is sufficient for language instruction?
4. Do you think that Jordanian EFL teachers should draw computer literacy training? Why do you think so?
5. What do you think of computer literacy training for EFL teachers in the core of language teacher training programs?
6. Do you think you have the ability to train EFL teachers on computer literacy competency necessary for language instruction?
7. What sorts of computer literacy dexterities are essential for teachers to grasp to apply computer-assisted language learning felicitously in Jordan?
8. What proceedings should be considered to facilitate EFL teachers' development of their computer literacy levels?

Because Arabic is the mother tongue of the subjects, the interviews were carried out in Arabic. More important than conducting the interviews, the objectives of the study were explained to the subjects and they were voluntarily invited to participate in the interviews. Permission was obtained from the subjects to record the interviews. The data were then reduplicated and

translated into English. The interview data were anatomized via undertaking objective content analysis. First, to prepare the data, they were reduplicated into written text. The topics were anatomized based on the prime interview questions of the research. To guarantee inter-rater reliability of the interview data, they were organized by three experts in the realm of Teacher Education. Based on the interview questions and the pertinent emerging topics, the experts approved on the prevalent topics which could be utilized for answering the interview questions. Direct quotations from the subjects were registered for each emerging topic.

The sample of the study

The subjects in this research were 40 teacher trainers with an average of 7 years of teacher training experience in various language teaching foundations in Jordan. All subjects were male. The majority of the subjects (n = 29) were MA holders of teaching English as a foreign language (TEFL) whereas 11 were PhD holders of TEFL. These teacher trainers hold teacher training courses for the employment of pre-service teachers and provided in-service training for language teaching institutions in Jordan. The subjects had an average age of 33.4 years. Those teacher trainers who had more than four years of training experience were comprised in the sample. The teacher trainers had an average of 7 years of computer utilization and 8 years of Internet usage. To obtain access to the subjects, the researcher pertained various language teaching establishments and inquired their supervisors to supply him with the contact information of their teacher trainers. After that the researcher pertained the teacher trainers and invited them to take part in the research. The interviews were carried out either on the phone or face-to-face regarding the preference of the subjects. Each interview lasted 25 to 35 minutes. The appropriate method of sampling was utilized in this research.

The findings of the study

Teacher trainers' perceptions of the significance of teachers' computer literacy in their teaching career

All language teacher trainers conceived that computer literacy is a paramount component of teachers' teaching cognizance. Most subjects confirmed that utilizing computers in language learning and teaching is unavoidable these days and as a result of this EFL teachers should have the ability to utilize computers for EFL teaching adequately and effectively. Here are some of the quotations presented by some of the trainers on this issue:

It is difficult to find a person who denies the role of computer literacy in people's lives at the present time. Language teachers, as people who are supposed to teach languages to the younger generations, must have satisfied levels of computer literacy. (Trainer 5)

It is expected that literate people to have the needed levels of computer literacy and English competency. In my opinion, literate people who don't have the needed levels of these two sorts of knowledge cannot be deemed educational and professional. (Trainer 31)

Nowadays computer literacy does play an essential role in EFL learning and teaching. How can we even think that the computer illiterate teachers can be responsible for teaching something like a foreign language? (Trainer 18)

Teacher trainers' perceptions of the potential challenges which might hinder the development of EFL teachers' computer literacy

The subjects emphasized several challenges in the interviews. Most teacher trainers maintained that one main drawback of improving EFL teachers' computer literacy is that they are not requested to utilize computer technology in their instruction. They pointed out that EFL teachers

would vindicate that because they are not required to utilize computers in their instruction, they are not interested in their computer literacy competence.

I know teachers who confirm that they do not have to develop their computer literacy merely because they are not supposed to utilize technology in their instruction. This is absolutely a misconception. The use or nonuse of technology in the EFL instruction is not related to teachers' attempt to develop their computer literacy. (Trainer 2)

One initial challenge is a clear one and that is our orthodox teaching procedures. Conventional approaches which lack technology usage do not create any reinforcement for EFL teachers' to develop their computer literacy. (Trainer 11)

In my opinion, teachers should utilize the computers and technology to develop their computer literacy else they won't be able to develop their computer knowledge. (Trainer 32)

Another considerable challenge to teachers' amelioration of computer literacy was observed to be the age variations and generation crevice of EFL teachers. The subjects explained that it is not easy to persuade older teachers to develop their computer literacy as it is hard for them. It was revealed that younger and less experienced teachers are more submissive toward developing their computer literacy.

In my view, there has always been a challenge for the younger generation to convince older generation to adopt changes or developments. They will always do whatever they think is right. Concerning computer literacy, the older teachers are usually inefficient in the utilization of computers. I even know teachers who have problems with posting emails. So we have to find a way to urge these groups of teachers to develop their computer literacy. (Trainer 29)

I think that in our community the generation gap is really annoying. I am sure that for teachers of various ages and generations, specific methods should be taken to developing their computer literacy. This problem is complex though. (Trainer 3)

Other subjects pointed out that there is not any criterion or territorial schemata for developing EFL teachers' computer literacy proficiency. They claimed that this issue would have an impact on teachers' computer literacy development.

If I am not mistaken, computer literacy includes a wide range of skills. We do not know exactly which skills can assist Jordanian EFL teachers and develop their quality of instruction. I believe first we should make language teachers understand some computer skills which are beneficial for our particular EFL context, and then help them master those skills. Now, we have no idea about this issue. (Trainer 35)

First let me suggest something. Pinpointing the skills and levels of computer literacy relies on the process that is in question. In TEFL, have we defined computer literacy and its required levels? Let us resolve this issue first. (Trainer 3)

Some subjects emphasized that teaching has been routinized for most Jordanian language teachers. This routinization of teaching makes incurious about developing various literacies and competencies. Thus, computer literacy is one of those skills which have been condoned by most EFL teachers.

While new teachers will be employed and participate in teacher training programs, they are very enthusiastic to develop various skills demanded for their teaching. This concern in developing their skills will diminish gradually and they will attempt to do only their jobs. (Trainer 22)

Frankly speaking, EFL teachers should modernize their computer, English, and teaching skills systematically and progressively. This does not occur in our context of language teaching and I am not sure why it is so. May be because teachers are not stimulated to do so. (Trainer 1)

Teacher trainers' perceptions of Jordanian EFL teachers' recent level of computer literacy

Responding to this question, the teacher trainers maintained that Jordanian EFL teachers do not possess the high levels of computer literacy required for language instruction and the application of computer assisted language learning. They confirmed that the EFL teachers should develop their computer literacy.

Based on my experience, I believe that most Jordanian EFL teachers do not have the dexterity of various computer skills. They know some basic procedures and tasks which anyone must know. I believe that language teachers should know more about the computers since it's a significant part of their career. (Trainer 17)

It is a hard question to be answered. In fact, we expect teachers to have high levels of computer literacy but I think their levels of computer literacy are not high enough. Nevertheless, you may find very few teachers who possess high levels of computer literacy. (Trainer 15)

I can definitely say that our language teachers lack knowledge of various computer skills. Possessing high levels of computer literacy indicates that the teachers receive some particular training while we are not interested in training our language teachers concerning their computer literacy skills. (Trainer 24)

Teacher trainers' perceptions of deeming computer literacy training for EFL teachers

All teacher trainers adopted a confirmative response to this issue. They maintained that the most significant approach to developing EFL teachers' computer literacy is to display a particular training for them.

My answer is definitely "yes." Because for acquiring any skill, people should be prepared and trained. This is also true for computer literacy since it is a group of skills to be acquired. (Trainer 6)

As a matter of fact, Jordanian EFL teachers must be trained on various computer literacy skills. I think most of them do not know about the implementations of the Internet technology for EFL instruction. (Trainer 16)

Sustainable computer literacy practicing is a feature of any type of career. Language instruction is not exceptive and teachers should have access to appropriate and fruitful training programs from time to time. (Trainer 33)

Teacher trainers' perceptions of inclosing computer literacy courses for EFL teachers in the schema of language teacher training programmes

While 17 teacher trainers approved that computer literacy training can be included in the schemata of the teacher training programs, 22 teacher trainers pointed out that it is not a practical measure to be considered. The subjects who disapproved emphasized that teacher training programs are short and consist of various topics that should be covered and consequently computer literacy training cannot be included in teacher training courses. Moreover, it was revealed that computer literacy is a formidable issue and autonomous computer literacy courses should be devoted for developing EFL teachers' computer literacy.

It appears to be a good idea but we need more prolongated teacher training programs in order to be able to insert computer skills which are related to EFL teaching in them. (Trainer 20)

I am pessimistic about this matter. First, foundations and teachers might not be patient if computer literacy training becomes a part of teacher training courses. It might take a long time to

do so. Second, it will place a lot of requirements on newly-employed teachers and I think this is not a adequate decision. (Trainer 3)

This method may be practical, but I do not really know how it can be utilized. During any teaching training program, we have to introduce a lot of issues to language teachers and this makes the task a troublesome one. I have a question though "is there a particular frame for teaching computer skills to language teachers?" honestly, I haven't noticed such a frame yet. (Trainer 13)

I believe that the issue of computer literacy is a pivotal one but I don't understand why it should be included in the frame of teacher training courses. If this is the case, I suggest including other skills in teacher training programs as well. Do you believe it is applicable approach though? (Trainer 26)

Teacher trainers' perceptions of their capacity to train EFL teachers on computer literacy skills necessary for language teaching

A remarkable number of teacher trainers (n = 31) maintained that they were not contented or confident whether they have the capacity to develop EFL teachers' computer literacy competencies. Some subjects (n = 6) pointed out that they should provide computer literacy training for teachers via having collaboration with computer and educational technology practitioners and teachers. Some teacher trainers also maintained that they should know more about computer literacy skills necessary for EFL instruction and CALL application and develop their knowledge which is deemed prior to including computer literacy training in the frame of teacher training courses.

I do not know much about computers but I know how to utilize some prevalent implementations and software programs which are important for my career and private life. When we consider teaching these computer skills, it is a bit different. Utilizing something and teaching it are two various matters. (Trainer 23)

Well, I'm not really sure of my capacity to teach computer literacy skills to EFL teachers' since I haven't attempted to teach computer literacy to them but I believe if I knew which computer skills were necessary for language teaching, I would attempt to learn them and teach them to EFL teachers. (Trainer 6)

I think that we'd better consult specialists in educational technology to train teachers how to develop their computer literacy. In my view, EFL teacher trainers should teach them matters related to pedagogic aspects of computer utilization. (Trainer 27)

Frankly speaking, I don't possess the capacity to teach teachers computer literacy skills. Additionally, I doubt most teacher trainers can teach computer literacy skills. This is a challenging mission for teacher trainers. (Trainer 19)

Teacher trainers' perceptions of computer literacy skills required for teachers to know to apply CALL efficiently in Jordan

Of all the participants, six emphasized that they did not know what computer literacy skills are necessary for language instruction and the application of CALL. Nevertheless, a vast number of the subjects possessed general agreement that EFL teachers should be able to utilize the Internet and online instrument effectively. Some teacher trainers pointed out that EFL teachers should acquainted with how to find and utilize software programs necessary for language instruction.

I believe that the Internet is a very beneficial source for learning and teaching English. Unfortunately, the majority of EFL teachers do not know how to utilize the Internet professionally for their teaching objectives. Hence, teachers should develop their knowledge of the utilization of the Internet for language instruction. (Trainer 21)

As a matter of fact, sooner or later we will have to apply online language programs. It is pivotal that language teachers be equipped to utilize these kinds of programs in the future. So I think that EFL teachers should attempt to learn about various online systems and instruments which might be beneficial for their career. (Trainer 8)

Nowadays, many computer software instruments are obtainable to language teachers even though I haven't seen Jordanian EFL teachers utilize them. There are two problems. One is that they do not know how to search for these software instruments and the other one is that they lack the capacity to utilize these software instruments. (Trainer 28)

Teacher trainers' perceptions of methods to ease EFL teachers'development of their computer literacy levels

Nearly all teacher trainers maintained that teachers' knowledge of computers should be ameliorated consistently and systematically via convening workshops and in-service training programs.

An important method is to assist teachers develop their computer literacy every once in a while. This can assist them be acquainted with new tremendous developments and accomplishments in the realm of technology. (Trainer 30)

In order to develop EFL teachers' computer literacy, we may hold some seminars and workshops on the utilization of various newly-developed technologies for language instruction. In fact, I am not sure if the language teaching subsidizers and stakeholders would approve to meet the costs of these seminars and workshops. (Trainer 10)

A few teacher trainers pointed out that a particular level of computer literacy must be a precondition for the employment of EFL instructors.

Computer literacy exams are currently obtainable for EFL superintendents and employers. Before hiring teachers, EFL employers can give exams to determine teachers' computer literacy capacities. These exams can assist us employ teachers who are more effective and prepared for the language teaching career. (Trainer 34)

If we can differentiate what computer literacy skills are beneficial for language instruction, we can set teachers' knowledge of computer skills substantial for language instruction to the test. Vividly, particular tests should be constructed for the objectives of language instruction. (Trainer 7)

The subjects highlighted that EFL stakeholders should urge the utilization of CALL in Jordanian EFL training programs. They confirmed that if teachers utilize various technologies for their EFL instruction, they will have to develop their computer literacy.

I believe that conventional EFL instruction should be modified and teachers should utilize technology for their instruction. This utilization of technology will assist them develop their computer literacy. (Trainer 4)

Conclusions, discussion and recommendations

The present qualitative research study scrutinized Jordanian EFL teacher trainers' viewpoints on the significance of computer literacy for language instructors. The results implied that teacher trainers perceived computer literacy as an essential element of teachers' instructional knowledge. Teacher trainers represent a pivotal part in equipping EFL instructors for the felicitous application of CALL in the Jordanian EFL context. It is intrinsic that other EFL stakeholders realize the role of computer literacy for EFL instructors as significant accordingly. Moreover, without considering computer literacy as an essential part of teachers' knowledge, it would not be potential to develop EFL teachers' computer literacy skills. Milbrath and Kinzie (2000)

maintained that computer literacy is one of the paramount factors in the effective application of CALL in EFL programs. It is also pivotal that other EFL stakeholders, including supervisors, course designers, and subsidizers, pay particular attention to the issue of teachers' computer literacy. Teacher trainers are often under the pressure of the limitations of pedagogical policies of language instruction foundations. Definitely, they cannot apply changes in their training courses when they are not corroborative or subsidized by EFL authorities.

Additionally, developing teachers' computer literacy status is not without challenges. Based on the results, lack of commitment to utilize the computers and technology in the classroom is a significant hindrance. The application of CALL in the Jordanian EFL courses might stimulate teachers to utilize technology and develop their computer literacy and self-esteem to utilize computers. Conventional approaches to teaching languages would be a considerable obstructive factor concerning teachers' computer literacy improvement. Therefore, in Jordan, a change in orthodox language teaching methods to language teaching should take place so that teachers become able to utilize computers for teaching efficaciously and proficiently. As the subjects revealed, various workshops and training programs can be implemented for teachers of various age groups. In comparison with older generation of teachers, younger ones would be more computer literate because they are more involved in the utilization of technology. More research is required to obtain insights into Jordanian EFL teachers' computer literacy basic needs and frames on how to develop teachers' computer literacy. In Iran, Dashtestani (2012) maintained that obstacles and hindrances to the utilization of CALL should be reduced to assist the integration of technology into EFL instruction. Nowadays, because of the existence of various obstacles such as the lack of facilities, teacher training and education, efficient textbooks, and lack of teachers' knowledge of CALL, the utilization of CALL would not be applicable. EFL stakeholders and subsidizers in Jordan should attempt to develop the local conditions and exorcize these obstacles to CALL utilization and teachers' amelioration of computer literacy.

Moreover, the subjects emphasized that EFL teachers' computer literacy should be ameliorated systematically via informing EFL teachers of any new renovations and skills related to computers and their utilization in language instruction. Because of the advent of new technologies, the nature of computer literacy is constantly changing. Thus, EFL teachers should be equipped with sufficient and neoteric computer literacy skills to be able to utilize newly-emerged technologies. Experts and practitioners in the realm of educational technology think that language teaching institutions should convene ceaseless workshops on the utilization of new technology in EFL training programs (Desjardins & Peters, 2007; Peters, 2006; Hong, 2010). In addition, as the teacher trainers proposed, EFL stakeholders can examine teachers' computer literacy status as a precondition for their employment in language teaching institutions. Obviously, EFL teachers should possess particular levels of computer literacy to have the ability to teach in CALL courses.

Although a vast number of teacher trainers maintained that the EFL teachers needed training for the amelioration of their computer literacy, there was not general consensus among them concerning including computer literacy training in the corpus teacher training programs. For the purpose of including computer literacy training in the corpus of teacher training programs, teacher trainers should struggle to possess satisfied status of computer literacy. Moreover, teacher training programs should include more sections so as to train EFL teachers on their computer literacy. It seems that one momentous obstacle to computer literacy training in teacher training programs is that teacher training programs are under time limitations and there is no time to concentrate on teachers' computer literacy status. The subjects pointed out that the levels of Jordanian EFL teachers' computer literacy were not high enough. Furthermore, the teacher trainers claimed that EFL teachers should have adequate knowledge to utilize educational language teaching software programs and Internet-based resources for their instructions. It is pivotal to take these perceived technology-based skills into consideration and struggle to develop

them every now and then. Jordanian EFL stakeholders are admonished to take EFL teachers' low computer literacy status and required computer skills into account and pave the way for developing teachers' computer literacy status.

In conclusion, as teacher training courses can hold a considerable influence on EFL teachers' motivation for developing their computer literacy, it seems that further research should be carried out to investigate the issues related to teacher training and teachers' status of computer literacy. Apparently, future research on computer literacy in EFL should reconnoiter factors which shackle the containment of computer literacy training in the essence of teacher training courses as well as new computer literacy skills that teacher trainers and EFL teachers should possess. Computer literacy is a context-based notion which may vary in various contexts. Therefore, it is paramount to explore and investigate the elements of computer literacy with reference to the characteristics of each particular context and participants.

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Editor's Note: Rural teachers need additional resources and training in an effort to close the gap between students in rural and urban schools.

An investigation of rural teachers' perspectives of an online professional development program in China

Liyan Liu and Zuochen Zhang
China and Canada

Abstract

This paper presents results of a study conducted with teachers of rural schools in the south of Ningxia in Northwestern China, one of the less developed areas of the country. A snowball sampling method was employed to invite school teachers who recently attended an online training program on how to use information technology in the classroom to voluntarily participate in the study. A survey questionnaire was used to collect data regarding participants' demographic information, willingness to attend the program, and their perceived learning from the program. The purpose was to understand research participants' learning experience in the program. The findings indicate certain benefits from the online professional development program, but improvements in a number of aspects are necessary to yield better results in the future. The authors' hope is that this paper will not only benefit designers of online teacher professional development programs, but also educational administrators, who can take a holistic approach to involve all available resources for a best possible teacher professional development program.

Keywords: Rural schools, teachers, online, professional development, China, survey, snowball sampling, learning experience, program design, resources

Background

In recent years, in order to strengthen the education in rural areas and address education equity, the Chinese Education Administration has been paying significant attention to education development in rural areas in the country, including education of pre-service teachers and the professional development of in-service teachers. The "National Training Plan for Schoolteachers" (NTPS), which is co-sponsored by China Ministry of Education and Ministry of Finance, is an important initiative for professional development of school teachers across the nation. Since 2010, a significant amount of funds has been allocated to the NTPS. One component of the plan is "Training Project for Master Teachers of Rural Areas in Central and Western Regions", which includes selecting teachers from rural schools for advanced study at a university, providing training sessions for teachers from such schools, and organizing online training for those from remote areas. The training program not only helped with professional development of the above mentioned teachers, but also to a certain extent, addressed equity issues such as access to various kinds of resources and inequalities in teaching loads.

With the increasing availability and accessibility of computers and Internet in rural schools, online professional development has been employed as a useful measure to deal with challenges faced by teachers in rural areas. These include professional development not available because of their remote location, lack of resources, and teaching load. Since the advantages of online over face-to-face teacher professional development can only benefit a limited number of participants in training programs, online professional development is drawing increasing attention. Because this mode of training is comparatively new to participants, research is needed to examine perspectives of teachers who participated in the program, expectations they had of the program, and challenges they experienced, to provide recommendations to help improve the design and delivery of the training programs in the future. This paper reports a study conducted with participants who recently attended an online teacher professional development program offered by NTPS.

Literature review

Difference in models of teacher professional development

In an era of school reform, many consider the education and professional development of teachers as the keystone to educational improvement (Hawley & Valli, 1999). This description applies to the situation in China, because with the education reform and the dynamics of teaching and learning, increasing attention has been paid to teacher professional development in China in recently years.

Teacher professional development is a process for teachers as professionals to have a continuous development in their pedagogy, their content knowledge, and their teaching skills, a process for them to start as novice teachers and eventually become expert teachers (Yu & Lian, 2007). Hargreaves (1995) argues that teacher professional development does not only involve a technical dimension regarding knowledge and skills, but also a dimension of value and moral sensibility. With an attempt to summarize viewpoints of various scholars, Day (1999) asserts that teacher professional development can mean any learning activities, self-motivated or organized, which lead directly or indirectly to the benefits of individual, team or school that improve the learning outcomes of classroom teaching. Schlager and Fusco (2003) assert that "teacher professional development is more than a series of training workshops, institutes, meetings, and in-service days. It is a process of learning how to put knowledge into practice through engagement in practice within a community of practitioners" (p. 207).

In the past few years, studies have been conducted to determine learning outcomes of face-to-face and online professional development programs. For instance, with the attempt to explore the question of whether virtual and in-person workshops would vary in their effect on teacher learning and teachers' use of their learning from a professional development intervention, Fisher, Schumaker, Culbertson and Deshler (2010) randomly assigned teachers enrolled in a special education course to either the online or in-person setting, and in each setting, teachers were provided with the same content materials that were focused on student learning. Their study indicates that although teachers assigned to the in-person setting reported higher satisfaction levels, no significant differences were found in teacher learning results between the two groups. Fishman et al. (2013) also examined whether in-person and online professional development resulted in different teaching and learning outcomes, and their findings indicate that in both conditions, teachers increased their confidence to use the new curriculum materials and used the materials in ways intended by the designers, and drew the conclusion that there were no appreciable differences in student learning between the two treatments.

Teacher professional development programs that can foster more effective, scalable, and sustainable professional development in education systems are in high demand. Many studies (e.g., Garet, Porter, Desimone, Birman & Yoon, 2001; McLaughlin & Mitra, 2001; Smylie et al, 2001) have consistently found that many professional development programs are not properly connected to practice, unsystematic, lack key pedagogical content and structural characteristics, or do not provide support on an ongoing basis.

To make professional development programs effective, designers and facilitators need to know the attitudes and expectations of the participants. Jaffe, Moir, Swanson and Wheeler's (2006) study suggests that the teacher participants in professional development programs are interested in getting resources and ideas for their teaching, but deepening their pedagogical content knowledge is not as important to them as anticipated. It is not surprising that teachers as practitioners are more interested in "practical stuff" that can directly benefit their teaching. At the same time, we should realize that designers of professional development programs have the responsibility to integrate a component that can help deepen trainees' pedagogical content knowledge, which is a challenging and demanding task.

oTPD

The online teacher professional development (oTPD) usually means the professional development experience that takes place in an online and interactive environment (National Research Council, 2007). An efficient and effective professional development program is expected to fit with teachers' busy schedules and provide powerful resources that are often not available locally. One of the advantages of oTPD is that it can "create an evolutionary path toward providing real-time, ongoing, work-embedded support. … Furthermore, online professional development programs also are potentially more scalable than those that depend purely on local resources and face-to-face interactions" (Dede, Ketelhut, Whitehouse, Breit, & McCloskey, 2009, p. 9).

Poorly designed programs may contribute to disappointing results, so it is important to make sure that the programs are well designed, and to achieve this goal, efforts should be made to explore "which design features lead to promising professional development outcomes" (Hill, Beisiegel & Jacob, 2013, p. 478). Hill, Beisiegel and Jacob (2013) suggest that professional development should be limited to one school year or less as "working with teachers for shorter amounts of time is more reflective of both model professional development delivery" (p. 483). Powell and Diamond (2011) suggest that more research is necessary to have a better understanding of "consistent effects" of delivery mode on student learning outcomes.

Current oTPD programs and research initiatives center on program design and effectiveness, largely within a community-of-practice theoretical framework that promotes collaboration and reflection (Dede, Ketelhut, Whitehouse, Breit, & McCloskey, 2009). In a community of practice, which can be formed when individuals are engaged in a common enterprise working toward shared outcomes (Wenger, 1998), participants with the same goal talk together about what they are doing and why they do it that way, and learn new practices from observing others and begin to participate in the practices themselves (Wenger, 1998). In an online learning environment, participants can work with web-partners so they can exchange their thoughts and ideas (Bonk & Reynolds, 1997).

The use of oTPD programs are on the rise because of their various advantages, but research needs to be conducted to learn more about best practices for the design and implementation of these models, because "Evidence of effectiveness is often lacking, anecdotal, or based on participant surveys completed immediately after the professional development experience rather than later, when a better sense of long-range impact is attainable" (Dede, Ketelhut, Whitehouse, Breit, & McCloskey, 2009, p. 9).

Dede, Ketelhut, Whitehouse, Breit and McCloskey (2009) suggest that research on oTPD should ask two types of questions, ones that are designed to understand some aspects of the program and those for program evaluation. Following this advice, our study tried to address both research questions and evaluation questions.

Teacher professional development in China

With the reform in education and the dynamics of teacher professional development, increasing attention has been paid to teacher professional development in China in recent years. The reform calls upon teachers to "transform the classroom experience by putting students at the center of learning, using praise and encouragement to motivate students, and experimenting with new approaches to teaching" (Yiu & Adams, 2013, p. 996). In the *Outline of the national plan for medium and long-term education reform and development (2010-2020)* (Ministry of Education, 2010), teacher professional development is mentioned as one of the core tasks, which emphasized the importance of lifelong learning of teachers to meet the needs of the development in education in the country. A variety of measures, including NTPS, have been taken to promote and carry out professional development of teachers. There has been an increasing number of research projects investigating teacher professional development programs supported by new technologies, and as a

new model that transforms traditional programs, online teacher professional development has drawn attention of researchers in this field (Wang, 2008).

Research on oTPD has been around in China for about a decade. Our review of relevant literature reveals that the term "online professional development" was first mentioned in 2006. Gu (2006) introduces the design of platform that supports action learning, and Yin and He (2006) discuss the definition of online teacher professional development, its functions and primary elements. More and more scholars in China started conducting research on the online teacher professional development since 2006. In her article *Online teacher professional development (oTPD): Background, research, advantages and challenges*, Wang (2008) offers some background knowledge about online teacher professional development, provides an introduction to research on the topic, surveys potential advantages of the mode, cautions challenges that can be faced by this professional development model, and argues that online teacher professional development is a way that transfers the traditional teacher professional development model to a new model. Fu (2009) advocates oTPD by introducing its values and implementation strategies. Besides research on professional development of school teachers, there has been research on online professional development for college teachers as well (e.g., Pan, 2011). Presumably, oTPD should be utilized more widely for schools in remote areas of the country. Availability and accessibility of Internet connected computers have significantly increased in these areas in recent years, which can help to overcome difficulties caused by geographic barriers. However, more research has to be conducted on the online teacher professional development for teachers in rural schools, especially those in remote and less developed areas.

Education in rural and remote areas in China

When talking about education in rural and remote regions in Australia, Green and Reid (2004) argue that "the children of Indigenous Australian families and children who receive their schooling in rural and remote areas, do not do as well, or even stay at school as long as those in the cities" (p. 259). This phenomenon is probably universal, or at least true in China. China has seen rapid economic development in the past few decades, but the growing social inequality and gap between urban and rural schools remains an issue that requires urgent attention. Since 2007, the state has pursued an aggressive strategy to ensure access to compulsory education in rural areas (Adams & Hannum, 2005), and carried out a number of initiatives, such as offering tuition waiver, free textbook and lodging to rural students, which "reflect a vigorous government agenda to address growing social inequality by narrowing the gap between urban and rural education" (Yiu & Adams, 2013, p. 994).

Besides different types of financial support, efforts have been made to reform curriculum that includes rewriting of all curricular materials, revision of textbooks, and investment in in-service teacher professional development to promote new classroom practices (Adams & Sargent, 2009). In their literature review regarding education in rural and remote areas, Yarrow, Ballantyne, Hansford, Herschell and Millwater (1999) suggest that in order to best prepare and support teachers who teach in rural and remote areas, it is important to have "more effective partnerships between universities, departments of education and community members and organizations" (p. 11). However, in our review of literature, we did not find much research that emphasizes such partnerships.

Research method

Research questions

The purpose of this study was to examine how participants perceived the online teacher professional development program, what were their expectations of this program, what challenges

they experienced during the program, and what suggestions did they have for the improvement of such programs. The following research questions were used to guide this study:

How do participants perceive the online professional development program?

How could the program be improved for better results?

Research context

The online teacher education program is a part of NTPS and is hosted by the National Continuous Education for Schoolteachers Network (http://www.teacher.com.cn/), a portal for a variety of online training programs. Figure 1 is a screenshot of the portal.

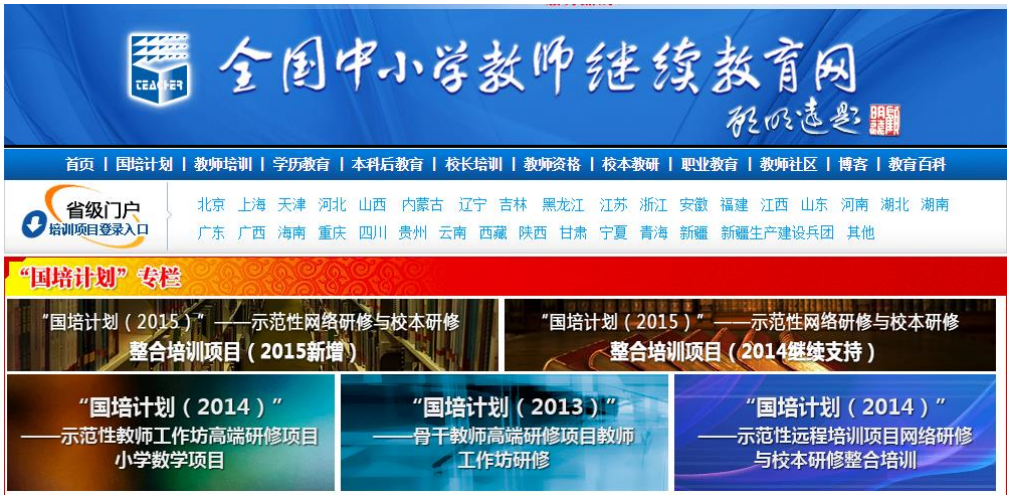

Figure 1 Screenshot - national continuous education for schoolteachers network portal

From the portal, teachers from different parts of the country can log into their accounts to access the space that is allocated to their province or district. Figure 2 is a screenshot of the homepage, where participants of this study used to log into their learning space.

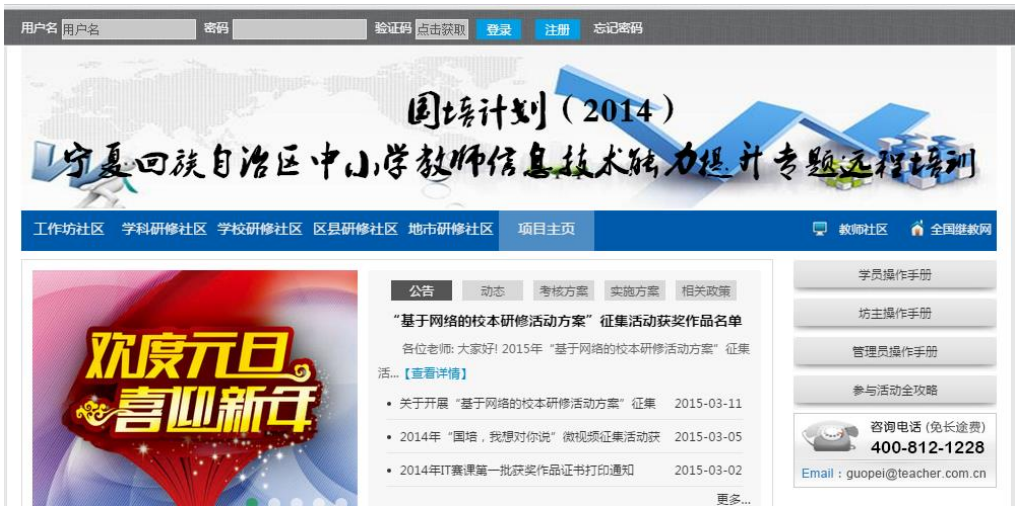

Figure 2 Login page for research participants

Research data for this study were collected from primary and secondary schoolteachers in southern Ningxia, a region that is in north-western China "with relatively high levels of illiteracy, widespread poverty and low rates of economic growth" (Yiu & Adams, 2013, p. 999). The online training program they attended was on how to use information technology (educational technology) in the classroom, and teachers who attended and completed the program could use the certificate as a partial fulfillment for their annual continuous education requirement. Video clips of experts' lectures are available for trainees to watch at their own preferred time and location, and learning spaces were set up for teachers from adjacent counties to work together as a group. Trainees were required to watch video clips, post reflections on the learning materials, respond to discussion questions, and submit their completed assignments to their tutor, who was responsible to assess their assignments. The program ran from mid-October to the end of 2014.

Research participants

A snowball sampling method was employed for data collection. A request was posted in an online group (QQ group) with the link to an online survey questionnaire, asking members of the group to forward the request and link to their friends from southern Ningxia who had participated in the online training program. Eighty (n=80) completed questionnaires were returned. The total population size is unknown. However, since the intention of this study is exploratory, we consider the data set valuable for the scope of this paper.

Findings

Demographic information of research participants

Response to questions about the demographic information of the participants indicates that the participants belonged to various age ranges with different teaching experiences. About 70% of the participants were in the age range of 21 to 30, and 25% were between 31 to 40 years old. About 75% had teaching experience of 5 years or less, and about 12% had teaching experience of 6-10 years. This data should be analyzed with caution, because this phenomenon could be interpreted as only trainees of this age group participated in the study, or schools in this area faces challenge of teacher retention. In terms of their educational background, twelve (15%) had a college diploma, sixty-six (83%) had a bachelor's degree, and one had a Master's degree. This means that the majority of teachers have a bachelor's degree, but there is still a certain percentage that has only received an education that is lower than a bachelor's degree. This can be interpreted that in-service professional development is needed for teachers of these schools, and at the same time, some teachers are expected to upgrade their education level through full-time or part-time programs. Among these participants, approximately 70% were female, which correlates with the percentage of participants who were teaching in elementary schools.

Willingness for attending the program

Participating in the online professional development program was not required of all the teachers, but as an alternative to fulfill their annual professional development requirement, and this choice was comparatively more convenient than travelling to the education bureau in the city to take an examination. One of the survey questions was designed to find out the participants' willingness for attending the program by making an indication on a scale, which showed their level of willingness before joining the program. As demonstrated in Table 1, more than half reported they were either "very much willing" or "willing", while about 20% reported they were "a little unwilling" or "very much unwilling". The rest of the participants indicated they were a little reluctant but participated without strong objections. The unwillingness could be because the participants were not interested for their professional advancement (especially those who were close to retirement age), or they were not confident that the program could provide what they really needed to improve their classroom teaching. It is also possible that, based on their previous

negative experiences of other professional development programs, they were not motivated to spend time and efforts on such programs.

Table 1
Willingness to participate in the online professional development program

Level of willingness	Number of responses	Percentage
Very much willing	28	35%
Willing	16	20%
Neither willing nor unwilling	21	26.3%
A little unwilling	13	16.3%
Very much unwilling	2	2.5%
Total	80	100%

Perceived learning

In response to the question about what they felt they learned from this online professional development program, about 32% participants indicated they were very satisfied as they felt they learned a lot, about 36% felt what they learned barely met their expectation, about 20% of them reported that overall they did not think they learned much useful stuff, and 10% of the participants indicated that they were disappointed because they did not think the program was worthwhile to attend, as they believed that what they learned was far less than what they had expected to learn in this program.

Table 2
Learning

Perceived learning	Number	Percentage
Learned a lot	26	32.5%
Not as much as expected	29	36.25%
Learned something	17	21.25%
Learned little	8	10%
Total	80	100%

In regards of what they perceived they learned, as demonstrated in Table 3, more than 40% felt they learned some new pedagogical theories, or familiarized themselves with online learning tools and methods, and about 30% felt they learned new teaching methods that could help them improve their teaching. Some participants mentioned that besides obtaining relevant content knowledge and exposure to the new educational theories, the learning experience got them familiarized with the online learning tools and methods, which they could use in their own teaching.

Table 3
Content of perceived learning

Content of perceived learning	Number	Percentage
Relevant knowledge	33	41.25%
New pedagogical theories	44	55%
Familiarization with online learning methods and tools	46	57.%
New teaching methods	34	42.5%

Learning experience

In their comments on the learning experience in the online learning environment, many research participants compared the online professional development program with those that delivered face-to-face, and mentioned advantages such as saving time and effort, freedom to choose their content they wanted. Furthermore, the learning process can be controlled freely by the trainees themselves, which creates more freedom in the communication among group members. Participants also identified disadvantages of the online model, such as the lack of authentic communication between experts and trainees, technical difficulties (including hardware, software and network connection), and frustrations they had at the beginning of the program due to their limited knowledge of this specific learning environment and lack of technical support when problems occurred. Specific themes identified include: "Interaction with experts not authentic", "Network speed was too slow", "Lack of organization", and "Operation was too complicated; Don't know how to use".

Discussion

Through the online professional development program, rural teachers get familiar with tools and methods in the online learning environment. Moreover, it raises the rural teachers' awareness of available resources, and how to locate such resources on the Internet. By attending the oTPD program, teachers of rural schools got an opportunity to gain knowledge and skills of software and hardware that could enhance their teaching. However, the infrastructure such as network speed needs to be improved for a better online learning experience. In particular, requirements of online learning platforms for hardware and network environment were incompatible and resources were not designed for teachers in rural schools. To optimize the professional development, improvements on organization should be made to have a platform that hosts integrated resources specifically useful for rural teachers, and offers a user-friendly environment in which multidimensional interactions can take place between facilitator and learners, and among learners themselves. Nowadays many teachers have access to smartphones, so programs can be developed for these teachers to enhance their professional development through mobile learning.

It should be kept in mind that oTPD cannot be achieved only through short-term training, but has to be sustainable and implemented as a long-term support for teacher professional development. Teachers who have encountered problems at any time can enter the training platform to get help, which transfers short-term online professional development into long-term learning. Instead of offering the training sessions during the semesters, when teachers are already kept busy by their heavy teaching load, they could be offered during winter and summer breaks.

A community of learning is a valuable venue for teachers' professional development, but they need to be effectively moderated so that all the participants in the learning environment feel welcome and engaged. In the online system studied, there were different spaces set up for facilitators and trainees to communicate, but there was not really any sense of community of learning created among trainees, because there were no local moderators/tutors assigned to facilitate learning in the environment except for the assessment of assignments. Local education institutions should be invited and encouraged to take part in the teachers' professional development, and as an enhancement, face-to-face or online programs should be organized in which teachers can have dialogues with experts, and their peers topics including the subject content, teaching activities, teaching experiences exchange, etc. Also, one-to-one guidance for teachers should be made available in addition to group interaction. It is believed that multidimensional interactions are appreciated, and active participation with all the parties involved can help to guarantee the all-round development of teachers' professional knowledge and skills.

Conclusion

Professional development is one effective way to update and upgrade teachers' knowledge and skills. With the availability of networked computers and other devices, oTPD can be employed for professional advancement of teachers, particularly teachers in rural and remote schools where resources are limited and opportunities for professional development scarce due to geographic distance and teachers' teaching load. However, specific considerations are needed when oTPD is offered to rural teachers so as to make sure that a quality learning experience is provided because these trainees may require assistance due to their less satisfactory infrastructure, and problems they have in their teaching practice. It cannot be assumed that a community of learning is created within an online learning environment only by setting up communication spaces. To yield the best possible results, experienced moderators and/or facilitators should be assigned for the online learning program and local educational institutions should be involved.

ACKNOWLEDGEMENT

This project was kindly supported by Ningxia Normal University 2014 Scientific Research Grant. Grant number: NXSFZD1510

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Editor's Note: This study involves the use of electronic whiteboards and SMART boards as part of a language experience approach to enhance interaction, motivation, and student engagement.

Using whiteboards to enhance literacy in dual language classrooms:
pre-service teachers' reflections on conducting a language experience approach using whiteboard technology with English language learners

Michael Whitacre, Carmen Peña and Isela Almaguer

Abstract

The purpose of this study was to analyze pre-service teachers reflections as they conducted, observed, and reflected on a Language Experience Approach (LEA) and an electronic whiteboard activity. Pre-service teachers compared student interactions and responses between a traditional LEA and extensions conducted using electronic whiteboard activities created and conducted by the pre-service teachers as part of integration and development of technology skills during field placements. The reactions of the elementary students in the field placement classroom were recorded as notes along with the participants' perceptions of the effectiveness of the lesson. The reflections were used to help participants self-assess their lesson preparation and delivery using electronic whiteboards. Participants also assessed the elementary students' understanding, interaction, and motivation during the lesson. Findings revealed that during the electronic whiteboard lesson, students were more highly engaged in the activity and had more interactions with text.

Keywords: whiteboards, SMART Board, Language Experience Approach, LEA, field observations, technology integration, elementary education, dual language, literacy, teacher education, interactive, student-centered

Introduction

The use of technology has been one of the standard components of the curriculum for decades in Texas classrooms. The most common instructional technologies and materials used in classrooms are computers, projectors, the internet, overhead projectors, televisions, videos, models and electronic whiteboards (EWB). In today's modern society, technology abounds in our everyday lives from smartphones, iPads™, iPods™, computers, to tablets. Today's generation of students is technology savvy and most have been exposed to these technologies from a very young age and are high motivated by them. More and more school districts are recognizing this and are aware of the importance that technology has on our society and are now integrating instructional technology into classrooms. One type of technology that is changing the way teachers teach and students learn is the electronic whiteboard. Electronic whiteboards can augment paper and pencil activities by allowing students to make their own discoveries through first-hand, authentic, challenging, interactive experiences (Preston & Mowbray, 2008). Whiteboards facilitate a more interactive teaching style that is more student-centered than traditional instruction using presentation software. These devices provide a range of digital resources that allow teachers to incorporate short, focused, highly interactive activities into their lessons (Preston & Mowbray, 2008).

Despite the value of whiteboards in the classroom, only 12 percent of classrooms in the United States (Davis, 2007) actually use whiteboards. Further, many educators feel as though they are being asked to use technology to teach students when they have not been fully trained on how to use such tools. Many educators felt unprepared to teach students using new technologies such as EWBs and thus are resistant to doing so (O'Hanlan, 2007). Worse yet, is the fact that students in are not allowed access to personal technology during school hours (Beeland 2002). In many

schools, students are required to "power-down" before entering school; as “80 percent of districts in the United States prohibit students from chatting online and instant messaging each other at school, and more than 60 percent prohibit blogging.” (Ward, 2008, p. 53). Students often express a desire to touch and use the technology independently but are prevented from doing so by the teacher (Beeland 2002; Solvie 2004).

Teachers need to begin viewing the technology not as a tool for learning and teaching but more as a tool for students to use rather than for the teacher to control. Viewing digital technologies as learning resources may provide a way to think about a mutually beneficial relationship between literacy and technology, and draws on contemporary literacy and play perspectives to inform pedagogy. Vygotsky’s work (1978) in particular, describes children’s use of cultural tools as conductors of learning. Literacy instruction no longer needs to be limited to written text-only. The use of electronic whiteboards allows for the sharing of reading experiences in a new way. According to Solvie (2004), this tool has the potential to excite new readers and writers and to establish more effective methods of instruction. Studies that have used interactive technology to teach emergent literacy skills have reported positive results and marked improvements in pretend “reading” and story sequencing (Hutinger, Bell, Daytner, & Johanson, 2005). Written and oral languages develop concurrently and are best learned when children have opportunities to observe and interact with others who read and write.

In her study, Solvie (2004) modeled ways in which readers can interact with written texts. She was able to project a written text or book and manipulate it interactively highlighting or writing on the touchscreen to show text features and functions. She also provided shared reading and writing experiences, such as, morning messages, graphic organizers and vocabulary activities. This allowed her to reach all students. A relationship between literacy and technology can be identified in contemporary literacy and play perspectives. Indeed, the most widely claimed advantage of whiteboards is that they motivate students because they make learning more enjoyable and interesting, which results in improved attention and behavior (Smith, Higgins, Wall, & Miller, 2005).

Methodology

During the Fall 2014 semester, 49 students enrolled in the field-based, elementary education program at the University of Texas – Pan American participated in two courses as part of their block courses: EDCI 3332: Learning, Motivation & Technology Integration in the Elementary School and READ 3323: Reading Acquisition. The program consists of four ‘blocks’ in which cohorts of students complete courses related to pedagogy and participate in 48 hours of field observations in which they conduct structured and planned activities with students in their assigned classroom. The majority of the students were Mexican American (96%), female (90%), and between the ages of 20 & 45 years old.

As part of the university coursework, participants were taught how to use the electronic whiteboards. They had an opportunity to watch the tutorial video as well as several teacher-created demonstrations of electronic whiteboard activities. Additionally, students used the SMART Board® as they rotated in groups. Pre-service teacher students were assigned to use the one of the classroom computers attached to the SMART Board to download the trial version of Smart Notes®. After downloading the software, students were given a variety of assignments to become familiar with using the software to design activities for the elementary classroom.

Participants were required to conduct a Language Experience Approach (LEA) and enrich the lesson through a SMART Board activity they had created. Participants were given a set of guiding questions to stimulate observations of elementary classroom students during SMART Board activities. As a final requirement, participants were asked to share their findings and

perceptions and reflect on the SMART Board activities and their effectiveness with the elementary students. This study analyzed the following guiding questions as part of the pre-service teachers' observations:

Describe the students' enthusiasm and involvement?

Describe your perception of student oral language level and what language students preferred to use or language they defaulted to despite the language of instruction?

What is your perception of the overall success of the LEA assignment?

Describe or explain any roadblocks, difficulties or obstacles you encountered in planning and implementing the LEA whiteboard activity?

Describe your overall perceptions of the assignment and your perception of its effectiveness?

How effective do you think your electronic whiteboard lesson was?

Which lesson do you perceive to be more effective and appealing to the students, the traditional activity, or the electronic whiteboard activity?

Data collection and analysis

The purpose of the current study was to analyze pre-service teachers' perceptions and reflections of two presentation formats. A phenomenological data analysis was used to identify common themes in the reflections. Data were collected through a three-stage process. Students were instructed to keep a journal of observations as they conducted the whiteboard enhanced LEA. Additionally; the researchers conducted classroom observations and recorded notes of the assigned activities. Lastly, informal discussions of the activities were held and notes of the discussions were recorded. Triangulation of data occurred through the analysis of observations, student reflection logs, and informal discussions. Data were analyzed to identify themes and clusters of meaning. Successful data collection and analysis in phenomenology is a systematic, three-step process. First, researchers must "bracket" their own experiences; second, they must "horizonalize" their findings, such that they list important statements and weigh them equally. Third, researchers must create "clusters of meaning" that essentially enable them to find emergent themes among the previously listed questions (Moustakas, 1994). In this step, researchers verify data through separate processes of theme clustering. Using the three-step process, researchers can examine data and identify important statements and compile a list of themes.

The records from the observations were coded, based on verbal and nonverbal behaviors of the elementary students. Participants also recorded evidence of how students responded to the activity and how effective it was in engaging students. Data were also analyzed based on the whiteboard strategies the teacher used to enhance both reading and writing skills. Pre-service teachers' reflections were analyzed and coded to identify emergent themes. Lastly, the anecdotal notes of the informal discussion were analyzed and coded to identify emergent themes. Finally, all data and themes that emerged were analyzed to create clusters of meaning.

Results

Results revealed that when a group of early childhood through 5th grade students across 49 classrooms, were introduced to a Language Experience Approach Lesson that was extended with the use of an electronic whiteboard, their enthusiasm was obvious. They engaged in dialogue and expanded their thoughts, writing and literacy learning as they participated in the lesson. The whiteboard offered many practical uses for teaching content, reviewing material, and inviting collaboration through paired social interaction and communication.

The questions that guided student observations and stimulated reflection are listed below along with actual responses from pre-service teachers' reflections. These statements are the themes that emerged as data were analyzed.

Describe the students' enthusiasm and involvement?

"Students responded positively."

"Students were engaged and enjoyed the activity."

"Students elaborated more as they dictated thus extending writing and oral language."

"PK-5 Students were able to work cooperatively."

Describe your perception of student oral language level and what language students preferred to use or language they defaulted to despite the language of instruction?

"Whiteboard allowed for interactions children had opportunities to apply oral, reading, writing and editing skills."

"Provided social interactions between PK-5 students."

"Allowed PK-5 students to connect ideas and share when normally they may not have talked."

"Facilitates their learning and literacy growth and development."

What is your perception of the overall success of the LEA assignment?

"Participants stated they would definitely use an electronic whiteboard or other available technology to enhance teaching and learning."

"Students elaborated more as they dictated thus extending writing and oral language."

Describe or explain any roadblocks, difficulties, or obstacles you encountered, when planning, or implementing the LEA or the electronic whiteboard activity. (In planning the LEA activity, a majority (94%) of participants reported not having any problems, and only (6%) reported difficulties.)

The topic chosen for the LEA was not a topic that the children were familiar with.

Ten minutes before conducting the LEA, the mentor teacher said that it needed to be content related and cover force and motion.

When planning or implementing the electronic whiteboard activity, 42% categorized themselves as having difficulty understanding the software, or not being tech savvy, or having technical issues with the hardware.

An analysis of the data revealed the following common themes.

Difficulty developing the whiteboard activity or idea

Difficulty learning to use the software

Mentor teacher did not really use the technology

Board parts were missing so it didn't work.

Lack of access to whiteboard hardware for practice

Board was not working properly

Hard to get used to using it

Table 1 shows the frequency of common statements that were taken from pre-service teachers (N=49) perceptions that occurred frequently and were the basis for themes that emerged from data analysis. Despite that a majority of participants experienced technical problems in learning how to use the electronic whiteboard software and felt that they needed more time to practice with it, in the end they all experienced a successful activity. The pre-service teachers indicated that they would definitely use the LEA and Electronic Whiteboard as a teaching activity again.

Table 1
Overall perceptions of developing activities

Perception	Number of occurrences out of all participants
Difficulty in developing or implementing the LEA	6
Using an interactive whiteboard is difficult	21
Difficulty manipulating board or missing parts	6
Difficulty developing the whiteboard activity or idea	7
No difficulty with implementing electronic whiteboard activity	3

Describe your overall perceptions of the Assignment and your perception of the activity and its effectiveness?

The most common themes were:

Students wanted to tell about their experiences

The experience allowed the students to connect on a more meaningful level

Allowed students to be creative and also socialize about a topic that was familiar to PK-5 students

Motivated PK-5 students to write and think carefully about what they are writing

They feel like it is their work not the teachers

Students were very excited to do an activity that they got to give input and create

Students were engaged and enjoyed the activity

Table 2 shows the percentage of students that were actively engaged during the traditional LEA activity despite gaps in participation. The pre-service teacher comments revealed that the overall experience was exciting for the students because student involved activities were rare occurrences in the classroom since often activities were teacher centered. Pre-service teachers were able to see the different levels of understanding and reported students responded positively.

Table 2
Percentage of students actively engaged during the traditional LEA activity

Behavior	Frequency		
	Always	Sometimes	Never
Students were focused on the LEA	88%	10%	2%
Students were actively engaged in the LEA	90%	9%	1%
Students Contributed to the LEA Activity	40%	50%	10%

How effective do you think your electronic whiteboard lesson was?

An overwhelming majority (100%) of pre-service teachers stated that the electronic whiteboard was more appealing to students and motivated them to interact. The most common themes were:

> From 1 to 10, it was a 10!
>
> Students understood what they were supposed to do and increased oral language and writing; therefore, it was an overall effective assignment
>
> The Smart Board lesson was really effective for the students, because it was a fun activity for learning

Table 3 shows the percentage of students that were actively engaged during the whiteboard enhanced LEA; comments revealed that the overall experience was exciting for the students because student-centered activities were rare occurrences in the classroom since activities were often teacher-centered.

Table 3
Percentage of students that were actively engaged during the whiteboard enhanced LEA

Behavior	Frequency		
	Always	Sometimes	Never
Students were focused on the LEA	100%	0%	0%
Students were actively engaged in the LEA	100%	0%	0%
Students contributed to the LEA Activity	100%	0%	0%
Students had access to the electronic whiteboard	100%	0%	0%
Students used the electronic whiteboard effectively	98%	2%	0%

Which lesson do you perceive to be more effective and appealing to the students, the traditional LEA activity or the electronic whiteboard activity?

Overall, 100% of the students had a positive experience using the interactive whiteboard and pre-service teachers perceived that the students learned better when using it for lessons. Pre-service teachers perceived that students pay more attention when the interactive whiteboard was used. They also reported that they enjoyed teaching with an interactive whiteboard and felt that they thought that students found lessons are more interesting when using an interactive whiteboard. The themes that emerged were:

> The interactive whiteboard is a tool that educators can use to engage students
>
> Using the LEA and Whiteboard activity consistently could definitely improve a child's literacy
>
> LEA and Whiteboard activity created ownership for PK-5 students of the outcome
>
> Provided cooperative learning opportunities for PK-5 students
>
> Provided social interactions between PK-5 students
>
> Created authentic learning opportunities for literacy through reading, writing and vocabulary development

My lesson was a success. It was really effective. By the end of the lesson they were familiar with the differences between nouns and proper nouns

Assignment allowed them to expand their vocabulary

The last theme that emerged in this study was that observed by the researchers

Tables 4 and 5 show that when the electronic whiteboard was utilized consistently, students who received literacy instruction with the electronic whiteboard displayed on-task behavior 90% of the time during a one-half hour instructional period, whereas the students who received traditional literacy instruction, without the electronic whiteboard, displayed on-task behavior 81% of the time. The particular activities that students utilized in the electronic whiteboard activity did not have opportunities for the use of language or writing. Most activities developed were game like and thus the language used was more limited and related to the activity. The electronic whiteboard activities did provide increased hands-on opportunities for students as opposed to the traditional LEA during dictation. Following the dictation component of the LEA the students were afforded time for authentic paired activities and writing extensions. While this allowed for extended on-task time, there was less enthusiasm and reduced engagement. The following data were gathered during classroom observations.

Table 4
Frequency of student on-task behavior during traditional LEA

Behavior	Frequency		
	Always	Sometimes	Never
Students were engaged	81%	10%	9%
Students elaborated more as they dictated thus extending writing and oral language	95%	9%	1%
Students were able to write on LEA Chart	10%	30%	60%

Table 5
Frequency of student on-task behavior during whiteboard LEA

Behavior	Frequency		
	Always	Sometimes	Never
Students were engaged	90%	9%	1%
Students elaborated more as they dictated thus extending writing and oral language	83%	17%	0%
Students were able to manipulate and use the whiteboard.	89%	10%	1%

Conclusion

In this study, participants were asked to use the Language Experience Approach in one of two ways. Students enrolled in READ 3323 used a traditional LEA activity during field observations while students in EDCI 3332 used whiteboard enhanced LEA. Both groups were asked to reflect on their experiences. Findings suggest that students were more engaged, active, and on task during the whiteboard based LEA activity in contrast to students who participated in an LEA that was not enhanced with the use of an electronic whiteboard. Further, students participating in the

whiteboard activity responded more positively and were more motivated than students who participated in the traditional LEA. Pre-service teachers across 49 classrooms indicated that they would use both activities the LEA and electronic whiteboards regularly for delivery of instruction, and reported that they may use it as their primary mode of instruction. Results from the interactions, time-on-task, and language use data support the use of the electronic whiteboard for helping students' literacy.

While the results of this study suggest that the Whiteboard can be an effective tool to actively engage students in a lesson and to make instruction more interactive, there are a few obstacles to overcome. Data indicated that some of the obstacles include: teacher resistance to using the whiteboard, lack of familiarity in using the whiteboard, and lack of access to whiteboards. In their reflections, participants reported that many of their cooperating teachers did not make use of manipulatives or electronic whiteboards in the classroom. Participants also indicated that many of their mentor teachers stated that they did not feel confident using electronic whiteboards as part of their lessons. Thus, there is a need for professional development for teachers (O'Hanlan, 2007) to enable them to use EWBs. Professional development is essential; effective teaching with electronic whiteboards is dependent upon teacher dexterity with the tool (O'Hanlan, 2007).

Training can help to overcome the obstacles of resistance to the technology and lack of familiarity with the technology. The lack of access to whiteboards highlights the need for all schools to have a minimum level of technology resources across all classrooms. Schools have a limited amount of funds available for technology purchases and have to be judicious in what they invest in; however, given the transformative power of whiteboards to engage students and allow teachers to teach in a more interactive manner it appears that whiteboards should be a priority when considering technology purchases.

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Editor's Note: This study shows the value of formative evaluation to identify student perceptions and needs, curriculum areas that need further development, and track progress resulting from changes in curriculum and pedagogy.

Instructional design, curricular content and students' perceptions of a new health data management course

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USA

Abstract

Student surveys were used to assess a health data course created and delivered to juniors in an undergraduate health services management program during Spring semester 2013 and Spring semester 2014. Initially, this course was created for instruction of on-campus and distance students using an exclusively online format. During the second year of delivery, a limited number of in-class sessions were taught face-to-face and subsequently recorded for online delivery, so that on-campus students were taught in a hybrid format and distance students received instruction exclusively online. The majority of the students surveyed felt adequately prepared in healthcare records management and compliance, but less prepared in coding. The vast majority of the students surveyed felt that the course provided the opportunity to build skills in how to (1) review health records to ensure that documentation in the record supports the diagnosis, (2) identify relevant standards, guidelines and conventions, and (3) employ marketable skills related to medical records documentation and administration. The students expressed a preference for coding to be taught in greater depth and with more coding exercises. Online teaching of this course was effective; however, some students preferred the course to be taught in a face-to-face setting.

Keywords: health services management, health data management, medical records, medical record administration, online learning, instructional design, distance education, coding, higher education

Introduction

The Department of Health Services and Information Management at East Carolina University has had a long history with online education. Founded in 2003, the Health Services Management (HSM) Program was initially designed as an online program because of classroom and facility constraints in the building where the department was housed. A move to a new building in 2006 facilitated program offerings in both online and face-to-face settings. Since then, the lectures for the HSM courses are typically taught in a face-to-face setting for campus students, and the class is recorded through Mediasite for the distance education (DE) students. Since 2007, the proportion of exclusively online students has ranged from approximately 33 – 50%. On-campus students are allowed to take online courses at their discretion which has resulted in a faculty experienced in the delivery of online classes and a student body that consists of exclusively face-to-face students, exclusively distance students, and students who migrate between modes of delivery.

Several factors influenced the decision to add an online health data course to the curriculum of the Health Services Management Program at East Carolina University in 2012.

The founding program in the department was a Health Information Management Program (circa 1968). Although that program was in the process of transitioning to a Masters in Health Informatics and Information Management, expertise existed in the department related to medical records management and coding.

A 2010 departmental retreat resulted in the decision to introduce four new courses into the HSM curriculum including an online course in health data management providing an orientation to medical records management, coding, and compliance. The curriculum revision placed emphasis on teaching students skills that would make them more competitive for entry into the profession.

Recorded presentations from guest lecturers, experts in the various course topic fields, are a major component of this course.

Guidelines for Undergraduate Program Criteria published by the Association of University Programs in Health Administration and since revised (2014) require two curricular content areas that are served by the health data course.

Information systems management and assessment. The curriculum of the health services management (HSM) program already had a course in health information management. This course focused on organization-wide information systems. During assessment of student learning of the capstone managerial course, program preceptors recorded a need for additional content on practical operations of health information management (HIM) in health care settings. Specifically, students needed more content on electronic health records, coding, medical records, standards, and oversight (accreditation and federal regulations for certification). During an exit survey, three graduates recommended adding this content to the curriculum. Five other students, recognizing the desirability of additional knowledge in these areas, had either inquired about obtaining additional knowledge in these content areas or applied for the BS in HIM program (second degree students). In support, a related professional association, the American College of Medical Practice Executives, has included managing medical information systems including medical records as one of the skill areas in its body of knowledge (American College of Medical Practice Executives, 2011). Finally, during the initial certification of the HSM Program in 2009, program reviewers observed that the department's origins in medical records administration placed the program in a unique position to teach this content.

Financial analysis and management. Although the review elements for this curricular content area do not address medical records management and coding, at least one contemporary finance text has recognized the connection between medical records management, coding and reimbursement (Cleverley, Song, & Cleverley, 2011).

HSM students in their senior year are required to do an internship at a health care facility. Each internship had a preceptor who supervised and gave feedback to the program director regarding the internship experience. Several preceptors over the past several years indicated that the HSM students were not knowledgeable enough about coding, compliance and standards. This deficit needed to be corrected. Our graduates need to be suitably educated, "educated in a way that improves performance in management roles" (Davies, 2006, p. 326).

Therefore, a new online course proposal, Health Data Management, was created by Dr. Elizabeth Forrestal, an HSIM full professor and previous HSIM Department Chair.

Course development

Once the course proposal was accepted, the first author along with Dr. Forrestal developed the course which was specifically aimed at three needed areas: medical records management, coding, and compliance along with other topics to give the students a foundation and understanding for the three areas. Dr. Forrestal and the first author met and worked out the details of the course. A list of topics to be covered was developed and experts in the specific areas were identified. Experts in the field were contacted, informed of the need for the new course and asked if they would record a lecture/presentation on a specific topic. Since the course mainly consisted of pre-recorded lectures from experts in the field, it was decided that the course would be taught online

for both the on-campus students and distance education students during the initial course offering during Spring semester 2013.

Various speakers were scheduled to discuss documentation practices in the venue/discipline which would then be covered in the didactic portion addressing medical records management. This would bring the real world experiences in and give students the opportunity to interact with multiple professionals. Since guest lecturers did not have to be scheduled during a face-to-face class period, the instructor had greater flexibility in speaker selection as faculty had found scheduling speakers during the day had become more challenging due to the disruption in the speaker's work schedule. Offering this course online greatly increased the flexibility of the experience and was beneficial to the student. From the instructor's perspective, the online course required faculty to rethink the way face-to-face material was to be presented to students. The experts in the field for this course's topics were working professionals; therefore, it was found that the most beneficial way (for the students and experts) was to record the experts (guest lecturers) presentations and make them available through the online course. According to the American Health Information Management Association (AHIMA), "the most effective distance education courses are those that have been redesigned to use technology and the Internet to promote learning" (Transitioning to ICD-10-CMS/PCS, 2012 in the classroom, p. 70).

The course, HSMA 3045, Health Data Management (3 credit hours) description is: Processes of health data and record keeping, compliance with record keeping standards, and diagnostic and procedural coding across the continuum of care. The course contains many topics including coding, compliance and standards. It addresses the processes of health data and record keeping, compliance with record keeping standards, and diagnostic and procedural coding across the continuum of care, and the course is required for the HSM students at East Carolina University. With the backgrounds and educational goals of the students, it seemed that the course should have a practical rather than a theoretical focus and that it should offer real world knowledge and expertise from experts in the health information/health services management field. Subsequently, experts were scheduled as guest speakers. There are three assignments in the course, one focusing on coding, one on compliance and one on medical records management.

A weekly schedule was developed with a topic for each week. After taking the dates for the midterm test and final exam along with spring break and course review, there were enough class sessions to cover the topics on the original list. The last week of the course was a "Review/Catch-up/Buffer" week and the students were also instructed to write questions on specific topics in the course about which they were confused. The questions were to include follow-up questions to specific speakers that they would have liked to have asked, but did not have an opportunity to ask. The questions were emailed to the appropriate speakers and the speakers responded accordingly.

The course schedule and syllabus directly reflected the list of topics that were developed. As prospective course instructor, the primary author searched the Web to see whether similar courses were being taught at the undergraduate level. This produced helpful information, but nothing related to a course similar to HSMA 3045, Health Data Management.

Course Schedule:

http://winmedia.ecu.edu/kennedym/Article/Health_Data_Management_Schedule.pdf

Course Syllabus

http://winmedia.ecu.edu/kennedym/Article/Health_Data_Management_Syllabus.pdf

The required textbooks for the course were:

Fahrenholz, C.G. (2011). *Documentation for medical practices*. Chicago, IL: American Health Information Management Association Press.
ISBN #: 9781584262282.

Skurka, Margaret A. (2003). *Health Information Management Principles and Organization for Health Record Services, 5th ed.*
ISBN# 978-0-470-42956-3 (e-book); 978-0-7879-5977-7 (paperback).

Because these textbooks did not cover some of the topics in depth, several supplemental articles were added to the course schedule.

Course administration

The course was first offered in the Spring Semester of 2013 with 57 students which consisted of 31 on-campus students and 26 distance education students. Student evaluations were conducted using the university's Student Perception of Teaching Survey. All the results were uniformly positive; however, the on-campus students did note that they preferred to meet periodically with the instructor for face-to-face interaction. Students liked the diversity of the topics covered in the course and the guest speakers provided the real-world expertise needed to make the course meaningful.

The course was offered again in the Spring Semester of 2014 with some minor modifications. Although the syllabus was the same, the schedule was revised to include four face-to-face classes which included an orientation to the course and coding presentations. Also, it was not a requirement but the instructor met with the face-to-face students weekly to discuss any problems or concerns with the particular week's topic and guest speaker's presentation. The Spring 2014 course had 67 students which consisted of 37 campus students and 30 distance education students.

Formal assessment of the course was initiated in May 2014.

Methodology

Population of the study

A survey was developed to solicit feedback from students taking the course in Spring semester 2013 and Spring semester 2014.

Area of study

This study was restricted to students in the new Health Data Management course.

Design of the study

Survey questions consisted of 11 close-ended survey questions and two open-ended questions. Questions are presented during the discussion of survey results in the next paragraph. The survey was vetted though the Institutional Review Board and received approval for administration as an exempt study.

Below is the introduction paragraph for Exempt survey research:

> You are being invited to participate in a **research** study titled *"*Required New Health Data Management Course*"* being conducted by Dr. Susie Harris and Dr. Michael Kennedy, faculty members at East Carolina University in the Health Services and Information Management department. The goal is to survey 122 individuals in/at East Carolina University. The survey will take approximately ten minutes to complete. It is hoped that this information will assist us to better understand the impact of the first and second years' deliveries of the Health Data Management course on the development of knowledge skills and abilities related to medical coding and management of health records. The survey is

anonymous, so please do not write your name. Your participation in the research is **voluntary**. You may choose not to answer any or all questions, and you may stop at any time. There is **no penalty for not taking part** in this research study. Please call Dr. Susie Harris at 252-744-6173 for any research related questions or the Office of Research Integrity & Compliance (ORIC) at 252-744-2914 for questions about your rights as a research participant.

Results

The first two questions of the survey address student preparation and skill building in three curricular content areas – health care records, coding, and compliance. Tables 1 and 2 provide a summary of student responses.

Table 1

Responses to Survey Question 1:
As a result of taking this course, I feel adequately prepared in the following areas

Content Area	Number Agree or Strongly Agree		Percent %	
	2013 (n = 49)	2014 (n = 48)	2013 (n = 49)	2014 (n = 48)
Health Care Records	30	38	61.2%	79.2%
Coding	20	34	40.8%	70.8%
Compliance	31	38	63.3%	79.2%

Table 1 results indicate that a higher percentage of students agreed or strongly agreed that they felt adequately prepared in health care records and compliance than coding, although improvement was noted for all three content areas during the second year. Results ranged 40.8% for coding to 63.3% for compliance in 2013, then improved to 70.8% for coding in 2014 while both health care records and compliance rose to 79.2% in 2014.

Table 2

Yes/No Responses to Survey Question 2:
Did the course provide me an opportunity to build skills in the following areas?

Content Area	Number Responding "Yes"		Percent %	
	2013 (n = 32)	2014 (n = 43)	2013 (n = 32)	2014 (n = 43)
Health Care Records	30	40	93.8%	93.0%
Coding	25	40	78.1%	93.0%
Compliance	30	41	93.8%	95.3%

Students affirmed that the course provided the opportunity to build skills in all three areas. As indicated by Table 2, both health care records and compliance received greater than 90% "Yes" responses during both 2013 and 2014. 78.1% of students agreed that the course provided the opportunity to build coding skills and this improved to 93.0% in 2014.

Table 3

Yes/No Responses to Survey Questions 3 - 11:
As a result of taking this course, I am more confident that I can:

Question	Number Responding "Yes"		Percent %	
	2013	2014	2013	2014

3. Review health records to ensure that documentation in the record supports the diagnosis.	47 of 51	44 of 49	92.2%	89.8%
4. Review health records to ensure that documentation in the record reflects the clinical progress, clinical findings, and discharge status.	45 of 51	48 of 50	88.2%	96.0%
5. Identify relevant standards, guidelines, and conventions (setting, purpose, and document) related to medical records.	47 of 51	48 of 50	92.2%	96.0%
6. Trace the process of record keeping for compliance with standards (Joint Commission and Medicare Conditions of Participation) and conventions of good practice.	41 of 50	45 of 50	82.0%	90.0%
7. Identify coding resources, recognize types of codes, and evaluate the expertise needed to accurately code.	40 of 51	42 of 50	78.4%	84.0%
8. Recognize the relationship between compliant clinical data required and systems of accreditation and reimbursement in the health care delivery system.	39 of 50	41 of 48	78.0%	85.4%
9. Use the terminology of record keeping, standards, and coding.	41 of 50	45 of 50	82.0%	90.0%
10. Employ marketable skills related to medical records documentation and administration.	45 of 49	46 of 50	91.8%	92.0%
11. Employ marketable skills related to medical coding.	32 of 49	41 of 49	65.3%	83.7%

Table 3 records the assessment of student confidence to perform specific tasks. During 2013, the greatest percentage of students expressed confidence in performing the following tasks:

Review health records to ensure that documentation in the record supports the diagnosis. 92.2% responded "Yes."

Identify relevant standards, guidelines, and conventions (setting, purpose, and document) related to medical records. 92.2% responded "Yes."

Employ marketable skills related to medical records documentation and administration. 91.8% responded "Yes."

During 2014, the greatest percentage of students expressed confidence in performing the following tasks:

Review health records to ensure that documentation in the record reflects the clinical progress, clinical findings, and discharge status. 96.0% responded "Yes."

Identify relevant standards, guidelines, and conventions (setting, purpose, and document) related to medical records. 96.0% responded "Yes."

Employ marketable skills related to medical records documentation and administration. 92.0%% responded "Yes."

In contrast Table 3 illustrates that a lower percentage of students expressed confidence related to performing coding-related tasks.

Identify coding resources, recognize types of codes, and evaluate the expertise needed to accurately code. 78.4% responded "Yes" in 2013 and 84.0% responded "Yes" in 2014.

Employ marketable skills related to medical coding. 65.3% responded "Yes" in 2013, but this improved to 83.7% who responded "Yes" in 2014.

The final two close-ended survey questions addressed concepts related to course delivery.

Table 4

Yes/No Responses to Survey Questions 12 – 13.

Question	Number Responding "Yes"		Percent %	
	2013	2014	2013	2014
12. Communication of the concepts of this course was facilitated by online delivery.	42 of 50	50 of 50	84.0%	100.0%
13. Use of guest lecturers facilitated the communication of up-to-date standards of practice.	42 of 51	47 of 50	82.4%	94.0%

The statement "Communication of the concepts of this course was facilitated by online delivery" received an 84.0% response of "Yes" in 2013. The next year, 100% of the students provided an affirmative response.

The statement "Use of guest lecturers facilitated the communication of up-to-date standards of practice" garnered an 82.4% response of "Yes" in 2013 and a 94.0% response of "Yes" in 2014.

Responses to the open-ended survey questions generally confirmed student responses to the close-ended questions. Open-ended responses were reviewed for recurring themes in response to the question, "What were two significant things that you learned from this course?" Tables 5 and 6 provide a count and percentage of response themes.

Table 5

2013 Responses to Survey Question 14:
What were two significant things that you learned from this course?

Response Themes	Count	Percent %
Coding	19	44.2%
Health Records	8	18.6%
Compliance	6	14.0%
Billing	4	9.3%
Data Management	1	2.3%
Documentation	1	2.3%
Government Entities	1	2.3%
Management Skills	1	2.3%
Modeling	1	2.3%
Quality	1	2.3%

Out of 43 thematic responses in 2013, 19 identified significant learning associated with coding (44.2%), 8 cited health records (18.6%), and 6 cited compliance (14.0%)

Table 6

2014 Responses to Survey Question 14:
What were two significant things that you learned from this course?

Response Themes	Count	Percent %
Coding	44	55.0%
Health Records	9	11.3%
Compliance	9	11.3%
Electronic Medical Records	4	5.0%
Accreditation	4	5.0%
Healthcare Systems	3	3.8%
Administration	2	2.5%
Billing	1	1.3%
Computerized Physician Order Entry	1	1.3%
Data	1	1.3%
Filing Systems	1	1.3%
Payment Types	1	1.3%

The same three themes were identified as significant learning opportunities during 2014. Out of 80 thematic responses in 2014, 44 addressed significant learning associated with coding (55.0%), and 9 each identified health records (11.3%) and compliance (11.3%)

The second open-ended question asked, "How might the course experience be improved?" Fewer responses were received and fewer themes identified.

Table 7
2013 Responses to Survey Question 15: How might the course experience be improved?

Response Themes	Count	Percent %
Face-to-Face Delivery	8	32.0%
Increase Coding	7	28.0%
More Hands On	3	12.0%
No Changes	3	12.0%
Add Content	1	4.0%
Cover the Basics	1	4.0%
Less Use of Specific Software	1	4.0%
Spread the Class Out	1	4.0%

Table 8
2014 Responses to Survey Question 15: How might the course experience be improved?

Response Themes	Count	Percent %
No Changes	12	35.3%
Face-to-Face Delivery	11	32.4%
Increase Coding	6	17.6%
Fewer Guest Speakers/Videos	2	5.9%
Classroom Management	1	2.9%
More Real-Life Applications	1	2.9%
Online Delivery	1	2.9%

The response theme, Face-to-Face Delivery, was identified 8 times in 2013, the highest percentage at 32.0%. The response theme, No Changes, was identified 12 times in 2014, the highest percentage at 35.3%, followed by Face-to-Face Delivery with a count of 11 (32.4%). A high percentage of students had indicated that communication of the course concepts was facilitated by online delivery in response to survey question 12. Why was a theme supporting face-to-face delivery emerging as response to an open-ended question? The reason for this is because the students who had registered for the campus section, face-to-face, section of the course were anticipating face-to-face classes even though the course was clearly indicated as an online course. The on-campus and distance sections of the 2013 course contained 31 on-campus and 26 distance students, respectively. The face-to-face and distance sections of the 2014 course contained 37 on-campus and 30 distance students, respectively. During both years, the sections were merged on Blackboard and taught as an online course. The instructor met four times with the students in the campus section of the course, and these sessions were recorded and placed on

Blackboard for online viewing. As many of the subject matter experts who supplemented class lectures were unable to record during the scheduled class delivery time, lecture and subject matter expert recordings frequently occurred outside of class and were posted asynchronously.

Student comments associated with coding appears to reinforce the results of close-ended questioning. Students felt the course provided the opportunities to build skills in coding as reflected by answers to question 2: 78.1% responded "Yes" in 2013 and 93.0% responded "Yes" in 2014. However, the response to question 1 indicated that fewer agreed or strongly agreed that they had been adequately prepared in coding: 40.8% agreed or strongly agreed in 2013; 70.8% agreed or strongly agreed in 2014. Comment to the Coding theme revealed the desire of many students to gain more substantial knowledge about coding. "More coding experience to enhance our toolkit because coding deals with reimbursement" (2013 student). "More coding exercises for a grade" (2013 student). "To improve this course, we can have more hands-on activities to do with coding" (2014 student). "Coding seems a little intimidating. Maybe having some sort of activity to get students more familiar with coding" (2014 student).

Conclusions

The majority of the students surveyed felt adequately prepared in healthcare records management and compliance, but less prepared in coding. The vast majority of the students surveyed felt that the course provided the opportunity to build skills in how to (1) review health records to ensure that documentation in the record supports the diagnosis, (2) identify relevant standards, guidelines and conventions (setting purpose, and document) related to medical records, and (3) employ marketable skills related to medical records documentation and administration. The students would like more coding taught in the class and more coding exercises. Online teaching of this course is effective; however, some of the students indicated that they would prefer the course to be taught in a face-to-face setting. This provides a cautionary note. As many traditional, campus-based programs expand their online course offerings, programs should ensure that the needs of their face-to-face students continue to be met as new technology is brought into the classroom and content delivery formats change to meet the challenges of distance education.

Although the field of health services management encompasses disciplines and subject areas that are familiar and long standing, the field is in a changing state that allows health administration professionals to contribute to the field through teaching and curriculum development in a way that may not be possible in more established educational programs. Health sciences academia may have many opportunities to influence the continuously changing health management services field. The content areas of medical records management, coding and compliance typically are not emphasized in most health services management programs, but this should change.

Discussion

In schools, curriculum is taught and consists of a set of subjects, content, concepts, program of study, materials, sequence of courses, or set of performance objectives based on a global body of knowledge. The subject content that is offered by an academic program, permits the students to acquire a set of entry-level competencies or learning outcomes at the end of the academic program. "A student learning outcome is defined by three characteristics:

1. Behavior: what the learner will be able to do
2. Condition: how the learner will do it
3. Measurable: how well the learner is able to do the task" (Gordon, 2013, p. 54)

With the recent changes in the healthcare services management profession, students need to be educated on a wide variety of functions/skills, particularly coding, documentation and how to

conduct audits. In addition, determining the appropriate people, scheduling, and preparing agendas and reports for meetings are essential tasks (Manger, 2013).
The American Health Information Management Association's (AHIMA), a leading professional organization for health information professionals, has developed a Career Map after analyzing health information management jobs and career transitions. The jobs are categorized into six job families (listed below). In the Health Data Management course, topics regarding the revenue cycle, coding and billing (which includes medical record documentation) are covered in detail.

Compliance/Risk Management

Education/Communication

Informatics/Data Analytics

IT/Infrastructure

Operations Medical Record Administration

Revenue Cycle, Coding, and Billing

The Career Map is available online at http://hicareers.com/ CareerMap (Sandefer, 2014).

Using the Career Map to investigate options allows current HIM professionals to see career paths of the future and also guide students into new career paths (Fabrizio, 2014).

Today, healthcare facilities have many departments, some of which did not exist in recent years, such as revenue integrity, clinical documentation improvement, and informatics. A healthcare industry trend is the decentralization of health information management departments in medical offices, hospitals and other healthcare systems. With technology improvements, many functions, such as information systems, billing, revenue cycle, coding, compliance, clinical documentation improvements, are located throughout a facility or off site. There are no longer boundaries to the records room (Butler, 2015). This means that health services managers may increasingly manage professionals with skill sets in those areas. Competencies for health services managers should be expanded to include more than just a passing knowledge of medical records management, coding, and compliance.

Similarly, the curricular content areas of health administration programs should incorporate medical records management, coding, and compliance. As demonstrated by this study, these topics can be taught effectively in an online format.

Implications

As governmental mandates the adoption of electronic health records (EHRs) and the ICD-10-CM/PCS coding system, health services management curriculum must progress simultaneously to stay aligned with standards of practice in the healthcare profession and also for certification. (Bates, 2014)

Additionally, the US Bureau of Labor Statistics indicate 23 percent projected growth in the need for medical and health services managers from 2012 to 2022 (much faster than the average for all occupations). Due to the aging of the large baby-boom population, people continue to be active later in life. Consequently, the healthcare industry will see an increase in the demand for healthcare services (as well as health service managers).
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