Those who give heed to instruction prosper,
and blessed are those who trust in the Lord.
Proverbs 16:20 (TNIV)

Journal of the Scholarship of Teaching and Learning for Christians in Higher Education

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SoTL_CHEd

Editorials

Reviews

Articles

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JOURNAL OF THE SCHOLARSHIP OF TEACHING AND LEARNING FOR CHRISTIANS IN HIGHER EDUCATION

An online, peer-reviewed journal

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The *Journal of the Scholarship of Teaching and Learning in Christian Higher Education (SoTL-CHEd)* is an online, refereed journal published by Oral Roberts University. *SoTL-CHEd* welcomes submissions from professors interested in the scholarship of teaching and learning. More information is available from the Journal's official website http://sotl_ched.oru.edu.

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Commitment

by Ardith Baker, General Editor

If I were asked to describe in one word, what it takes to be a great teacher in higher education, that one word would be *commitment*. Teaching requires knowledge of the subject area and the skills necessary to impart that knowledge to students. But greatness requires commitment. It takes commitment for great teachers to stay abreast of current trends in their discipline, both for the benefit of themselves and their students. It takes commitment to challenge students to learn by searching for and providing the best textbooks, assignments, tests, and other opportunities for learning. It takes commitment to step out of their comfort zone in order to enhance their technical skills and stay current with new technology and software that students utilize with ease. It takes commitment to spend hours of their own time working to get that lecture or lab just right, to read the latest book or article, to grade all those papers, or even to write for a publication. It takes commitment to scholarship in the forms of discovery, integration, application, and teaching, all of which Earnest Boyer (1997) described in his seminal work *Scholarship Reconsidered: Priorities of the Professoriate*. Great teachers are not afraid to commit to take on new challenges and opportunities.

Commitment to greatness leads to inspiration, which in turn leads to innovation. This innovation not only benefits students, but motivates our colleagues to greatness as well. Therefore, *SoTL-CHEd* is committed to providing a forum for the presentation and dissemination of the results of your commitment to education—that is, your scholarly works. This issue of *SoTL-CHEd* features scholarly works from many great teachers who desire to inspire and motivate *you* to greatness. In this issue, Chris Putman shares her innovative experiences in incorporating service learning activities into her coursework (*Serving Students through Service Learning*). Charlene Huntley shares her research on teaching pre-service teachers in the theoretical article (*Supporting Critical Reflection in Pre-service Teacher Education*). The review by Dr. Timothy D. Norton provides a glimpse of the expertise presented in the book (*The Advancement of Learning: Building the Teaching Commons*) while the review by Dr. David Hand challenges us to consider the future of teaching in an online environment (*Disrupting Class: How Disruptive Innovation Will Change the Way the World Learns*).

Are you tired of PowerPoint slides? The SoftChalk™ software review by me and honors student Lisa Sobilo provides a critique of this new instructional tool. These reviews, editorials, and article challenge you to expand your knowledge and encourage you to take another step toward becoming a great (or even greater) teacher. This is the desire of the editors and contributors of *SoTL-CHEd*. Indeed, we applaud all of your efforts. So, why not share the great things that you are doing with the rest of the Academe? There are many opportunities to publish in *SoTL-CHEd* (see the submission guidelines). We welcome your submissions as we strive for greatness together.

Reference

Boyer, E. L. (1997). *Scholarship reconsidered: Priorities of the professoriate.* San Francisco: Jossey-Bass.

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Announcement
New Editorial Board

In order to better serve the readership of this journal and the academic community in general, *SoTL-CHEd* has reorganized its editorial board beginning in January 2009, as follows:

General Editor: Dr. Timothy D. Norton

Managing Editor: Dr. Linda Gray

Book Review Editor: Dr. Kay Meyers

Software Review Editor: Dr. Dorothy Radin

Research Editors: Ardith Baker, Dr. Gweth Holzmann, Dr. Mary Lou Miller, Dr. Calvin Roso, and Dr. Ken Weed

Marketing Editors: Dr. Julie Huntley and Dr. Kay Meyers

Resource Editor: Jane Malcolm

The editors would like to thank Sally Jo Shelton for her dedicated service to *SoTL-CHEd* as resource editor and wish her well as she dedicates her time to her doctoral studies. In addition, Ardith Baker will be stepping down as general editor (also due to doctoral commitments) but will remain on the board as a research editor. The editorial board welcomes Dr. Timothy D. Norton as general editor, Jane Malcolm as resource editor, and Drs. Mary Lou Miller and Calvin Roso as research editors. The editorial board welcomes your comments, suggestions, and submissions (SoTL_CHEd@oru.edu).

Serving Students through Service Learning

by Chris Putman

Students need more than the traditional brick-and-mortar teaching methods in order to capture and sustain their enthusiasm for course material and inspire them to achieve new heights. Something different is needed for these sophisticated Generation Y and Millennial learners, and that something is *service learning*. A teaching method that combines traditional academic curriculum with community service is what service learning is all about, and this type of education through life experience is growing in popularity in higher education circles because of the richness of the learning environment. Students are provided with an opportunity to practice their newly-found skills in real life when involved in service learning projects. Students also have a vehicle through which to invest in their local community. Recently, an opportunity to use design skills in a real-world service learning application was afforded my students in their Advertising Layout and Design class.

After teaching the required advertising principles, design subject matter, and use of design software, I contacted a church that did not have what the advertising world calls *branding*, a distinctive logo and design theme that makes a product, service, or entity distinguishable from the rest. I offered the services of the students to the client in order that they might design a package for the branding and to create communication pieces. These included letterhead, business cards, newsletters, bulletins, and print ad. This would enable the client to inform their constituencies about their organization. After an initial client/student meeting, students had 30 days to create their branding components and put together a presentation. In order to emulate a real-world experience, the students worked individually to land the account, competing like they would in an advertising agency. The client (i.e., church) had the right to choose the branding they liked best or to reject all of the students' efforts. This challenged the students to take the task seriously.

At times teachers may have doubts about students' abilities and the quality of their work. What if the students did not produce the quality of work worthy of a client's review? Would I embarrass myself and the University by making big promises and delivering nothing? What if the students delivered good work but the client was hard to please? Both the clients and students would be disappointed and the experience would leave a bad taste in everyone's mouths. Even with these concerns, I knew this was a faith walk on my part. I believed this service learning branding project idea came from God, and I had to trust that I heard Him correctly and be obedient to walk it out.

During the presentation to the client, one-by-one the students came to the head of the conference table and pitched their branding ideas. The pastor and his staff sat quietly through the presentations and took notes. The client had 48 hours to take the packages to the church, meet with the decision makers, and notify me of their final choice. This decision was ceremoniously announced during the last class of the semester. This real-world experience provided each student with the life experience of producing a branding project for a nonprofit, religious organization.

For this service learning project, students attended a client interviewing session, experienced the pressure of creating an attractive product not only to please the client but also to reach the target market, and pitched their creative designs and sales strategies to the client. Students experienced dressing for business meetings and proper conduct as professionals. They

mastered the software to a higher-level of proficiency than they would have simply following step-by-step instructions in a textbook.

This project became much more meaningful having taken on a client. Only one student landed the account, but all of them had a branding project to showcase in their portfolio. With this service learning project, the students got a taste of the real world within the safety of the classroom and under the guiding hand of a caring professor. As a result, the students' creative abilities surfaced, and with that freedom came ownership of the project. Many students created extra pieces for their presentations, making each project distinguished from the others. I was pleased to see what professional quality designs students were able to create with a little guidance and feedback.

The benefit for the client/pastor was having risk-free access to more than a dozen fresh, creative minds crafting a design package tailored just for his church, which now showcases new outdoor signage sporting the student-produced logo (Figure 1).

Figure 1. The end result of the service learning project to develop a brand for a real-life client.

Although this may not always be the outcome, the real-world experience made this project a huge success for both the client and the student.

After this initial experience, would I tackle this service learning project again? Although it was chilling not having control over the outcome, I would do it again in a heartbeat. In fact, word has leaked out, and now pastors are contacting me asking to be included in the next branding project—three are on the waiting list. The project had many intrinsic benefits for me, as well. I was encouraged by my client's delight in seeing young people invest in him and the church he loves. But most of all, I was heartened by my students' growth through this experience. I watched as they mixed creativity and theory to produce professional-quality work worthy of presentation. I was tickled as they nervously approached the easel with their product, shook the hand of their client, introduced themselves, and launched into the sale of their ideas. Finally, I was encouraged upon seeing pride on their faces for the products to which they gave birth.

I encourage professors of all disciplines to step out of the classroom comfort zone. Use service learning projects to allow students an opportunity to "try on the role" for which they are training. Having a meaningful project provides these Generation Y's and Millennials with motivation to do their best work. Not only did students benefit from this project, but an

organization lacking the means to compete in the marketplace was given a tool that can reach a lost and dying world. The impact of this type of project can last an eternity.

For more information on service learning and service learning projects, go to http://www.servicelearning.org/

Chris Putman *is a journalism instructor at Oral Roberts University and has taught higher education classes in mass media, publications, news writing, advertising, public relations, layout and design, desktop publishing, and business for 13 years. She earned a B.A. in Mass Communications/Education and M.S. in College Teaching/Communications from Northeastern State University and completed some doctorate courses at Oklahoma State University. She is the adviser for the Communication Arts alumni magazine, The Communique. She may be reached at cputman@oru.edu.*

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Reviewing SoftChalk™—An Instructional Aid

by Ardith Baker and Lisa Sobilo

Introduction

These days the term "PowerPoint" is almost synonymous with the term "presentation." In fact, PowerPoint is often the first and only method students and instructors think of when there is a need to convey information to a large group. Although the creative backgrounds and text animation of Microsoft PowerPoint put on quite a show for viewers, other alternatives, such as SoftChalk™ *LessonBuilder*, offer a new level of interactivity.

SoftChalk™ *LessonBuilder* software is available for purchase at http://www.softchalk.com. *LessonBuilder* Version 4 remains the most current version of the program, and prices range from a $450 educational price (for faculty and staff of accredited institutions) to the $795 standard retail price. The full version of the product is free to try for 30 days, at which time users must enter a license code to continue to utilize the program. This license includes the use of *ScoreTracker*, a proprietary service that assists with the collection and organization of student scores that have been submitted to SoftChalk™ *Lessons* via an online account. The SoftChalk™ company can be contacted at 877.638.2425 or via email.

Description

LessonBuilder Features

The SoftChalk™ website defines *LessonBuilder* as "a powerful web lesson editor that lets you easily create engaging, interactive web lessons for your e-learning classroom." *LessonBuilder* files work with the most commonly used web browsers and are compatible with the operating systems of both Windows and Mac. The software is programmed to check for updates automatically and supports a variety of media formats, including those that follow:

- Audio: aiff, au, mid, midi, mp3, ra, ram, rmf, wav, wma
- Video: avi, mpeg, mpg, mov, wmv
- Flash: swf
- Shockwave: dcr
- Web Movie: swf

The presentations created by *LessonBuilder*, called "Lessons," represent a mixture of a Microsoft PowerPoint slideshow (sans animation) and an enhanced webpage. Users can choose to insert page breaks (Figure 1), which make each page act as a slide, or to omit page breaks and place all of the information in one long continuous page. It should be noted that the page break option can increase the size of the final file because each "page/slide" is stored as a separate webpage. If the second option is chosen, bookmarks (that is, internal links) can be placed at key points in the page to facilitate easy navigation; additionally, the instructor can add a "Table of Contents" feature, which can also be used as a navigation tool.

Figure 1. A sample of the "Page Break" option, which breaks the presentation into separate slides.

Numerous other features are available with *LessonBuilder*. "Sidebars," which resemble the bookmark feature in Microsoft Internet Explorer, also allow for easy navigation throughout supplementary files and webpages. This feature offers such options as "On This Page" (Figure 2), "Handouts," "Learn More," "More Resources," and "Text Only."

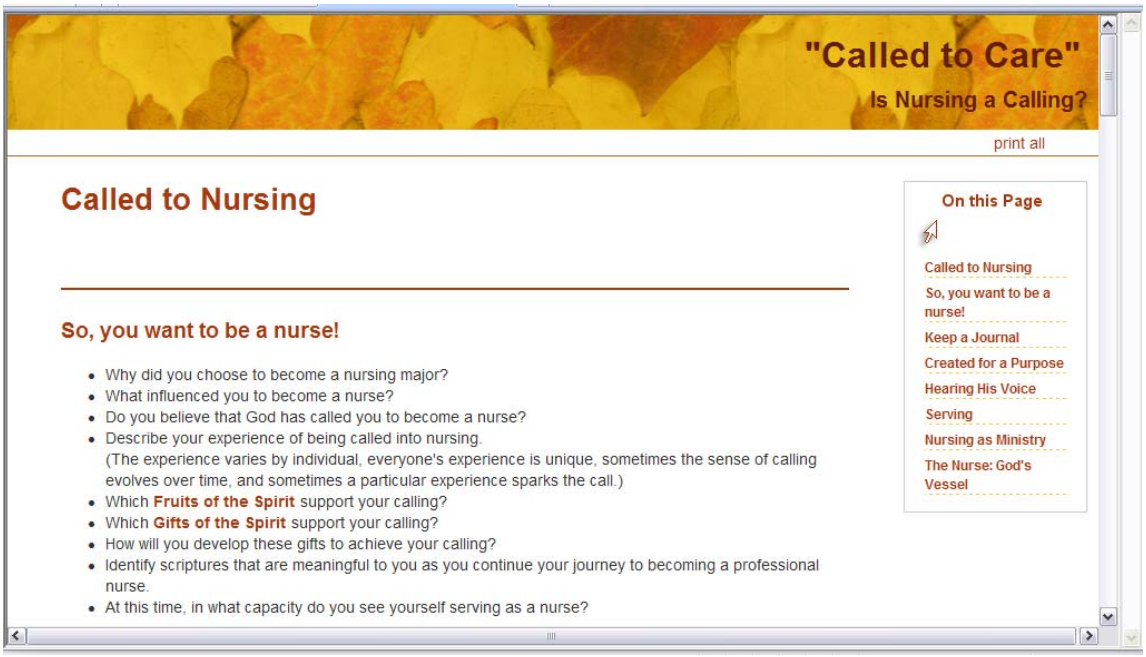

Figure 2. A sample of the feature "On This Page."

Like PowerPoint slideshows, *LessonBuilder* lessons can be enhanced by the addition of images, audio and video files, and even Youtube movies. Page displays can be customized using the "StyleBuilder" feature, which, regrettably, requires knowledge of html formatting that is by no means common knowledge to all instructors.

Instructors can ask students to demonstrate their knowledge of the material presented on each page by completing either a "QuizPopper" or an "Activity." QuizPoppers include matching exercises, ordering exercises, and true/false, multiple choice, multiple answer, and short answer questions (Figure 3). *LessonBuilder* Activities are Flash-based (thus, requiring an updated version of a Flash player installed in the user's browser) and include crosswords; flashcards; timelines; slide shows; labeling, ordering, and sorting problems; and "DragNDrop," "Hot Spot," and "Seek A Word" games. Both QuizPoppers and *LessonBuilder* Activities can be placed anywhere in the lesson and even in multiple places in the same lesson. Once students complete a quiz, they can use "ScoreTracker" to print a certificate of completion or a score summary. Instructors can also access this material and use it to email completion results to individual students.

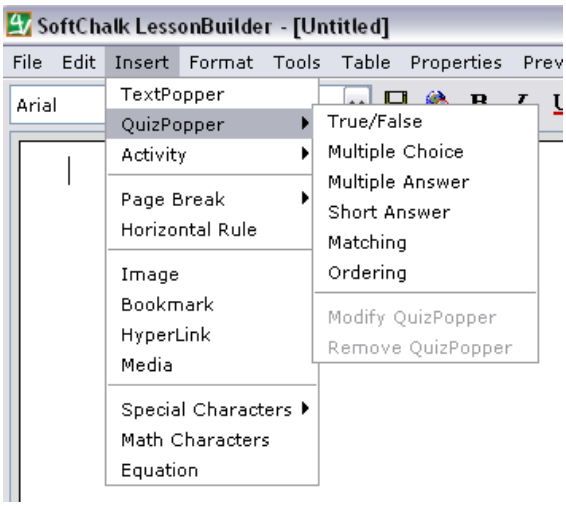

Figure 3. The pull-down menu displaying options for evaluating student knowledge.

Another standout feature in *LessonBuilder* is the opportunity to insert "TextPoppers," annotations that appear as pop-up bubbles when the cursor is placed over a highlighted word or phrase. TextPoppers (Figure 4) can be images, hyperlinks, and the aforementioned forms of media. These features are especially beneficial for individual study because they add depth and dimension to the Lesson; however, too many Text Poppers on a single page can easily become cumbersome and distracting.

LessonBuilder Training

SoftChalk ™ offers a generous variety of training options, the three most prominent being "webinars" (short live courses), online workshops, and onsite workshops. The webinars utilize web conferencing to connect users with a SoftChalk™ professional. These one-hour sessions usually consist of instruction followed by useful examples and a question-and-answer session. Online workshops are a longer and more in-depth version of the short courses, lasting three hours instead of one, and accommodating up to 30 participants web conferencing from different locations. Onsite workshops are just that—workshops conducted at a specific institution. These sessions are also three-hours long and allow for the most customization, as they are tailored to the needs and interests of the instructors of the specific institution.

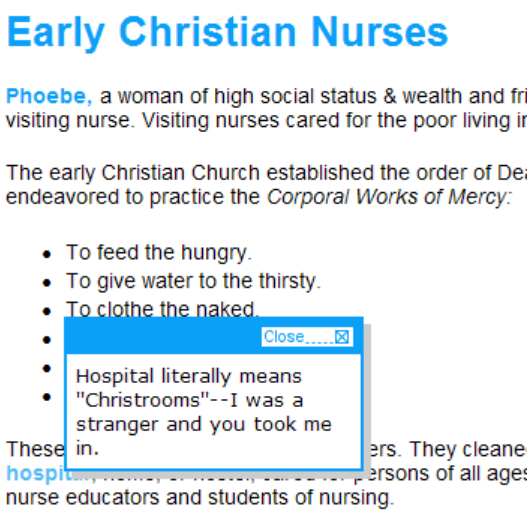

Figure 4. A sample of a TextPopper.

In addition to an impressive gamut of training options, SoftChalk™ offers email support and a comprehensive user guide. This document can be easily downloaded to an instructor's computer and referred to for step-by-step instructions for virtually all actions related to *LessonBuilder*. Myriad screenshots and large legible type enhance the explanations and offer clarity to even the most novice user.

Discussion

SoftChalk™ *LessonBuilder* offers many helpful and innovative features that make it stand out in the PowerPoint-dominated educational sphere. Each lesson provides an element of interactivity not found in similar presentation programs, which limits their display to audio and visual elements. Also, converting presentations from PowerPoint to *LessonBuilder* is relatively easy if the instructor chooses to import each PowerPoint slide as an image. With *LessonBuilder*, instructors can receive immediate feedback regarding each student's comprehension of the material by using the QuizPopper and Activity options. Students, too, can be given easy access to lessons by accessing them through the various Learning Management Systems with which SoftChalk™ is compatible, some of the foremost being Desire2Learn, Blackboard, Angel, and Moodle. Additionally, SoftChalk™ offers user-friendly support in a way only a small company can. Their support files are understandable and thorough and emails receive a response within 24 hours.

Despite its strong points, SoftChalk™ *LessonBuilder* has a few facets that, unfortunately, do not stand up to those of its competition. For example, importing slides from PowerPoint to *LessonBuilder* as images robs the slides of any former animation and background layout. Additionally, any text or graphics in the imported image cannot be edited because *LessonBuilder* reads the image as a whole picture, not the slide it formerly was. Therefore, the result may not be worth the effort. Even with imported items from PowerPoint, the stylistic aspects of *LessonBuilder* are lacking, and the User Guide frankly admits that "without a style, your *Lesson* looks similar in a web browser to the way it looks in *LessonBuilder*. There is no header or footer. There are no sidebars; there are just navigation links (previous page | next page) at the bottom of

a page." The majority of users will most likely forgo the arduous task of customizing each lesson's layout using the html-extensive StyleBuilder, and those uncomfortable with formatting webpages will find this task difficult initially. Although the user guide provides refreshingly clear instructions, Mac users find themselves with a distinct disadvantage because the myriad screenshots display the Windows version of SoftChalk™. Desire2Learn users are also at a disadvantage because grade book integration between Desire2Learn and ScoreTracker has not yet been achieved.

Recommendations

All things considered, SoftChalk™ *LessonBuilder* is best used in situations in which personal interaction is lacking, such as distance learning and online courses. In these situations the program can act as the instructor's proxy, giving additional explanations and checking student comprehension. In large group settings where an instructor is present, however, programs like Microsoft PowerPoint continue to prove stronger through the superior audio-visual elements they offer (animation features, background displays, etc.). If an instructor wants to take the time to construct dual presentations—one in PowerPoint and one in *LessonBuilder*—he or she could derive some benefit from uploading the *LessonBuilder* version to his or her institution's student-teacher interface and requiring students to review the information through the use of QuizPoppers or other *LessonBuilder* Activities. Instructors should be warned of the time-consuming nature of conversion, however.

Since the process is still far too dependent on Microsoft Office for formatting and layout, it would be advisable to start either from scratch when creating *Lessons* or simply to use SoftChalk™ for making pages of supplemental quizzes, etc., that can be placed on the instructor's Learning Management Service alongside the PowerPoint. It appears that SoftChalk™ does, in fact, live up to its self-proclaimed purpose—providing those involved in the educational process with "a powerful web lesson editor that lets instructors easily create engaging, interactive web lessons for their e-learning classrooms." Just do not tell Microsoft.

Ardith Baker *is Assistant Professor of Business at Oral Roberts University and general editor of the* Journal of the Scholarship of Teaching and Learning for Christians in Higher Education*. She has a B.S. Ed. in Biology from Pittsburg State University and a M.S. in Statistics from Oklahoma State University. She is also a doctoral student in Applied Management and Decision Sciences—Operations Research at Walden University where she is studying the application of quantitative techniques to higher education. She may be reached at abaker@oru.edu.*

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Reviewing *The Advancement of Learning: Building the Teaching Commons*

The Advancement of Learning: Building the Teaching Commons
by Mary Taylor Huber and Pat Hutchings
Jossey-Bass, San Francisco, Copyright 2005. 187 pages.
ISBN 978-0-7879-8115-0. $35.00

by Timothy D. Norton, Ed.D.

With the publication of *The Advancement of Learning Building the Teaching Commons*, Mary Taylor Huber and Pat Hutchings continue the theme of the scholarship of teaching and learning addressed in the Carnegie Foundation's previous works, *Scholarship Assessed* and *Scholarship Reconsidered*. In these first two publications, the intellectualism and scholarship of the idea of teaching and learning was introduced. With *The Advancement of Learning* a "transformation affecting all teachers" (p. 1) is presented as the vision for the scholarship of teaching and learning. This occurs in what Huber and Hutchings refer to as the "teaching commons," a "conceptual space for exchange and community among faculty, students, administrators, and all others committed to learning as an essential activity of life" (p. 1). Here the one aspect that comes forth most clearly is the need for faculty to make their previously private contributions to this scholarship become public knowledge. The commons serves as the environment for "pedagogical knowledge to circulate, deepen through debate and critique, and inform the kinds of innovation so important in higher education today" (p. 5).

Huber and Hutchings argue that the scholarship of teaching and learning is no longer an option for higher education but has become an imperative. They base this belief upon the changing framework of pedagogy and see it as having "slipped off the cloak of tradition" (p. 7). Rather than research papers, students can write for real audiences. Group and collaborative work are augmenting individual student work. Undergraduate research and service learning are being developed and recognized as legitimate academic exercises. The role of technology continues to alter the pedagogical landscape. With these ever-changing perspectives come "different kinds of assignments and assessments aimed at different purposes and outcomes" (p. 12).

With altering methods, the need for greater dissemination of both learning and teaching practices is evident. The teaching commons is the place where these ideas can be shared. In so doing, private practices become public knowledge. With the openness of ideas comes the responsibility for comment and evaluation. A presentation of knowledge that can be examined, tested, evaluated, and then applied is what Huber and Hatchings feel is the role of the teaching commons. It moves teaching and learning into the realm of scholarship as college teaching begins "to look more like other professional fields, with a literature and communities that study and advance critical aspects of practice" (p. 13).

One central focus of the book is its introduction to the work of some of the scholars of The Carnegie Academy for the Scholarship of Teaching and Learning (CASTL), founded in 1997. This academy is central to The Carnegie Foundation's continued development of the scholarship of teaching and learning. It is composed of 137 scholars who are Fellows at the advanced study center. Most have held mainstream faculty positions in various disciplines with considerable teaching and learning experiences. Huber and Hutchings feature the work examples of five of these scholars who have added to the understanding of the role of the teaching

commons in their practice of the scholarship of teaching and learning. In addition, the CASTL scholars participated in a 2004 survey designed to explore various aspects of their experiences as scholars. It questioned their motivations, satisfactions, disciplinary context, their works impact on others and on students, as its overall design was to illuminate the scholarship of teaching and learning in the "lives of professionals who embrace it" (p. 134). Both the individual stories and the collective experiences allow the reader to gain a broader and deeper conceptualization of the impact of the scholarship of teaching and learning as it comes alive within the teaching commons.

Recognizing that the scholarship of teaching and learning remains a new idea on campus, does not generally follow the institutional norm, and is not always supported and rewarded, Taylor and Hutchings ask the question: Why do college and university faculty become scholars of teaching and learning? They answer this by examining the pathways that lead faculty to this work and what communities sustain and support them.

Different points of departure are seen as individuals embrace the scholarship. Some faculty begin as their interest in teaching and learning becomes more relevant to their academic concerns over time. Some may have begun this interest in graduate school as they embark on teaching for the first time. Others may seek this type of scholarship as they realize a need for their students to learn in new and differing ways. In all of these cases, Huber and Hutchings recognize that the scholarship of teaching and learning must first start where faculty are—in their own disciplines. In this, faculty will find inspiration and direction as the disciplines "provide the first natural audience for such work, because it is in these communities that one finds colleagues facing the same educational issues" (p. 64). Additionally, as with their own disciplines, the scholars of teaching and learning must comprehend the need for interdisciplinary networks. It is here where the teaching commons' number, variety, and distinctiveness of its neighbors add to the scholarship of teaching and learning. This interdisciplinary dynamic may show itself as faculty participate in cross-disciplinary communities, journals on the scholarship of teaching and learning, and writing across the curriculum initiatives.

In both in-discipline or cross-disciplines, the authors see these approaches as examples of what they call the "campus as commons" (p. 82). This helps to move the scholarship of teaching and learning out of the area of personal enrichment into more formal and structured arrangements. Through this campus of commons can emerge the "inquiry, evidence, documentation, knowledge building, and exchange" (p. 85) that constitute "the scholarship" in teaching and learning.

The idea of scholarship is addressed as Huber and Hutchings comment on the fact that in order to call teaching and learning "scholarship," it must build "knowledge that others can use" (p. 94). They point out that that it sometimes takes on traditional forms of scholarship but also uses newer modes of knowledge production found both within and outside academe. It can be collaborative and interdisciplinary and is primarily geared toward the improvement of practice. It does not seek to separate itself into new disciplines, departments, or programs, but always seeks to improve teaching within the individual disciplines in which faculty teach. As faculty inquire and reflect on teaching and learning, they will be able to gain increased insight as they study the practices of others. This is why the authors emphasize that the individual practice must become public knowledge. It is with this recognition of practice as scholarship that "faculty often find as much to learn from the situated experience of other faculty as from studies done with methodologies designed to minimize the influence context on research results" (p. 98). It is within this idea that scholars benefit from both empirical studies and "work conducted in and

around a single classroom or course" (p. 98). The scholarship may influence not only through "methods, materials, or assessment, but also by inspiring, moving, and changing a teacher's perspective, attitude, or vision" (p. 99).

It is precisely this innovative concept of scholarship that makes this teaching and learning useful to higher education faculty. Huber and Hutchings see that this difference in the scholarship of discovery and the scholarship of teaching and learning is not an "indictment of its quality" (p. 103) but a demonstration of the unique characteristics of its quality. They refer back to *Scholarship Assessed* where the guidelines of clear goals, adequate preparation, appropriate methods, significant results, effective presentation, and reflective critique are interpreted within the realms of scholarship, both empirical and informed practice.

Creating an action agenda for the scholarship of teaching and learning, Huber and Hutchings indicate that as faculty investigate and document their work, they also want to share their insights with students. Instead of seeing students as merely "objects of investigation," they should "involve students in activities that invite questions about learning and provide a more sophisticated map of the intellectual arts" (p. 116). In this manner, faculty can invite students into the teaching commons. They further include in their book a recommendation of five areas of action: (a) to establish more and better occasions for talking about learning, (b) to include students to be part of the discussion about learning, (c) to recognize teaching as substantive, intelligent work, (d) to develop new genres and forms to document the work of teaching and learning, and (e) to build and maintain the infrastructure needed to make pedagogical work of high quality available and accessible to all.

With a desire to see the scholarship of teaching and learning move beyond the private experiences of intellectualism and into the public forum of reflection and critique, Mary Taylor Huber and Pat Hutchings see the opportunity to establish a teaching commons that will help to carry the idea of scholarship well into the 21st century. They see fostering this commons as scholars of teaching and learning ask the question, "What does it mean to for me to teach *this* text with *this* approach to *this* population of students at *this* time in *this* classroom" (Salvatori, as quoted in Huber & Hutchings, p. 127). The classroom should be a place where both teachers and students can engage in intellectual interaction that allows for a new conception of the purpose for teaching and learning. With these views of scholarship as demonstrated in the "teaching commons," Huber and Hutchings can visualize "communities of thought and practice growing up around matters pedagogical" (p. 82) as part of the fulfillment of the idea of the "campus as commons."

Dr. Timothy D. Norton *is an Associate Professor in the graduate department of the School of Education at ORU and the new general editor of the Journal of the Scholarship of Teaching and Learning for Christians in Higher Education. His teaching and research interest focus on the history and governance of higher education. He may be reached at tnorton@oru.edu.*

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Reviewing *Disrupting Class: How Disruptive Innovation Will Change the Way the World Learns.*

Disrupting Class: How Disruptive Innovation Will Change the Way the World Learns.
By Clayton M. Christensen, Michael B. Horn, and Curtis W. Johnson
McGraw-Hill: New York, Copyright 2008. 238 pages.
ISBN 978-0-07-159206-2. $32.95

by David B. Hand, Ed.D.

Every once in a while, the business world begins to use new terminology or a new word that, over a period of time, becomes the norm and defines a new way of addressing what is happening or a new way of describing a developing thought, theory, or philosophy. This happened when Thomas Kuhn first described scientific theories as *paradigms.* He then coined the phrase *paradigm shifts* to identify sudden or major changes that take place in the prevailing thinking. So today, Clayton Christensen, researcher and professor at the Harvard Business School, along with his co-authors Michael Horn and Curtis Johnson, have introduced the terms *disruptive innovation* and *disruptive change*. Christensen et al. teaches his theories of disruptive innovation—theories that explain how the real world works.

The latest book by Christensen et al. takes the concepts of disruptive innovation and disruptive change from the business world to address a major disruptive change taking place in the world of elementary and secondary school education, thus the title *Disrupting Class.* At first glance one might think this is another book about classroom management. It definitely is not. The subtitle gives the reader a clue to the topic: *How Disruptive Innovation Will Change the Way the World Learns.* The disruptive innovation and change is the rapid growth of *disruptive technology*—computers, educational software, and online, virtual teaching and learning taking place at the K-12 level. The book explains fundamental causes for why schools struggle to improve and then constructs a set of recommendations to resolve those problems through disruptive innovation causing disruptive change.

Even though this book addresses the issues of virtual learning at the elementary and secondary levels, it has ramifications for instructors and leaders in higher education. For over a decade, colleges and universities have been involved in online teaching and learning, but *Disrupting Class* indicates that online learning is now mushrooming across the nation in the K-12 programs. This is going to influence higher education as more and more young college age students will be acquainted with and knowledgeable in online learning. These upcoming students will want—and perhaps even demand—to continue to take online courses at the higher education level. In fact many states are considering doing what Michigan has already done: requiring all graduating high school students in the state to take at least one course online. The rationale for the new requirement is the understanding that all students need to be prepared for the disruptive changes in online learning that are now a major part of higher education.

Christensen et al. opens each chapter with a real world educational vignette that assists the reader in understanding students' challenges in the school environment today. The book addresses the conditions of today's schools and charges that the way we measure a school's performance is fundamentally flawed. The authors identify the causes of the educational malaise in the schools and point out that students have lost intrinsic motivation. Students learn differently and have individual needs and thus should have a customized education that matches the way

they learn and identifies their strengths and areas of multiple intelligences (MI). The authors suggest that to customize, schools need to move away from the monolithic instruction of groups of students and move toward a modular, student-centered approach that uses technology and software as an important delivery system. *Student-centric technology* involves a computer with software that can tailor itself to a student's specific type of intelligence or learning style. In contrast, *monolithic technology* employs a single instructional style for all students. Even computers that have software can be monolithic if they teach all students in the same way.

The book posits the question: Why haven't schools gone down the path of customized, technology-based instruction and learning after the public school system has spent upwards of $60 billion over the last two decades placing computers in the schools? The answer is that new technologies have been crammed into the existing school structure; instead, the disruptive technology should have been rooted in a new model and allowed to grow and change in a new paradigm of schooling—disrupting class.

To understand the dynamics of what the authors propose, the reader needs to understand the constructs defined in disruptive innovation theory. The theory explains why organizations struggle with certain kinds of innovation and how organizations can predictably succeed by implementing disruptive innovation and disruptive change. An example given in the book is to imagine a graph with the X axis representing time and the Y axis representing performance (see Figure 1).

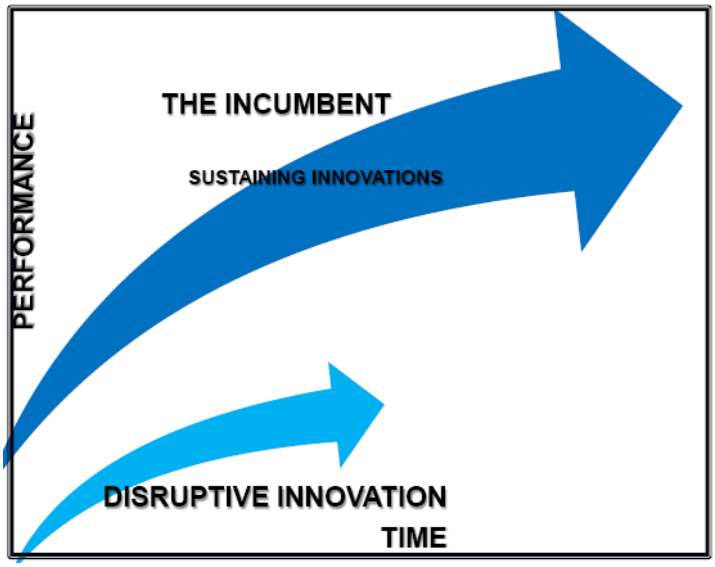

Figure 1. A model of disruptive change (adapted from Christensen et al., 2008).

In this graph, there are two trajectory lines: one representing the existing product or service (the *incumbent*) and another trajectory representing the disruptive innovation. The incumbent line shows a continuous pace of performance improvement, called the *sustaining norm*. At the same time, some distance under the incumbent line, is the line that represents the new and disruptive innovation. As the two lines continue an upward climb over time on the graph, the disruptive innovation does not overtake the traditional incumbent. However, the disruptive innovation is strong enough to shake up the incumbent to the point that the traditional

product or service must absorb the disruptive innovation to improve and remain competitive. Disruptive innovations are what the customers desire, and they desire it at a low price. By making the product or service affordable and simple to use, disruptive innovation benefits people who had been unable to use or apply the incumbent product or service. Disruptive innovations typically cause a dramatic change in the landscape of an industry. The book points out that it is important to remember that the disruptive innovation is usually absorbed by the sustaining incumbent, which then improves the product or service and causes the disruptive innovation to become the norm.

Christensen et al. provide many real-life examples of the application of disruptive innovation theory in the business world throughout the course of the past few decades. For example, personal computer manufacturers such as Compaq and Dell overthrew Digital Equipment Corporation, and large chain stores like Wal-Mart and Target have supplanted numerous department stores. Other examples include Canon disrupting Xerox and the Japanese car companies disrupting Detroit's automakers.

Once Christensen et al. have established the value of understanding the disruptive innovation theory from the business world, they take it a step further to reveal the purpose of this book: applying disruptive innovation theory to customizing student learning and changing the way the world learns by applying computer-based technologies, software, and distance education via online virtual schooling. The authors make it clear that disrupting class is and will be a positive force for improving student learning and overall schooling. Disruption will be the process by which innovation will transform the market of schooling consisting of services and processes that have become complicated and are costing the public large sums of money into one where simplicity, convenience, accessibility, and affordability will be the new characteristics of schooling and education.

The authors point out that up until now, student-centric technology in the form of computers has not had much impact on mainstream public education. However, statistics show that public education enrollments in K-12 online classes are signs of disruption as they have skyrocketed from 45,000 in 2000 to roughly a million in 2008. Disruptions share a pattern; they compete against the incumbent in a new *plane of competition*. In the case of education, that plane is technology. As technology moves from the traditional monolithic classroom to computer-based learning that has student-customized and student-centric technology, the disruptive change will become more accelerated and have a major impact on traditional public and private education.

The authors explain that the disruptive change to learning that is based more on student-centered technology is creating a new market centered on computer-based learning; in fact, this is already happening. Computer-based learning has already gotten a foothold in higher education and is now involved in the next market, K-12 education, and it is gaining at a predictable pace. Like all disruptions, it first appeared as a blip on the radar and now, seemingly out of nowhere, the mainstream of education is rapidly adopting computer-based learning. For example, the Florida Virtual School (FLVS), which began in 1997 as a pilot project for two school districts, has become so successful that it is now its own school district. By the 2006-2007 school year, FLVS was serving 52,000 students in 92,000 individual course enrollments, both in and outside of Florida. This is an indication of the incumbent market realizing the value of the disruptive innovation.

The authors identify four factors that indicate this disruptive innovation will disrupt class:

1. A computer-based learning market that will keep improving, as all successful disruptions do. In the next 10 years, the technology's share of computer-based learning is expected to grow from 5 percent to 50 percent. It will potentially become a massive market.
2. A transition driven by the ability for students, teachers, and parents to select a learning pathway through each body of material. Each pathway fits a type of learner—the transition from just a computer-based learning (same fits all), to customized student-centric technology-based learning environment where the phrase "anytime, anyplace, any path, any pace" (FLVS) becomes part of the incumbent paradigm.
3. A looming teacher shortage. While many have forecast teacher shortages before, this is now more likely to happen. Unless computer-based learning has been honed in the foothold markets described, it won't be ready for the mainstream when school districts will need the accessibility that it brings (Ingersoll, 2003).
4. The cost will fall significantly as the market scales up.

Disrupting Class ends with several challenging thoughts regarding disruptive innovation and how this theory, if applied to our current public education system, could have a profound impact on student learning. However, the authors suggest that it will take innovation with organizational structure changes in the public schools. This impact that structure has on innovation lies at the root of many of public schools' innovative disabilities. Christensen et al. close by claiming it is time to forge change in public schools and give schools the opportunity to innovate right structures and embrace disruptive innovation—it is time to disrupt class.

This book is an important read, not only for those educators involved in computer-based learning technologies and virtual online schools but also for educators in higher education. The future for K-12 online learning is made very clear, and it becomes obvious to those reading the book who are involved in higher education that the demand for even more online learning at the college level will become greater in the near future. The book is also helpful in understanding the issues involved when educators are working as *paradigm pioneers* waiting for the tipping point in virtual computer-based learning. This book is beneficial for all educators interested in improving student learning and who have become disillusioned with the current, nonresponsive school structures. The authors' message will challenge the readers' thinking and may even leave the reader to ask the question: Is it really possible that schooling could become completely virtual within our lifetime? Is it really possible that schools, colleges, or universities will not have walls?

Reference

Ingersoll, R. (2003). *Is there really a teacher shortage?* Center for the Study of Teaching and Policy and the Consortium for Policy Research in Education.

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Supporting Critical Reflection in Pre-service Teacher Education

by Charlene Huntley

Abstract

Reflection has long been identified by teacher educators as a highly-desirable characteristic for future teachers. It is considered one determiner for effective, professional practice. However, the definitions for what is meant by reflection, as well as best practices for developing and sustaining its use, have become problematic. This synthesis is a review of the various working definitions and frameworks proposed by experts and teacher education programs. Studies focused on developing and sustaining critical reflection are also reviewed. Suggestions for teaching and sustaining critical reflection in teacher education programs are made based on the reviewed studies.

Background

Reflection has been a concept long associated with the practice of teaching and learning and has been discussed throughout history in a variety of philosophical contexts for a range of purposes. As a result of Dewey's (1933) and Schon's (1987) seminal works, the concept of reflection has pervaded the educational arena with a renewed intensity. As with all reform efforts, the definitions and terminology for it have become problematic in that they have transitioned into a catch-all term for a variety of instructional practices. Harrison, Lawson, and Wortley (2005) suggest that desirable instructional practices are determined by those who include a critical element of reflection that results in the development of problem-solving skills.

Terminology used interchangeably with reflection includes *metacognition*, *critical thinking*, *critical inquiry*, and *thinking*. According to Dewey, "Reflection is an active, persistent, and careful consideration of any belief or supposed form of knowledge in light of the grounds supporting it and future conclusions to which it tends" (1933, p. 6). Schon (1987) defines reflective practice as thinking while acting and responding to uncertainty, uniqueness, and conflict in professional context. His view not only addresses teacher education, but also professional education in general (Adler, 1990).

What has been agreed upon is that it is not enough to train teachers in how to teach using effective practices; teachers must also develop attitudes and professional habits of thinking, facilitating a more thoughtful application of instructional practice. Pre-service teachers come to teacher education programs with preconceived ideas based on their experiences as students. As a result, these preconceived ideas often need to be completely adjusted or modified (Yost, Sentner, & Forlenza-Bailey, 2000; Adler, 1990). One of the outcomes of the school reform of the 1980s was the idea that change in schools can only be realized if teachers learn to frame and solve their own problems (Ross, 1987). Hatton and Smith (1994) articulated these issues well:

> There are a number of barriers which hinder the achievement of reflective approaches. These include existing preconceptions about teaching as a profession, the essential preconditions which allow student teachers to develop reflective capacities, their possible

> responses to being required to undertake reflection, and the structural and ideological program milieu within which various kinds of reflecting are being encouraged. (p. 7)

In the past 25 years several models for broadly defining reflection have emerged for the purpose of developing reflective practitioners. Using his definition of reflective practice, Schon (1987) proposed a framework incorporating all levels of reflection. It is composed of *reflection-in-action* and *reflection-on-action*." These are based on *knowing-in-action* and *knowledge-in-action*. Knowing-in-action refers to knowledge that is constructed or reconstructed from practice; it is derived primarily from experiences while under the guidance of an expert. It is context-bound and not easily reduced to guidelines and rules (Hatton & Smith, 1994; Adler, 1990). Reflection-in-action, which is considered an element of knowing-in-action, involves acting on situational context and variables by "thinking-on-the-run." In order to do this, practitioners must draw upon their personal systems of values, theories, and practices (Ross, 1987). In other words, Schon believed in practitioner-based intuition, combining art and science through reflective dialogue (Fendler, 2003; Mohlman, Sparks-Langer, & Colton, 1991).

Van Manen (1977) viewed reflection in three levels: technical, practical, and critical. At the technical level, the practitioner determines the best plan of action for a given purpose without considering additional possible consequences of the action. Technical reflection is focused on the effectiveness of a practice relative to a specific purpose. That purpose is not open to criticism or modification. The second level, practical reflection, includes examination of both the teaching practice and the goals or purposes. The third level, critical reflection, not only subsumes the previous levels, but also takes into account the social, moral, and ethical outcomes of decisions. This level of reflection considers whether professional activity is equitable and respectful of persons involved. It is the process of examining what is taken for granted and questioning its purpose and effectiveness (Mohlman, Sparks-Langer, & Colton, 1991; Hatton & Smith, 1994). Mohlman, Sparks-Langer, and Colton (1991) suggested that when pre-service teachers study ethics, morals, equity, and justice, they begin to consider the purposes for school within a given society. Hopefully this will result in scrutinizing routine practices—such as tracking, grading, and competition—tthrough a new lens. As pre-service teachers continue to reflect and question current practices, they will begin to identify and articulate their beliefs regarding the purposes for education.

Zeichner and Liston (1987) proposed reflection on three levels that they referred to as technical, situational, and ethical. The first level focuses on the technical aspect of teaching strategies to determine their effectiveness to achieve certain goals; these goals themselves are not open to criticism. The second level takes into account the situational context of the teaching interaction such as the students, physical environment, and time of day. Practitioners should be able to articulate why they made certain choices, going beyond the question of effectiveness to include thoughtful consideration for the influences teacher decisions have on individual factors contributing to context. The third level embraces moral and ethical considerations. At this level, practitioners view their roles as contributing to or failing to contribute to a humane society (Sparks-Langer, & Colton, 1991).

Hatton and Smith (1994) suggested that an approach that supports critical reflection requires a break from traditional education that focuses on good models of teaching, an emphasis on competencies and unacknowledged conflicts between institutional ideals and the actual context of schools. All of the models described break from a utilitarian view of education, which supports training teachers in efficient teaching practices. Pre-service teachers can no longer be

viewed as passive receptacles of research-supported knowledge (Sparks-Langer, & Colton, 1991). Ross (1991) expanded the concept of teaching reflection into five categories: (a) recognizing an educational dilemma, (b) responding to a dilemma by identifying similar and unique characteristics of a specific situation, (c) framing and reframing the dilemma, (d) experimenting with the dilemma to determine consequences of various solutions, and (e) considering intended and unintended consequences in order to judge whether or not they are desirable. It is this process of higher-order thinking in problem solving that is commonly referred to as "critical reflection." During this process, practitioners make sense of a challenging situation in order to identify areas needing further examination, designing goals and action plans for improvement of practice as well as considering its implications for broader moral and ethical issues. This process facilitates the understanding of professional practice (Yost, Sentner, & Forlenza-Bailey, 2000).

Sparks-Langer, Simmons, Pasch, Colton, and Starko (1990) designed the *Collaboration for the Improvement of Teacher Education* (CITE), which promotes pre-service teachers' reflective thinking with regard to curriculum, teaching methods, and social and political issues. CITE was built upon the concepts of blocked classes and structured field experiences. In order to measure students' ability to reflect on theoretical principles supporting instructional decisions and reasoning about classroom events, CITE developed the *Framework for Reflective Thinking*. This framework discriminates between seven levels of language and thinking and can be applied to both interviews and written responses.

Colton and Sparks-Langer (1993) also developed a framework for developing teacher reflection. Their framework incorporates (a) building a professional knowledge base; (b) developing an action component requiring teacher candidates to plan, implement and evaluate instruction; (c) providing opportunities to construct new meaning by interpreting reality through the lens of their professional knowledge base; (d) developing the four attributes of reflective decision-making: efficacy, flexibility, social responsibility, and metacognition; and (e) building a safe, collegial environment where relationships and dialogue can emerge.

The Problem

Through all that has been learned regarding the nature of reflection and how to develop reflective practitioners, scholars have discovered that pre-service teachers must construct meaning by participating in structured field experiences while engaging in critical dialogue in order to scaffold new understandings (Hudson, 2004). When pre-service teachers are constructing meaning and learning, reflective practice occurs (Loughran, 2002) and they are more able to conceive new perspectives and challenge old assumptions. Dyke (2006) suggests that a framework for learning helps make sense of the practice teaching experience, which again, facilitates constructing new meaning. Dyke also suggests that learning is improved by considering context and reflecting on the experiences of others.

In spite of the growing body of knowledge for developing reflection, there is cause for concern. Fendler (2003) argues against frameworks imposing a hierarchy for reflection because all layers can be considered equal. Fendler suggests that a clear description of a classroom is no less descriptive than a description based on theory. If this is the case and the tool for measuring reflection is flawed, then what is the basis for the findings in studies using this instrument? Loughran (2002) suggests that reflection is too often a created subject rather than a naturally evolving process created by learners. Simply encouraging reflection without emphasis on

examining context and ethical issues is likely to be as meaningful as a lecture on cooperative group work without the experience of participation (Loughran, 2002). As previously indicated, pre-service educators must be given opportunity and guidance from a "more expert other" in order to frame and reframe problems in specific contexts and to draw on their schemata to determine and apply solutions while at the same time evaluating the effectiveness of the solutions.

Another cause for concern is the risk for what may be misconstrued as reflective practice which, in reality, serves only to rationalize current practices. Reflection should lead to reframing dilemmas and cause a change in instructional practice. Reflection is effective when it facilitates the construction of new meaning so that attitude regarding reflection is impacted. This, in turn, makes possible the development of true wisdom-in-practice as the knowledge gained is both recognized and articulated (Loughran, 2002).

Hatton and Smith (1994) emphasized the importance of designing longitudinal studies that follow teacher candidates into their first few years of teaching for the purposes of identifying whether reflective approaches are being retained, developed, or lost. In essence, as with any educational practices, instruction often misses the mark by focusing on the tools, rather than the intended outcomes. Also, training focused on teaching techniques without considering the teaching context often has short-term effects, but lack "staying power." This propensity in educational practice raises the question for how effective reflection is supported and sustained in pre-service teachers.

Review Methods and Materials

According to Yost, Sentner, and Forlenza-Bailey (2000), two important components are essential for critical reflection to occur: structured field experiences under the guidance of a coach and a knowledge base in education that can enable pre-service teachers to connect their knowledge to their experiences. The following 10 studies were selected for review because they meet these conditions and because they focus on developing and sustaining critical reflective practices. This review reveals five over-arching themes present in these studies: (a) journal writing, (b) field experience, (c) coaching/mentoring, (d) case studies, and (e) critical inquiry using action research. Table 1 provides a list of these studies organized by the five categories or themes.

Studies of Journal Writing

Studies show that writing is used in many teacher education programs to encourage teacher-candidates to make meaning by connecting content, theory, and practice—in essence fostering reflective abilities. Writing is also a social learning tool, whereby an expert mentor leads the student along the reflection continuum (Yost, Sentner, & Forlenza-Bailey, 2000). The following three studies used journal writing as a means to improve, as well as measure, reflection.

Bain, Mills, Ballantyne, and Packer (2002) designed a six-week study involving 35 student teachers in structured journal writing. Each student received individual feedback focusing on either levels of reflection with regard to their writing or addressing teaching issues students raised. They were also divided into groups in order to systematically provide feedback that varied according to levels of questioning and challenge. Results indicated all students reported positive aspects of the support they received; however, feedback focusing on levels of

reflection was more effective for improving reflection abilities than feedback addressing teaching issues. The study concluded that feedback designed to challenge the student-teacher and support for consideration of alternative perspectives provided the most effective strategy for encouraging the use of journal writing as a tool for thinking.

Table 1
Research Studies of Critical Reflection

Study Type	Study Authors	Population	Design	Duration	Context	Measurement Instrument
Journal Writing	Bain, Mills, Ballantyne, & Packer (2002)	35	Qualitative	6 weeks	Student Teaching	Interview
	Bean & Stevens (2002)	25	Qualitative	5 weeks	Literacy Methods Course with Field Experience	Debriefing, Online Reflections
	Campoy & Radcliffe (2002)	110	Descriptive	1 semester	Assessment Course	Written Assignment
Field Experience	Castle, Fox, & O'Hanlan Souder (2006)	91 teacher-candidates	Quantitative and Qualitative	5 semesters	Professional Development School	Student Teaching Evaluation Forms & Portfolio Presentations
	Giovannelli (2003)	55	Quantitative	1 semester	Student Teaching	Surveys
	Dinkelman (1998)	3	Qualitative	1 semester	Secondary Student Teaching	Observation, Field Notes, Interviews, Written Artifacts
Coaching/ Mentoring	Walkington (2005)	240 first year primary & secondary pre-service teachers	Qualitative	1 semester	Cohort	Record of Thoughts
	Williams & Watson (2004)	12	Qualitative	1 semester	Student Teaching	Debriefing, Journal Writing
Case Studies	Makanie & Allen (2005)	81 under-graduate students	Quantitative and Qualitative	5 semesters	Student Teaching	Survey
Critical Inquiry Using Action Research	Smith & Sela (2005)	31 4th year students	Action Research/ Qualitative	1 year	Induction year (9 hours weekly)	Questionnaire

Bean and Stevens (2002) studied the online written reflections of 25 pre-service teachers. Weekly online reflections were scaffolded and challenged by the course professor in order to encourage more in-depth discourse. Findings suggest that pre-service teachers had a propensity to rely heavily on their personal belief structures and the course materials. Also, the discourse

largely served to reflect existing ideologies rather than question and challenge underlying assumptions of these notions. Analysis of online reflections reveal that most students' responses addressed local and societal discourses but made no reference to institutional or district discourse. In addition to providing explicit support in modeling reflective practice, this study suggests that scaffolding allowed students to focus their reflections (Bean and Stevens, 2002).

Campoy and Radcliffe (2002) designed a study using descriptive research to compare levels of cognitive development and reflective development of both pre-service and in-service teachers. Rather than conduct interviews, each participant was given a written assignment that was then analyzed in terms of knowledge and reflection. Findings do not reveal differences between groups with respect to how each thinks about the nature of knowledge. There does not appear to be a link between the understanding of knowledge and the years of education. The results imply that both groups would believe what they read or heard without discriminating and discerning biases and context. Most scored higher in justification and reflection than knowledge. However, the low scores for knowledge suggest there is little intellectual stimulation in schools to support higher levels of reflection and cognitive growth. The results indicate that both undergraduate and graduate students need experience in defending educational beliefs and approaches with regard to biases, perspectives and context, all of which imply critical reflection (Campoy & Radcliffe, 2002).

Studies of Field Experience

Research reveals that beliefs about teaching become the basis and rationale for pre-service teachers' instructional practices (Yost, Sentner, & Forlenza-Bailey, 2000). If these beliefs remain firm, reflective practices may be rejected by pre-service teachers, causing them to fossilize at the initial stage of reflection. These students must be exposed to situations fostering disequilibrium in order to challenge existing belief structures. Structured, supervised field experiences provide opportunity for such an occurrence. The premise for Giovannelli's study (2003) is that learning and experience must be integrated using reflection that results in the merging of theory and practice. In a study involving student teachers, Giovannelli asked field instructors to evaluate their interns' effectiveness as teachers. These data were compared to scores initially obtained by using a questionnaire designed to rate the teacher-candidates' propensity to reflect. The results suggest that the more reflective the student-teacher, the more effective the instructional practice is judged. This implies the importance of providing ample experiences in teacher education that foster development of pre-service teachers' abilities to reflect. Given some concerns suggesting that reflection may not be easily learned, these findings also support creating a balance for results of grade point average (GPA) and attention to teacher-candidates' dispositions in the admissions process (Giovanelli, 2003).

A study involving three secondary student teachers (Dinkelman, 1998) supports the notion that critical reflection can be intentionally developed through field experience and actually sustained across semesters. Factors influencing this reflection (ranked in order from most effective) included journal assignments, study participation, observation visits, peer observations, and return-to-campus seminars. Castle, Fox, and O'Hanlan Souder's study (2006) compared student teachers participating in professional development schools (PDS) and non-professional development schools (i.e., traditional pre-service education). Professional development schools were identified as those schools forming a partnership with a teacher education program in order to provide authentic contexts for teacher candidates to build an educational knowledge base grounded in experiences. Those student teachers participating in

PDS-based teacher preparation programs out-performed those in the comparison group. PDS teacher-candidates received more supervision and feedback which contributed to taking ownership of their learning and reflecting on their teaching practice. They were able to reflect and question practices at a more thoughtful level when compared with traditional teacher-candidates. Castle et al. (2006) suggest that further research is needed on whether PDS graduates produce greater student learning gains than those taught in traditional teacher education programs.

Studies of Coaching/Mentoring

Research shows that teacher education programs must begin to shift from merely providing information about teaching practices to actually transforming pre-service teachers' thinking through dialogue focused on teaching experiences (Yost, Sentner, Forlenza-Bailey, 2000). Teacher educators and mentors need to intentionally facilitate links between theory and practice and also promote problem-solving and inquiry through collaboration. Peer discussions facilitated by teacher educators promote reflection among teacher candidates (Yost, Sentner, Forlenza-Bailey, 2000).

In a study of 240 pre-service teachers, Walkington (2005) suggested that teacher education programs should use a consultative mentoring model to help teacher-candidates establish an identity with regard to teaching. This model creates the basis for responsible professionalism and critical reflection. Fostered by mentor/mentee relationships that build upon trust, the consultative mentoring model facilitates instructional activities and empowers teacher-candidates to explicitly build upon, as well as challenge, existing belief structures. The result is a teacher-candidate who will be able to fit into any context and possess the skills and confidence to make decisions that will have a significant impact. This study supports the consultative mentoring model as being more effective in the development of teacher identify than traditional supervision models (Walkington, 2005).

Williams and Watson (2004) used delayed debriefings following lesson observations as a means of facilitating deeper reflection on the part of teacher-candidates. In this study, six delayed debriefings were compared with six immediate debriefing events. The delayed debriefings also included time for structured, written journal reflections. Results suggest that a combination of both of these factors (i.e., delayed debriefings and written journal reflections) contributed to higher levels of reflective analysis when compared with immediate debriefing events.

Case Studies

Studies reveal that the uses of case studies in education are based on the assumption they provide opportunities for teacher candidates to discuss and reflect on how theory can guide practice. The hope is that teacher candidates will not only be better prepared when they actually enter the classroom, but they will also be able to critically reflect on their students' learning in order to purposefully apply solid theories to instructional practice (Malkani & Allen, 2005).

There is no question the ability to reflect can be developed through the use of case studies; however, there is question for how long this reflective practice can be sustained. Malkani and Allen's (2005) study focused on using case studies in education with the intent of determining whether this practice has "staying power." Eighty-two students, as well as their cooperating teachers and university supervisors, were surveyed regarding teacher-candidates' levels of reflection-in-practice during student teaching. The results indicate those students participating in case study discussions and reflective journal groups demonstrated greater

reflective practitioner qualities than those taught using traditional lecture. The findings also suggest promise of having lasting effects, though more research is needed to support this conclusively.

Critical Inquiry Using Action Research

The purpose for using the inquiry approach is to facilitate reflection on the pre-service teachers' behalf regarding improvement of their teaching practices (Yost, Sentner, Forlenza-Bailey, 2000). This approach also accentuates learning as a life-long process, continuing throughout one's career. In order to be critically reflective, teachers must learn the skill of inquiry in order to problem-solve. Action research fosters the concept that effective teaching is reflective inquiry (Ross, 1987).

Smith and Sela (2005) designed a study involving novice teachers in their fourth year of teacher education requiring each to design and carry out an action research study. Their findings suggest that students viewed action research as a way to scrutinize their practice in order to improve, thus achieving very practical results. Pre-service teachers also saw it as a connection between theory and practice. Just as important, a majority of students indicated their self-identity as educators was changed for the better. The action research also provided them with tools for designing questionnaires and systematic reflection. Most novice teachers valued learning the process for action research stating it would be helpful in solving future problems and increasing their academic knowledge (Smith & Sela, 2005).

Discussion

Unless teachers are thoughtful and watchful students of education, they may continue to improve with regard to the motions and mechanics of school routines, but they cannot grow as professional educators with heart to both inspire and become a director of the soul-life (Giovannelli, 2003). The 10 studies examined indicate there is no question that reflection can be taught and supported through intentional teaching practices. There is also evidence that critical reflection can be sustained for more than one semester (Malkani & Allen, 2005; Dinkelman, 1998). As noted throughout, reflection in these studies focused on higher levels of analysis and thinking, which should have greater influence on teaching practice than thinking focused on technical issues.

Several practices are identified as developing and supporting critical reflection. Journal writing and written reflections had three studies in support (Bain, Mills, Ballantyne, & Packer, 2002; Bean & Stevens, 2002, Campoy & Radcliffe, 2002). Feedback that is focused on reflective writing was proven more effective for developing reflective ability as well as encouraging the use of journal writing as a tool for thinking (Bain, Mills, Ballantyne, & Packer, 2002).

Also, students need scaffolding in order to focus their reflections. They benefit from explicit support in modeling reflective practice (Campoy & Radcliffe, 2002). Based on the coaching and mentoring studies (Walkington, 2005; Williams & Watson, 2004), teacher candidates are more likely to establish a teacher identity if taught using a consultative, mentoring model where relationships are built on trust and existing belief structures are challenged through instructional conversations. Teachers with a strong identity will be in a solid position to engage in critical reflection.

Williams and Watson (2004) note that delayed debriefings with the use of structured journal responses facilitated higher levels of reflection. The use of case studies (Malkani &

Allen, 2005) not only promotes critical reflection by providing opportunities to connect theory and practice, but they also have promise of having lasting effects, though more research is need to support this conclusively. Three studies support the use of structured field experiences. Learning and experiences must be integrated through the practice of reflection, resulting in the synthesis of theory and practice (Giovannelli, (2003). This practice will indirectly foster more effective practice. Indeed the more reflective the teacher, the more effective the practice. Also, field experiences integrated with journal assignments, study participation, observation visits, peer observations, and return-to campus seminars all contribute to greater reflective practices, with long-lasting effects (Dinkelman, 1998).

Participation in professional development schools, where the university forms a partnership with schools to provide quality teacher education, supports higher levels of reflection than traditional student-teaching field experiences (Castle, Fox, & O'Hanlan Souder, 2006). Action research has also been identified as developing reflective practice in pre-service teachers. It is proven effective for connecting theory and practice, as well as providing opportunity for developing an educational self-identity, creating a solid foundation for critical reflection (Smith & Sela, 2005).

As these studies show, pre-service teachers' reflections do not improve with mere practice because that tends to make the reflective practice merely routine. Instead; they must be put into situations where existing belief structures are challenged, with the support of a more expert other in a relationship built on trust. Teacher education programs all agree on the benefits of reflection as a quality of effective teaching; however, additional studies are needed to fill in the gaps in this body of research. Such questions might include, the impact of reflection on teaching practice, to what level reflection can be promoted, consequences of reflective teaching, long-term effects of reflective teaching, and the effects of reflection on learning.

References

Adler, S. (1990). *The reflective practitioner and the curriculum of teacher education.* Paper presented at Annual Meeting of the Association of Teacher Educators, Las Vegas, Nevada.

Bain, J., Mills, C., Ballantyne, R., & Packer, J. (2002). Developing reflection on practice through journal writing: Impacts of variations in the focus and level of feedback. *Teachers & Teaching*, *8*(2), 171–196.

Bean, T. W., & Stevens, L. P. (2002). Scaffolding reflection for preservice and inservice teachers. *Reflective Practice*, *3*(2), 205–218.

Castle, S., Fox, R. K., & O'Hanlan Souder, K. (2006). Do professional development schools (PDS) make a difference? A comparative study of PDS and non-PDS teacher candidates. *Journal of Teacher Education*, *57*(1), 65–80.

Campoy, R., & Radcliffe, R. (2002). *Reflective decision-making and cognitive development: A descriptive study comparing the reflective levels of pre-service and in-service teachers.* Paper presented at the Annual Meeting of the American Educational Research Association, New Orleans, Louisiana.

Colton, A., & Sparks-Langer, G. M. (1993). A conceptual framework to guide the development of teacher reflection and decision making. *Journal of Teacher Education*, *44*(1), 45–54.

Dewey, J. (1933). *How we think: A restatement of the relation of reflective thinking to the educative process.* New York: D.C. Heath and Company.

Dinkelman, T. (1998). *Student teaching and critical reflection: A teacher education case study.* Paper presented at the Annual Meeting of the American Educational Research Association, San Diego, California.

Dyke, M. (2006). The role of the 'other' in reflection, knowledge formation and action in a late modernity. *International Journal of Lifelong Education*, *25*(2), 105–123.

Fendler, L. (2003). Teacher reflection in a hall of mirrors: Historical influences and political reverberations. *Educational Researcher*, *32*(3), 16–25.

Giovannelli, M. (2003). Relationship between reflective disposition toward teaching and effective teaching. *Journal of Educational Research*, *96*(5), 293–319.

Harrison, J., Lawson, T., & Wortley, A. (2005). Facilitating the professional learning of new teachers through critical reflection of practice during mentoring meetings. *European Journal of Teacher Education*, *28*(3), 267–292.

Hatton, N., & Smith, S. (1995). Reflection in teacher education: Towards definition and implementation. *Teacher and Teacher Education*, *11*(1), 33–49.

Hudson, P. (2004). Specific mentoring: A theory and model for developing primary science teaching practices. *European Journal of Teacher Education*, *27*(2), 139–146.

Loughran, J. J. (2002). Effective reflective practice: In search of meaning in learning about teaching. *Journal of Teacher Education*, *53*(1), 33–43.

Malkani, J., & Allen, J. (2005). *Cases in teacher education: Beyond reflection into practice.* Paper presented at the Annual Meeting of the American Educational Research Association, Montreal, Canada.

Ross, D. (1987). Action research for preservice teachers: A description of why and how. *Peabody Journal of Education*, *64*(3), 131–150.

Ross, D. (1990). Programmatic structures for the preparation of reflective teachers. In Clift, R., Houston, W. R., and Pugach, M. D. (Eds.), *Encouraging Reflective Practice in Education* (pp. 97–118), New York: Teachers College Press.

Schon, D. A. (1987). *Educating the reflective practitioner*. San Francisco: Jossey-Bass.

Smith, K., & Sela, O. (2005). Action research as a bridge between preservice teacher education and in-service professional development for students and teacher educators. *European Journal of Teacher Education*, *28*(3), 293–310.

Sparks-Langer, G. M., & Colton, A. (1991, March). Synthesis of research on teachers' reflective thinking. *Educational Leadership*, *48*(6), 37–44.

Sparks-Langer, G. M., Simmons, J. M., Pasch, M., Colton, A., & Starko, A. (1990). Reflective pedagogical thinking: How can we promote it and measure it? *Journal of Teacher Education*, *41*(4), 23–32.

Van Manen, M. (1977). Linking ways of knowing with ways of being practical. *Curriculum Inquiry*, 6, 205–228.

Walkington, J. (2005). Becoming a teacher: Encouraging development of teacher identity through reflective practice. *Asia Pacific Journal of Teacher Education*, *33*(1), 53–64.

Williams, M., & Watson, A. (2004). Post-lesson debriefing: Delayed or immediate? An investigation of student teacher talk. *Journal of Education for Teaching*, *30*(2), 85–96.

Yost, D., Sentner, S., & Forlenza-Bailey, A. (2000). An examination of the construct of critical reflection: Implications for teacher education programming in the 21st century. *Journal of Teacher Education*, *51*(1), 39–49.

Zeichner, K. M., & Liston, D. P. (1987). Teaching student teachers to reflect. *Harvard Educational Review*, *57*(1), 23–48.

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