New Levels of Student Participatory Learning: A WikiText for the Introductory Course in Education

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Abstract

During the summer and fall of 2006, approximately 260 students enrolled in an educational foundations course were responsible for writing their own textbook using the Wikibooks protocol. These students were surveyed in order to determine their perceptions of the process, how the process impacted their involvement in the course and its content, and how their perceptions of the Wikibook differed from their perceptions of traditional textbooks. This research indicates that students valued the process, and were much more involved with their text than when using the traditional bound version.

Introduction

Stein, Stuen, Carnine, and Long (2001) estimate that "textbooks serve as the basis for 75 to 90 percent of classroom instruction" (p. 6). With such a large percentage of instruction based on these types of materials, it is important to determine if this is effective practice. Research on textbooks dealing with content as varied as mathematics, history, and marketing have shown that the information included in texts can be either incorrect or incomplete (Jacob, 2001; Hamann & Ashcroft, 1986; DeLuca, 1984; Demoss & Nicholson, 2005). Even worse, errors in textbooks have been shown to misinform students and negatively impact their learning (Uhlik, 2004; Nasser, 2004). It is because of these issues, that the authors of this paper feel that textbooks have several inherent weaknesses, and as long as we continue to depend on them as a primary source of knowledge, these issues will hinder the teaching and learning process.

One of these inherent weaknesses is that textbooks usually have a lengthy publication schedule (normally in the area of 3 years from beginning to end), and thus will inevitably include outdated information as part of the final product. Knowledge and information change at too quick a pace for this to be acceptable. Also, they are a passive medium for transmitting information. The reader takes no active role in the development of the knowledge, he or she is simply expected to read and digest that information. In addition, traditional textbooks are limited by the bound paper form. The book itself cannot include video, audio or other multimedia presentations, and although publishers have tried to minimize this issue by including CD-ROMs with their texts, these are, at best, "add-on" solutions that do nothing to improve the built in limitations of the paper form.

Each of these issues limits the teaching and learning process by placing barriers between the participants and the content. In order to counter these issues, we propose the use of Wikibooks to create an open-source textbook development process. In support of this proposal, the students enrolled in an introductory education course were asked to collaboratively write their own course textbook. The purpose of this paper is to describe the perceptions of the students who took part in this process.

Over the past couple of decades, educators have been able to supplement textbooks with other information from the Internet given the rapid development, distribution, and affordability of electronic technology. Wikibooks have taken this movement to the next level by allowing educators to not only supplement materials from a traditional text, but to develop new ways of allowing students to function as consumers of knowledge and collaborators in the development of knowledge as well (Richardson, 2006). In order to better illustrate the benefits of this process, it is necessary to explore the foundations of constructivist teaching, the dynamics of college technology training in helping students become better consumers and users of information, the changes that are occurring within the instructional setting, and emerging ideas regarding the use of Wikibooks to foster new connections between teaching and learning.

Constructivism

As the purpose of this project was to transition to a more constructivist educational environment, it is appropriate to review the theory and practice of constructivism. Windschitl (1999) says that constructivism "is premised on the belief that learners actively create, interpret, and recognize knowledge in individual ways" (p. 2). In addition, Kinchin (2004) states that if students are to develop towards meaningful learning "there needs to be a complementary transition from a traditional view to a constructivist view" (p. 303).

The question then becomes, what does a constructivist classroom involve? Windschitl (1999) explains that constructivist learning environments "should include problem-based learning, inquiry activities, dialogues with peers and teachers that encourage making sense of subject matter, exposure to multiple sources of information and opportunities for students to demonstrate their understanding in diverse ways" (p. 2). There is a good deal of pedagogical work, however, that goes into making constructivism successful in the classroom. Windschitl explains that the "teacher must not only be familiar with the principles underlying the topic of study but must also be prepared for the variety of ways these principles can be explored" (p. 3). This would indicate that preparation is key for successful incorporation of constructivist principles.

Technology Incorporation in Traditional Classroom Settings

Another topic of interest for this research is the design of effective technology instruction. Research is being undertaken to identify the fundamental components of a successful technology training program. These components continue to be access, training, and above all context (Thomas, Larson, Clift, & Levin, 1996; Pellegrino & Altman, 1997). Persichite, Caffarella, & Tharp (1999) elucidate further on the importance of effective modeling of technology. In order for technology integration to be successful for teachers, especially those with little or no experience using instructional technology, it is fundamental that students receive effective modeling.

In a recent review of the research in teaching courses online (Tallent-Runnels et al., 2006), several success factors were identified which enhanced online learning including the recommendation that online information may replace the traditional text format for students who learn well in online courses, and that problem-based learning is a practical strategy for online learning. The same review documents the large amount of teaching and study time devoted to learning new skills allowing them to be successful in a learning environment. The extensive integration of widely varied technological resources and the skills required to use them well, incorporated into the introductory course in teacher education logically enhances the potential for student performance in later professional courses and helps ensure their comfort with these technologies as practicing teachers. These discussions have helped frame the larger educational debate regarding those factors which most contribute to successful learning with technology, especially online learning.

Limitations of Traditional Technology Use in America's Pre-Service Teacher Training

Understanding the limitations of conventional university technology training and those strategies which foster both a deep contextual knowledge and one's ability to use technology effectively were explored in framing this study. While a variety of research continue to highlight the limitations and promises of technology use in pre-service teacher programs, other research highlight the critical components needed to help students learn new skills and retain and use their course content.

While institutions continue to debate the most effective and efficient programs for pre-service teacher technology training, students in pre-service programs continue to enroll in pre-service programs with little or no experience with instructional technologies. This lack of experience can lead to major misconceptions when it comes to understanding how technology can be used to reshape the teaching and learning process (Oliver, 1994). Marcinkiewicz (1994) also highlights that these misconceptions can have a major influence on the future performance of pre-service teachers when it comes to adapting technology to a classroom setting. The limited experience that students have with instructional technologies is further augmented by the fact that single, stand-alone computer courses are still a primary vehicle in many schools of education (Dugdale, 1994). Stand-alone computer courses are often effective in introducing students to individual computer programs, such as Microsoft Office, but they rarely infuse instructional uses of technology into the course requirements.

Changing Instructional Paradigms

Owens, Grant, Sayers, and Facer (2006), during a discussion of social networking software and its impact on education, state that our

> relationship with knowledge is changing, from one in which knowledge is organised in strictly classified 'disciplines' and 'subjects', to a more fluid and responsive practice which allows us to organise knowledge in ways that are significant to us at different times and in different places. At the same time, we see changes in the 'spaces' of knowledge, from its emergence within discrete institutional boundaries, to its generation in virtual and cross-institutional settings (p. 3).

This quote is indicative of the shift in the paradigm – away from teacher-centered instruction and towards a more collaborative instructional setting. Owen et al. go on to say that "the ways in which we engage with knowledge are increasingly characterized by 'multi-tasking', engaging with multiple and overlapping knowledge streams" (p. 3). This is tremendously important as it gives a diagram for how students can be utilized to help create their own learning environments.

According to Anderson (2007), wikis have been employed in numerous ways to foster this new paradigm. Ranging from student built glossaries of technical terms at the University of Arizona, to text interpretation and authoring at the State University of New York, and on to support teachers with "design for learning" at Oxford University, wikis have seen incorporation into the university-level instructional process in a widening array of institutions and contexts.

Methodology

With all of these issues in mind, the instructors of the educational foundations course at Old Dominion University altered the structure of the course in order to transform the level of student involvement. As a result, in the fall of 2006, the course incorporated the real-time development and use of a student-written WikiText as the principal textbook for the course.

Prior to the beginning of the course, instructors identified 75 topics, most of which were considered "key content" areas by typical educational foundations texts. These topics became the focus for student-written articles. Students were also given the opportunity to add topics of their own choice utilizing a series of "wildcard" content slots. Collectively, the student-authored articles became the principal textbook for the course.

The class was simultaneously presented in two different formats, as a face-to-face course with lectures and multi-media support, and as an on-line asynchronous course. The content of both courses was comparable and students in both courses contributed to the single WikiText.

During a training and orientation period, approximately 219 students were asked to select one topic (from the 75 topics) on which to write a 1,000 word article to be posted on the web and available for editing by both peers and casual website visitors. Up to three students were allowed to sign up for each topic, or, alternatively, to do their write-up on a topic of their own choosing which was not on the original list. Thirteen students chose to develop their own topics.

Their articles focused on two to five major ideas that they found relevant. They were told not to make any attempt to "cover" the topic. Student WikiText articles had to be based on five or more references, at least two from academic, peer reviewed sources, and two from popular sources. In addition, each student wrote five multiple choice questions, one essay question, and included a sidebar (interesting, often supplemental material). By week 4 of the course, the majority of the textbook had been written.

During the next 10 weeks the student WikiText was read by peers. Students were encouraged to edit freely each others' work as they read, and add comments on the discussion pages for each article. Students were divided into groups. Each group was assigned to read only one of the typically two or three versions for each topic. Therefore, about 70 students were assigned to read and rate each article. Eight to 10 articles were

assigned each week. Students were asked to rate the articles they read on a three point scale: 3 – outstanding, many useful and professionally relevant ideas; 2 – satisfactory, some learning; and 1 – an unsatisfactory article from which little was learned. At the end of the week during which the articles were assigned, student ratings were tabulated and the highest rated article for each topic was selected to become a part of the official text from which quizzes were taken.

Data Collection and Analysis

This evaluation collected data in an effort to answer three specific research questions pertaining to how students perceived and acted within the process.

- How will students perceive the Wikibook process?
- Will students be more actively involved with the format of the content than in courses using a traditional textbook?
- How will students' perceptions of the Wikitext differ from their perceptions of traditional textbooks?

In order to answer the first question, students in the course during the initial implementation were surveyed concerning their perceptions. This survey was administered to approximately 185 online and face-to-face students as part of the fall 2006 final exam. Student participation was voluntary, and confidentiality of responses was assured.

In order to compare involvement with, and perceptions of, traditional textbooks versus the Wikitext offering, surveying was conducted utilizing two cohorts of students. During the summer of 2006, approximately 40 students were enrolled in both face-to-face and online versions of the course. These students, the last cohort of course enrollees to utilize the traditional bound textbook, were surveyed concerning their utilization and perceptions of the textbook. The same survey items were asked of approximately 185 students enrolled in the face-to-face and online versions of the course during the fall 2006 semester. This was the first semester when the Wikitext was utilized in place of the traditional textbook. Chi-square analysis was performed comparing the responses from students in the two semesters.

Research Question #1: How will students perceive the Wikibook process?

As mentioned previously, each student was asked to complete a survey, as part of the final exam, on their perceptions of the course and the Wikitext process. There was no negative repercussion for not completing the survey; however, there was a 96% response rate. The relevant questions and tabulated responses are shown in Appendix A. There were several key areas that came from the analysis of these data.

Pre-course Attitude of Students. Students reported feeling high levels of worry about the Wikibook text design at the beginning of the course. More than 74% of students either agreed or strongly agreed that they worried about the Wikitext process when first introduced to the concept. This was not surprising given the largely unprecedented course design. Their willingness to express their initial concern offers additional credibility to the positive response they expressed for the Wikibook process at the end of the course.

Instructional Technology Skills. Interestingly students reported significantly higher than average levels of instructional technology proficiency as they entered the

course. As would be expected, just over 50% of students indicated that they had "about average" technology skills, however, more than 32% stated that they had either "above average" or "much above average" skills. By the end of the course, however, students reported substantial increases in their instructional technological proficiency. Nearly 70% of students indicated that their technology proficiency was higher or much higher than at the beginning of the semester.

Student Involvement. A large majority of students in the course stated that the Wikitext process caused them to become actively involved with the course learning. More than 70% of students in the course either agreed or strongly agreed with this assertion, while more than 60% stated that they were either actively or very actively involved with the content of the Wikitext.

Critical Thinking Skills. On this dimension, students reported significant improvement, indicating that they believed that the Wikibook project did a better job in this regard than would traditional textbooks. Nearly 55% of students either agreed or strongly agreed that their higher-level learning skills (such as the ability to apply, evaluate, analyze, and synthesize information) were developed more through the Wikitext process than through their interactions with traditional textbooks. In addition, 54% of the students indicated that the Wikitext process helped them develop critical thinking skills. In neither case was there a large percentage stating disagreement with these statements, rather, the majority of the remainder (approximately 30% in each case) were neutral in their response.

Application/Relevance. Overall student response to the relevance and applicability of the material was extremely positive. This was indicated both in terms of the skills gained from the course as well as the materials used in the course. More than 70% of students stated that they would apply the skills that they learned in the Wikitext process to future instructional practice, while nearly 60% stated that the relevancy of the material in the course was either higher or much higher than the material found in other courses.

Quality. This is perhaps the most surprising response. A frequent criticism of the Wiki process is concern about the quality and reliability of the material (given the democratic and largely unrefereed process through which the material is developed). While Giles (2005) found Wikipedia to be relatively comparable in accuracy to Encyclopedia Britannica, much debate lingers on this issue. In this course, a large majority of students judged the currency of the Wikitext material to be higher or much higher (nearly 80%). In addition, students viewed the quality and credibility of the material as equivalent, if not a bit higher, than that found in traditional textbooks. Nearly 50% of students stated that the material was either higher or much higher in quality than in other courses. While 46% of students indicated that the credibility of the material was "about the same" as that found in other courses, more than 35% of students indicated that it had either higher or much higher credibility.

Overall Student Experience. Overall, the students appear to be very satisfied with their experience with the Wikibook based course. Nearly 70% of students indicated satisfaction with the total learning experience and a similar percentage stated that they enjoyed the Wikibook process. More than 60% of students also indicated that they would enjoy using Wikibooks in other courses.

Research Question #2: Will students be more actively involved with the format of the content than in courses using a traditional textbook?

Similar questions were administered on the end of course survey during the semester preceding the Wikitext implementation as well. Chi-square analysis was performed comparing the responses from students in the two semesters. In order to add context to these Chi-square results, important changes in perceptions are included. See Appendix B for complete breakdowns for each question.

When asked to indicate how actively they were involved with the text, students who used the Wikibook process indicated that they were more involved than students who used the traditional textbook, χ^2 (1, N = 210) = 19.24, $p < .01$. Due to no responses in one or more categories, it was necessary to collapse across categories on this question to create a 2x2 table and perform a Yate's Correction on the Chi-Square. More than 41% of summer students indicated that they had no involvement, and 22% indicated active or very active involvement. With the Wikibook process, less than 1% said that they had no involvement, and 61% stated active or very active involvement.

Research Question #3: How will students' perceptions of the Wikitext differ from their perceptions of traditional textbooks?

Analysis showed that students who participated in the Wikibook process felt that they learned more from the textbook, χ^2 (3, N = 219) = 62.88, $p < .01$. The percentage who indicated that they learned "nothing" from reading the textbook dropped from 27.5% in the summer to less than 1% with the Wikibook, while the percent saying that they learned "a fair amount" or "a great deal" rose from 45.0% to 83.9%.

Additionally, analysis indicated that students used the Wikitext much more frequently than the traditional text, χ^2 (1, N = 218) = 17.37, $p < .01$. Due to no responses in one or more categories, it was necessary to collapse across categories on this question to create a 2x2 table and perform a Yate's Correction on the Chi-Square. During the summer, 100% of students stated that they spend 2 hours a week or less reading the textbook, with 50% saying they spent 0 hours a week reading. The percentage indicating that they spent no time each week reading the textbook dropped to 4.3% in the fall, with nearly 33% of the students indicating that they spent <u>at least</u> 3 hours a week reading the textbook. Also, a higher percentage of students stated that they used the Wikibook frequently than students in the summer had used the traditional textbook, χ^2 (3, N = 219) = 10.74, $p < .05$. The percentage of students stating that they never used the text to prepare for the course dropped from 37.5% with the traditional book to 5.3% with the Wikibook.

When asked to indicate what percentage of their learning was from the textbook and what percentage was from the lectures or other online materials, students who used the Wikibook stated that they learned a greater percentage of content from the text, χ^2 (1, N = 219) = 21.85, $p < .01$. Due to no responses in one or more categories, it was necessary to collapse across categories on this question to create a 2x2 table and perform a Yate's Correction on the Chi-Square. During the summer, 72.5% of students stated that less than 30% of their learning was from the text, with only 5% saying that more than 50% was from the text. With the Wikibook, only 18.7% of students stated that they learned less than 30% from the textbook, and 44.4% said that at least 50% of their

learning was from the text. More than 10% indicated that at least 70% of their learning came from the text.

Additional analysis indicated that students found the text to be better than their other courses' traditional textbooks, χ^2 (3, N = 208) = 22.32, p < .01. During the summer, 12.5% said the textbook was "much worse" and 47.5% said it was "better." With the Wikibook, only 1.1% said that the textbook was "much worse" and 58.8% said that it was "better." The percentage of students saying that the textbook was "much better" more than tripled from 5% in the summer to 16.6% in the fall.

Finally, students who used the Wikibook process felt that it had a greater impact on their grade, χ^2 (4, N = 216) = 44.69, p < .01. The percentage of students who indicated that they used the textbook "a lot" and their grade would be affected if it were eliminated from the course rose from 12.5% in the summer to 31% in the fall. The percent who said that the textbook was "worthless" and it would not affect their grade to eliminate it fell from 22.5% in the summer to 1.6% in the fall.

Discussion

As this WikiText experiment continues, it is important to realize that we are at the beginning of understanding how to transform educational practice to reflect the reality that every teacher must also be a learner, and every learner a teacher. The data presented in this paper strongly confirm that, even in this first semester of WikiText development, the course has been successful beyond expectations, with strong student acceptance of the value of the process and results. However, these results go beyond mere acceptance. The dramatic shifts in perceptions from the summer to the fall demonstrate that the students who wrote their own text took ownership of the content in a very proactive and compelling way. This ownership underscores the power of the process and highlights the potential that this type of activity holds for creating a student-centered, constructivist classroom. If this personal ownership can be maintained over time, not only will the student learning improve but also the quality of the product will be improved as well.

Having demonstrated that students find the Wikitext process credible and value the experience, the next step is to determine if professionals validate the student perceptions of credibility. Preliminary anecdotal evidence into this is promising.

This WikiText experiment is a major effort to integrate content, pedagogy, and technology. Each of these three course dimensions interact and support the others. Those involved in this research have long taught students that new methods of inquiry and instruction have become an integral part of the content of all courses. In addition, educational technologies, properly used and integrated, provide options not possible before. The issue has not been to build distance education courses which are "as good as" face-to-face instruction in substantial ways, or to use technology to save time or resources in face-to-face instruction, but to explore how new technologies and methodological approaches could make possible a quality of comprehensive student learning not otherwise possible. To paraphrase David Thornburgh, the key is to do different things, not just to do differently the same things we've done before (Jacobson, 2002).

From many new instructional methodologies and technologies, new definitions of content mastery are emerging. These new definitions of "mastery" are equally difficult for both teachers and students. New knowledge and new access to knowledge are cataclysmic in their implications and consequences for teaching and learning. They require new approaches to instruction only made possible by new technologies,

approaches whose benefits and drawbacks will be truly understood only after we have learned new approaches to the evaluation of the teaching and learning processes as well.

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Appendix A

Fall 2006 Survey Items (n=187)

Attitude toward WikiBook Technology at Beginning of Course:

At the beginning of the semester, I worried that the WikiBooks process would not be a successful learning tool for me:

Responses	#	%
Strongly agree	51	27.27%
Agree	88	47.06%
Neutral	22	11.76%
Disagree	17	9.09%
Strongly disagree	1	0.53%
Missing	8	4.28%

Instructional Technology Proficiency:

My instructional technology proficiency before entering this course was: (Note – "instructional technology" means the use of technology to support teaching and learning.

Responses	#	%
Much above average	16	8.56%
Above average	45	24.06%
About average	95	50.80%
Below average	20	10.70%
Much below average	3	1.60%
Missing	8	4.28%

Compared with your instructional technology proficiency at the beginning of the semester, your instructional technology proficiency now is:

Responses	#	%
Much higher than before	33	17.65%
Higher than before	97	51.87%
Unchanged	49	26.20%
Lower than before	0	0.00%
Much lower	0	0.00%
Missing	8	4.28%

Involvement:

How actively do you feel you were involved in the content of the WikiBook?

Responses	#	%
No involvement	1	0.53%
Passive involvement with the content	64	34.22%
Active involvement with the content	94	50.27%
Very active involvement with the content	20	10.70%
Missing	8	4.28%

The WikiBook process caused me to become actively involved in the course learning:

Responses	#	%
Strongly agree	46	24.60%
Agree	86	45.99%
Neutral	31	16.58%
Disagree	12	6.42%
Strongly disagree	4	2.14%
Missing	8	4.28%

I was actively involved in the content of the class WikiBook

Responses	#	%
Strongly agree	11	5.88%
Agree	71	37.97%
Neutral	70	37.43%
Disagree	25	13.37%
Strongly disagree	2	1.07%
Missing	8	4.28%

Critical Thinking:

The WikiBook process helped me develop critical thinking skills.

Responses	#	%
Strongly agree	16	8.56%
Agree	85	45.45%
Neutral	53	28.34%
Disagree	20	10.70%
Strongly disagree	5	2.67%
Missing	8	4.28%

My higher-level learning skills (such as ability to apply, evaluate, analyze, and synthesize information) were developed and improved more through the WikiBook project than by using a traditional textbook.

Responses	#	%
Strongly agree	13	6.95%
Agree	89	47.59%
Neutral	56	29.95%
Disagree	17	9.09%
Strongly disagree	3	1.60%
Missing	9	4.81%

Application/Relevance

I will apply the skills that I learned in the WikiBook process to my future professional practice as a teacher.

Responses	#	%
Strongly agree	41	21.93%
Agree	93	49.73%
Neutral	33	17.65%
Disagree	8	4.28%
Strongly disagree	2	1.07%
Missing	10	5.35%

How do you judge the relevance of the materials in this course compared with other courses?

Responses	#	%
Much higher	34	18.18%
Higher	75	40.11%
About the same	64	34.22%
Lower	5	2.67%
Much lower	1	0.53%
Missing	8	4.28%

Quality

How do you judge the currency of (how up to date) of the materials in this course compared with other courses?

Responses	#	%
Much higher	72	38.50%
Higher	78	41.71%
About the same	27	14.44%
Lower	1	0.53%
Much lower	1	0.53%
Missing	8	4.28%

How do you judge the quality of the materials in this course compared with other courses?

Responses	#	%
Much higher	14	7.49%
Higher	75	40.11%
About the same	65	34.76%
Lower	24	12.83%
Much lower	1	0.53%
Missing	8	4.28%

How do you judge the credibility of the materials in this course compared with other courses?

Responses	#	%
Much higher	17	9.09%
Higher	50	26.74%
About the same	86	45.99%
Lower	23	12.30%
Much lower	3	1.60%
Missing	8	4.28%

How does the WikiBook compare to other courses' textbooks you've used?

Responses	#	%
Much worse	2	1.07%
Worse	36	19.25%
Better	110	58.82%
Much better	31	16.58%
Missing	8	4.28%

Overall Experience with the WikiBook Process:

I am satisfied with my TOTAL LEARNING after using the WikiBook:

Responses	#	%
Strongly agree	40	21.39%
Agree	90	48.13%
Neutral	36	19.25%
Disagree	12	6.42%
Strongly disagree	1	0.53%
Missing	8	4.28%

I would enjoy using student written WikiBooks in other courses:

Responses	#	%
Strongly agree	43	22.99%
Agree	73	39.04%
Neutral	44	23.53%
Disagree	13	6.95%
Strongly disagree	6	3.21%
Missing	8	4.28%

Overall, I enjoy the WikiBook process:

Responses	#	%
Strongly agree	53	28.34%
Agree	83	44.39%
Neutral	29	15.51%
Disagree	9	4.81%
Strongly disagree	5	2.67%
Missing	8	4.28%

Appendix B

Items shared between fall and summer 2006 semesters.

Questions & Options	Summer (n = 40)	Fall (n = 187)
How often did you use to the Ryan and Cooper text (Wikibook) to help you prepare for this course?		
Very Frequently	10.0%	17.6%
Frequently	15.0%	39.0%
Sometimes	37.5%	33.7%
Never	37.5%	5.3%
No Response/Blank/Other	0.0%	4.3%
How much do you feel you have learned from reading the textbook this semester?		
Nothing	27.5%	0.5%
Very little	22.5%	11.2%
A fair amount	37.5%	62.0%
A great deal	7.5%	21.9%
No Response/Blank/Other	5.0%	4.3%
How much time did you spend reading the textbook, on average, during this course?		
0 hours a week	50%	4.3%
1 or 2 hours a week	50%	58.3%
3 or 4 hours a week	0.0%	31.0%
More than 4 hours a week	0.0%	1.6%
No Response/Blank/Other	0.0%	4.8%
In relation to your learning from the lectures/online material, how much did you learn from your interactions with the textbook?		
0% - 30% textbook, 70% - 100% lectures/online material	72.5%	18.7%
30% - 50% textbook, 50% - 70% lectures/online material	22.5%	32.6%
50% - 70% textbook, 30% - 50% lectures/online material	5.0%	33.7%
70% - 100% textbook, 0% - 30% lectures/online material	0.0%	10.7%
No Response/Blank/Other	0.0%	4.3%
How actively do you feel you were involved with the content in the textbook?		
No involvement	41.5%	0.5%
Passive involvement with the textbook content	36.6%	34.2%
Active involvement with the textbook content	22.0%	50.3%
Very active involvement with the textbook content	0%	10.7%
No Response/Blank/Other	0.0%	4.3%

How does the textbook in this course compare to other courses' textbooks you've used?		
Much worse	12.5%	1.1%
Worse	7.5%	19.3%
Better	47.5%	58.8%
Much better	5.0%	16.6%
No Response/Blank/Other	27.5%	4.3%
If this textbook were eliminated from this course, would your grade be affected?		
Yes, I used the textbook a lot.	12.5%	31.0%
Maybe, if a better text were selected.	7.5%	29.4%
No, the textbook was useless.	22.5%	1.6%
No, my performance in this class was affected by other factors.	35.0%	15.0%
I cannot say or prefer not to answer.	17.5%	18.2%
No Response/Blank/Other	5.0%	4.8%