Spring 2017

The Effects of Provided PowerPoint Presentations on Student Perceptions of Personal Responsibility

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THE EFFECTS OF PROVIDED POWERPOINT PRESENTATIONS ON STUDENT PERCEPTIONS OF PERSONAL RESPONSIBILITY

A Thesis
Presented to
The Faculty of the Department of Psychology
Western Kentucky University
Bowling Green, Kentucky

In Partial Fulfillment
Of the Requirements for the Degree
Master of Arts

By
Sarah Elizabeth Mannon Cravero
May 2017
THE EFFECTS OF PROVIDED POWERPOINT PRESENTATIONS ON STUDENT PERCEPTIONS OF PERSONAL RESPONSIBILITY

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THE EFFECTS OF PROVIDED POWERPOINT PRESENTATIONS ON STUDENT PERCEPTIONS OF PERSONAL RESPONSIBILITY

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May 2017

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Psychologists have examined the effects of numerous variables on classroom performance, but little research exists to demonstrate how specific teaching techniques, specifically the provision of printed presentation notes (such as presentation slides), affects student perception of responsibility. This study sought to discover the impact that providing presentation slides for use during lecture would have on students’ performance, as well as their perceptions of personal responsibility. In order to determine the effects of provided presentation notes on performance and perceived responsibility, this study examined the self-efficacy and locus of control of students assigned to either take their own notes or to use provided presentation materials in addition to their own notes, should they choose to take notes of their own. It was expected that the participants in the notes-provided condition would score better on the exam, and feel more responsible for their learning and performance, than those in the no-notes-provided condition. Additionally, the provision of notes was expected to have a greater positive effect on performance in those students with an external locus of control and/or low academic self-efficacy. It was also expected that students provided with printed notes would take better notes than those who were not provided with the printed notes. The results showed that neither performance nor responsibility were affected by condition. However, higher academic self-efficacy had a positive impact on exam score. Additionally, higher academic self-efficacy and a more internal locus of control were positively correlated with personal
responsibility for learning and performance. The provision of printed presentation material did not have a direct effect on note quality, but did correlate negatively with the number of questions left blank on the exam. In addition, the number of questions left blank on the exam was negatively correlated with exam score. These results suggest that providing students with printed presentation materials may lead to fewer skipped exam questions and, potentially, better academic performance.
Introduction

In any college course, it is generally accepted that it is the responsibility of the student to learn the required information. Students are expected to master and to understand the material well enough to demonstrate their understanding through various methods employed by the instructor (e.g., exams and projects). In efforts to better understand the role of student responsibility in the learning process, considerable research has been conducted on self-efficacy, or the beliefs people hold about their abilities to succeed, (Bandura, 1977) and other factors influencing student locus of control. Locus of control is best understood as one’s understanding of a reward as either contingent upon behavior or characteristics (internal locus of control), or as controlled by outside forces (external locus of control; Rotter, 1966). Although emerging research has focused on the effects of providing printed presentation materials during lecture on learning and performance (Bowman, 2009; Marsh & Sink, 2010; Worthington & Levasseur, 2015), little research has been conducted on the effects of providing such materials on student perception of personal responsibility for learning. If providing presentation notes increases perception of responsibility, teachers and students alike will benefit from incorporating similar strategies into the classroom. Will providing these materials lead students to feel more responsible for their learning and performance in the course? Does the provision of printed presentation materials (e.g., PowerPoint™ slides) better enable students to engage in both superficial and deeper levels of processing than simply copying notes from traditional presentation-style lectures?
**Provision of Notes During Lecture**

The provision of presentation notes for review during lecture is a common teaching technique at the collegiate level. Professors who utilize this technique provide students with the option to self-regulate their learning, insofar as they are able to choose how and in how many different ways they engage with the material. For example, students may choose to use or not use the provided notes during lecture and while studying, they can choose to use the instructor’s provided format to facilitate note taking, and students can choose to take their own notes independent of the provided notes. In addition, if the provision of notes during lecture enables students to take their own notes to facilitate deeper understanding, while simultaneously obtaining the important points for exam preparation directly from the instructor and facilitating more surface level processing, they may benefit from higher self-efficacy and better performance (Coutinho & Neuman, 2008).

Does providing printed copies of presentation slides for use and review during lecture interact with students’ locus of control, and therefore influence their perceptions of personal responsibility for learning and success in the course? Schmid et al. (2014) found that students with technology in the classroom outperformed those with no technology in the classroom, but also noted that presentation software generally meant a more “passive dissemination and acquisition of information” (p. 284). Similarly, students who used computer-assisted instruction (viewing presentation slides as part of the lecture or practicing tasks with software programs) outperformed those who utilized only traditional instruction (Timmerman & Kruepke, 2006). Additionally, students rated lectures using PowerPoint without an accompanying handout as more boring than those
using PowerPoint with a handout. The more boring a lecture was rated, the more lecture time students claimed to skip (Mann & Robinson, 2009). In fact, providing capstone senior students with complete lecture notes prior to lecture to discourage note-taking resulted in higher quality student participation and a modest improvement in performance, likely due to the reduced demand for divided attention (Long, 2014).

Additionally, due to the incomplete nature of student notes, Kiewra’s (1985) review showed that students who reviewed their own notes in addition to provided lecture notes perform better than those students who only review their own or only provided notes. Despite the fact that students prefer having access to the handouts and some studies have found support for the provision of notes, other research does not support the use of handouts to enhance performance (Bowman, 2009). Worthington and Levasseur (2015), for example, found no difference between exam scores of students who received PowerPoint slides and those who did not. While the research seems to be somewhat mixed on the direct impact of provided notes on performance, there may be a more indirect link between provided notes and performance that has yet to be evaluated.

**Note Quality**

Although research has not demonstrated a consistent link between test performance and handout availability, provision of printed presentation materials does seem to affect note-taking or review behaviors (Marsh & Sink, 2010). Indeed, students who were provided with guided notes took better notes (i.e., included more critical points and examples from lecture) than those students who viewed a traditional lecture without the use of slides (Austin, Lee, & Carr, 2004). Mueller and Oppenheimer (2014) found that students who took notes on laptops instead of writing out the material by hand
performed worse on conceptual questions, due in no small part to the fact that they were more often trying to get the lecture down verbatim instead of attenuating to the main points and using their own words (Mueller & Oppenheimer, 2014). However, providing printed copies of the presentation or allowing students to print presentations before lecture does not prohibit longhand note taking, but might instead encourage it to facilitate deeper processing of the lecture. Indeed, research has demonstrated that students prefer to receive printed presentation materials before the lecture takes place (Marsh & Sink, 2010), and spend less time copying text appearing on presentation slides when provided with accompanying handouts (Marsh & Sink, 2010). Over the course of a semester, those students who were provided with partial notes (i.e., titles and main ideas only, requiring elaboration on the part of the student) outperformed students who were provided with full notes, possibly as a result of a decreased sense of responsibility for those students provided with complete notes (Cornelius & Owen-DeSchryver, 2008). Similarly, the provision of partial, or “skeletal” notes prior to lecture led to better performance, likely as a result of more focused and organized note-taking (Kiewra, 1985).

Despite the effects on note-taking and review behaviors, many college professors are leery of providing printed presentation materials, citing attendance issues when lecture notes are provided online for students. However, research has demonstrated that the choices students make about attending class are unrelated to whether or not presentation materials are provided (Worthington & Levasseur, 2015). If the provision of printed presentation materials does not alleviate responsibility for attending class, will it increase responsibility for learning the material?
Self-Efficacy

In a study of non-cognitive factors affecting academic performance, including goal orientation, self-efficacy, and metacognition, the best predictor of performance in college students was self-efficacy (Coutinho & Neuman, 2008). Other studies have found that self-efficacy only has a positive effect on goal progress if the goal is important to the individual; if the goal was viewed as unimportant, high levels of self-efficacy had no impact on progress toward the goal (Beattie, Hardy, & Woodman, 2015). For college students, findings like these may indicate that the importance of passing a particular class is more influential on performance than the self-efficacy associated with passing the class—believing it to be important to pass a class may play a larger role than believing you have the ability to pass. Additionally, self-efficacy and mastery orientation (holding goals to master new skills) are positively correlated. Students with performance orientations (holding goals that emphasize superior performance regardless of skill) exhibit lower self-efficacy and poorer academic performance than students with mastery goal orientations (Ford, Smith, Weissbein, Gully, & Salas, 1998).

Zimmerman, Bandura, and Martinez-Pons (1992) found that the self-efficacy beliefs students held about their self-regulated learning were positively correlated with their achievement in academics, leading to the conclusion that students who see themselves as able to regulate learning activities are more confident in their abilities to master topics and achieve better grades. In a study of self-regulated learning, Myyry and Joutsenvirta (2015) examined the differences in preparation, responding, and learning between university students taking traditional, in-class exams, and those taking exams with access to their textbooks and the internet. Students who were able to choose when
to take open-book, open-web online exams viewed the experiences as more self-regulated and reported deeper levels of understanding, as well as a greater emphasis on learning the material over memorizing facts. Despite this self-regulated option, using unfamiliar, complex examination options lowered self-efficacy, as it caused some students increased anxiety when compared to the traditional in-class exam (Myyry & Joutsenvirta, 2015). Thus, despite the positive impact on learning and self-efficacy, the implementation of some new teaching techniques may have serious implications for students. Presentation software, on the other hand, is not likely to be viewed by students as unfamiliar or complex, as the use of PowerPoint has been included in classrooms for decades. Therefore, the use of presentation software is not likely to cause lowered self-efficacy and increased anxiety typical of the use of unfamiliar and complex options, as noted by Myyry and Joutsenvirta (2015).

**Locus of Control and Student Responsibility**

Although self-efficacy is an important factor affecting academic responsibility and performance, perhaps the greatest indicator of student responsibility is locus of control. Indeed, Fishman (2014) found that students who felt more in control of academic outcomes were more likely to feel responsibility for those outcomes. In courses that relied on student control, it was those students who held internal loci of control who kept constant levels of performance, while students holding external loci of control experienced performance declines (Allen, Giat, & Cherney, 1974). However, when discipline conditions were high (e.g. more difficult work, strict and/or more formal instructors, more pressure to perform) it was the students with external loci of control
who performed better, while in conditions with low discipline, the students with internal loci of control performed better (Parent, Forward, Canter, & Mohling, 1975).

Given that most collegiate level courses rely heavily on student control with low discipline conditions in contrast to pre-college education (e.g., leaving the room without asking for permission, no formal list of class rules, no formal punishment for behavior infractions, no immediate consequences for poor quality work, etc.) students with internal loci of control are more likely to both perform better and to perform consistently. Additionally, because mastery goal orientation has been shown to be positively correlated with locus of control (Buluş, 2011) and self-efficacy (Ford et al., 1998), we might expect locus of control and self-efficacy to be similarly related. Providing students with extra tools to succeed, such as printed presentation notes, may facilitate feelings of control for students, as they would be better equipped to control their interaction with all presented material, both printed and spoken in lecture.

**The Present Study**

Little research exists to demonstrate how specific teaching techniques, specifically the provision of printed presentation notes (such as presentation slides), affects student perception of responsibility. Although providing printed copies of presentation materials to supplement note-taking during the lecture is somewhat commonplace in university settings, it is as yet undetermined what effect that such provision has on students’ perceptions of their own responsibility for their performance. The objective of the proposed study was to discover the impact that providing presentation slides for use during lecture would have on students’ performance and perceptions of responsibility. In order to determine the effects of provided presentation
notes on perceived responsibility, I examined the self-efficacy, locus of control, and perceived responsibility of students assigned to either take their own notes or to use provided presentation materials in addition to their own notes, should they choose to take notes of their own: both self-efficacy and locus of control were expected to correlate positively with personal responsibility, such that higher self-efficacy and a more internal locus of control would be associated with more personal responsibility for learning and performance.

Although the effects of locus of control on responsibility have been demonstrated, the impact of provided presentation notes on sense of responsibility is unclear. Based on existing research, I expected students given the printed presentation notes to feel more in control of, and therefore more responsible for, their learning. I also expected students who were given the printed presentation notes to perform better and feel more responsible for their grades and performance in the simulated “course” compared to students who attended a PowerPoint™ lecture where printed copies of the slides were not provided. The provision of printed materials was also expected to have a greater positive effect on performance in those students with external loci of control and/or low academic self-efficacy than in students with internal loci of control and/or high self-efficacy, as the former students are less likely to perform well with no assistance. Additionally, consistent with previous research, I expected participants provided with printed presentation materials to take better notes than those who were not provided with printed presentation materials.

Hypothesis 1: Students provided with the presentation notes will feel more responsible for their learning.
Hypothesis 2: Students given the printed presentation notes will perform better than those who are not.

Hypothesis 3: The provision of printed materials is expected to have a greater positive effect on performance in those students with external locus of control and/or low academic self efficacy than in those students with internal locus of control and/or high academic self-efficacy.

Hypothesis 4: Students given the printed presentation notes will take better notes than those who are not provided with the notes.

Hypothesis 5: High self-efficacy and internal locus of control are expected to correlate positively with personal responsibility for learning and performance.
Method

Participants

A total of 90 undergraduate students over the age of 18 who were attending Western Kentucky University participated in the study. Of the 90 participants, 56 were freshmen, 15 were sophomores, 12 were juniors, and 7 were seniors in college. There were 20 males, 68 females, one student who preferred not to answer, and one student who identified as neither male, nor female, nor transgender. Of the 90 participants, 84 reported that English was their first language. The students were recruited through the Department of Psychology’s online research recruitment and scheduling system. This system allows undergraduate students to sign up for ongoing research studies posted by faculty and graduate students. All participants received course credit for participating. In order to reduce guessing and increase motivation to perform well on the exam, participants were informed that for each correct answer on the exam, they would receive one entry into a raffle for one of four $25 gift cards. Each participant was informed that they could earn up to 30 entries, but would earn a minimum of one entry. Because the majority of participants in this sample were students in introductory psychology courses, the sample included students from various majors.

Materials

A presentation tool (PowerPoint™) was used to visually present the study material. In order to reduce the chance of a participant’s familiarity with material influencing his/her score on the exam, the material used in this study featured a topic invented by the research team. The curriculum for the lecture was based on the history of an invented historical culture, the Kikitocians. The lecture covered fictitious elements of
the Kikitocians, such as how they ate, dressed, communicated, traveled, and spent leisure
time. For the notes-not-provided group, paper and pen were available for note taking.
For the notes-provided group, a printed version of the PowerPoint presentation was
provided, along with paper and pen for note taking. The exam following the lecture
contained 30 short-answer questions, and included a mixture of verbatim and inference
questions based on information presented in the lecture. The exam was challenging
enough that a naïve participant would not be able to pass without having attended the
lecture. The lecture, PowerPoint presentation, and exam were all pilot tested with
undergraduate research assistants in order to establish possible floor and ceiling effects.
Following the pilot testing, the lecture script and exam questions were modified to reduce
ceiling effects. The PowerPoint presentation included eight informational slides with
bullet points to represent the main ideas. The lecture was scripted, and for six of the
accompanying slides, the lecture verbally expanded on the information presented
visually, such that simply memorizing the material on the slides would not adequately
prepare the participant for the exam. On the remaining two slides, very little information
beyond what was included on the slides was included in the script. Participants’ notes
were assessed for note-quality using a rating scale of zero to three (Peverly et al., 2007).
Two researchers independently rated a sample of notes from participants in each
condition. Inter-rater reliability was sufficient for all items ($\alpha > .90$). Note quality was
rated by content areas, with each content area corresponding to a slide in the lecture
presentation. Each content area was rated on a scale of zero to three. A score of zero
represented no information written, one to indicate that only words from the slide were
written (no-notes-provided condition) or few extra words added (notes-provided
condition), two to represent incomplete information, and three to represent complete information.

**Academic Self-efficacy.** The student scale of the Patterns of Adaptive Learning Scales (PALS) (Midgley et al., 2000) was used to assess participants’ academic self-efficacy. This PALS scale includes five questions to assess academic efficacy and uses statements like “I’m certain I can master the skills taught in class this year,” and “I can do almost all the work in class if I don’t give up.” The scale uses five point Likert-type questions, ranging from 1 (not at all true) to 5 (very true), where high scores are indicative of greater academic self-efficacy. Reliability is acceptable for this measure ($\alpha = .78$; Midgley et al., 2000). Additionally, academic self-efficacy as measured by the PALS has been demonstrated to be positively correlated with mastery goal perceptions (also as measured by the PALS) across school subjects (Bong, 2001). In order to make this measure more appropriate for this study, directions were added to the beginning of the questionnaire encouraging participants to reflect on themselves as students in the study. No items were directly altered beyond the inclusion of a new set of directions. Reliability for the modified measure was good ($\alpha = .86$) (See Appendix A). Additionally, there was a significant positive correlation between this modified measure of Academic Self-Efficacy and Responsibility ($r = .29, p = .005$).

**Student Responsibility.** For the purposes of measuring students’ perception of academic responsibility, I utilized Fishman’s Student Responsibility Scale (SRS) (Fishman, 2014). The SRS includes both present- and future- related items, as these time-related questions better correspond with academic-related thoughts. Items in this scale include statements such as “I feel personally responsible to make sure I am
interested in the subject area taught by the instructor,” and “I feel personally responsible to make sure I learn the required material in my class.” Items are rated on an eleven-point Likert scale, ranging from 1 (not at all) to 10 (completely). Reliability is acceptable for this measure (α = .78) (Fishman, 2014). In order to make the use of this measure more appropriate for this study, directions were added to the beginning of the questionnaire encouraging the student to think about their responsibility in this study. No items were directly altered beyond the inclusion of a new set of directions. Reliability for the modified measure was acceptable (α = .79) (See Appendix B). Additionally, there was a significant positive correlation between this modified measure of Student Responsibility and Locus of Control (r = .32, p = .002). The Student Responsibility Scale (SRS) is a modified version of the Teacher Responsibility Scale (TRS), which has been used extensively to measure how responsible teachers feel for student outcomes (Lauermann & Karabenick, 2013; Eren, 2014). This construct is distinct from self-efficacy, which concerns whether or not students feel they are capable of producing the desired outcomes (Lauermann & Karabenick, 2013). Like the TRS, the SRS is positively correlated with student achievement (Fishman, 2014). The TRS has been established as a valid and reliable measure of teacher responsibility for student outcomes (Lauermann & Karabenick, 2013).

**Academic Locus of Control.** Academic control was assessed using Fishman’s control scales (Fishman, 2014). Both Fishman’s Primary Control scale and Secondary Control Scales (ALOC) were utilized in an effort to assess both student perception of control and perception of “capability to bring themselves in line with environmental forces” (Fishman, 2014, p. 687). Initially developed by Perry et al., (2001) the Primary
Control scale includes questions intended to measure student perceptions of control. It includes eight items such as “I have a great deal of control over my academic performance in my courses,” and “The more effort I put into my courses, the better I do in them.” Items are rated on a five point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). Reliability was acceptable at $\alpha = .71$ (Fishman, 2014).

Additionally, Perry et al. (2001) demonstrated a positive correlation between academic control and final grade, which is generally considered to be an “objective measure of academic performance” (p. 782). The Secondary Academic Control Scale, originally developed by Hladkyj et al., (1998) includes four items and each are rated on a five point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). Reliability is acceptable at $\alpha = .72$ (Fishman, 2014) (See Appendix C).

**Procedure**

Participants provided informed consent prior to participation, and were informed about confidentiality and study procedures. They were told that they could elect to discontinue at any time. After they completed the study, participants were debriefed about their experience and told that they would receive course credit for their participation.

Participants attended two sessions of this study, one week apart. In the first session, participants completed Fishman’s scales of Primary and Secondary Academic Control (ALOC), a demographics questionnaire, a filler task, and attended the Kikitocian lecture. In the second session, the participants were provided with the opportunity to study their notes, took an exam, and completed the PALS, the SRS, and the Studying Questionnaire. In order to reduce the possibility that the lecture material led participants
to actively consider their locus of control, participants completed a filler task before the lecture began. The filler task consisted of viewing the trailer for *Shrek 3* two consecutive times, (Jönsson & Lindström, 2010) to reduce the likelihood that participants would be considering locus of control questions when learning about a fictitious culture.

Following the filler task, participants viewed the lecture, as presented by the researcher.

The lecture featured novel Kikitocians material, and was presented verbally by the instructor and visually by an accompanying slideshow. The instructor was a research assistant who was familiar with the material and had presented it to a group of students for practice. Participants were randomly assigned to receive either printed presentation notes with pen and additional paper (notes-provided condition) or only blank paper and a pen (notes-not-provided condition) while attending the lecture in a lecture hall, with approximately 45 participants per group. Both groups attended the lecture at the same time, but were seated on opposite sides of the lecture hall with an aisle separating the groups to prevent distraction (e.g., so that a student who received printed notes was not seated next to a student who did not receive printed notes). Students were assigned a condition by a proctor at the door of the auditorium, who had previously flipped a coin to randomly assign participants to each condition. Additionally, students were assigned seating by the researcher, with the presence of papers on the desks marking available seats (e.g., all students were instructed to sit at a seat with paper on the desk on their assigned side of the room, as condition assignment dictates) so that one empty seat between participants prevented students from sitting directly beside each other. Both groups were asked to put away all personal materials, unless they wished to use their own paper and writing utensils for note-taking. However, participants were informed that all
materials would be collected following the lecture. Participants were informed that a study period and exam would follow the lecture in one week. The randomly assigned groups were as follows:

1. No-notes-provided group: Participants in this group were provided paper and a writing utensil. They were informed in writing that they may take notes on the paper provided and that they would be able to utilize the notes they took during the study period.

2. Notes-provided group: Participants in this group were provided with printed copies of the presentation, as well as paper and writing utensil for additional note taking. They were informed in writing that they could take their own notes in addition to the printed materials and would be able to review both sets of materials during the study period.

Following the lecture, the students were asked to hand in any lecture material (presentation notes, personal notes, etc.) and were instructed that the first part of the one week later, for which they signed up online prior to attending the first part. All materials were identified only by participant ID numbers (i.e., names were excluded from all documents except the participant login sheets, which were kept in the possession of the researcher to maintain confidentiality). The following week, the participants’ lecture materials (presentation notes, personal notes, etc.) were returned to them. Participants were informed that the exam would begin in five minutes, and that they could utilize that time to study, if they wished, to prepare for the exam. The exam consisted of 30 questions, both verbatim and inference, based on the lecture (See Appendix D). Following the administration of the exam, participants were asked to complete a brief
questionnaire assessing how they studied for this task, and included questions such as, “How did you use the study time allotted?” (See Appendix F). Participants were informed that their answers to these questions would in no way affect their chances of being entered into the raffle. The participants were also asked to complete the PALS academic self-efficacy scale and the SRS. In order to help gauge motivation for this task, participants were asked how likely they thought they were to win the raffle.

Additionally, participants were asked how difficult they found the exam. Participants were then debriefed and informed when the raffle would take place, as well as how to contact the research team for any questions or concerns.
Results

Descriptive Statistics

Of the 105 people who showed up to for Part One, 90 returned to complete Part Two, resulting in a completion rate of 85.7%. On the exam, 4.4% of participants scored at or above 90%, 6.7% of participants scored 80-89%, 18.9% of participants scored 70-79%, 18.9% of participants scored 60-69%, 10% of participants scored 50-59%, 15.6% scored 40-49%, 11.1% of participants scored 30-39%, 4.4% of participants scored 20-29%, and 10% of participants scored below 20%. The average score across all participants was 53.4% ($M = 16.04, SD = 6.56$). Of the 90 participants, 62.2% were freshmen, 16.7% were sophomores, 13.3% were juniors, and 7.8% were seniors.

Relationship between Condition and Responsibility

In all analyses, an alpha level of 0.05 was used. To test the hypothesis that participants in the notes group felt more responsible for their learning than participants in the no-notes group, independent samples $t$-tests were used. There was no significant difference in responsibility scores between participants in the notes-provided condition ($M = 38.23, SD = 5.57$) and participants in the no-notes-provided condition ($M = 39.26, SD = 8.16$); $t(88) = -0.70, p = 0.49$, indicating that Hypothesis 1 was not supported.

Relationship between Condition and Performance

To test the hypothesis that participants in the notes group outperformed the participants in the no-notes group, independent samples $t$-test were used. There was no significant difference in exam scores between participants in the notes-provided condition ($M = 16.82, SD = 7.26$) and participants in the no-notes-provided condition ($M = 15.30, SD = 5.80$); $t(88) = 1.10, p = 0.28$, indicating that Hypothesis 2 was not supported.
Relationship between Locus of Control, Academic Self-Efficacy, and Responsibility

To test the hypothesis that the provision of printed materials would have a greater positive effect on performance and perception of responsibility in students with external loci of control and/or low academic self-efficacy, analyses of covariance (ANCOVA) and linear regression analyses (via the SPSS General Linear Model) were used. These analyses allowed for analysis of the impact of providing notes on students’ sense of responsibility and performance, as well as how self-efficacy and locus of control impact this relationship (e.g., how much of the variance in performance was accounted for by self-efficacy and locus of control). The SPSS General Linear Model was used to conduct these analyses in order to include both experimental conditions and the continuous individual difference variables. Specifically, I examined the impact of experimental condition, self-efficacy, and locus of control on perceived responsibility and on performance. Neither the impact of condition, locus of control, nor the interaction of condition and locus of control had a significant impact on exam score, $p = 0.28, 0.13, 0.38$, respectively, indicating that Hypothesis 3 was not supported. Condition did not significantly impact exam score, nor did the interaction of academic self-efficacy and condition, $p = .28, .52$, respectively. However, academic self-efficacy had a significant positive impact on exam score, $\beta = 0.75, p = 0.02$. In addition to performance and responsibility effects, academic self-efficacy and locus of control were expected to correlate positively with personal responsibility for performance. Positive correlations were found between both self-efficacy and responsibility, $r = .29, p = .01$, and locus of control and responsibility, $r = .32, p = .002$, indicating that Hypothesis 5 was supported (see Table 1). That is, participants with higher academic self-efficacy felt more
responsible for their learning and performance. Additionally, participants with a more
internal locus of control were more likely to feel more responsible for their learning and
performance

**Relationship between Condition and Notes Quality**

To test the hypothesis that participants who were provided with printed
presentation materials would take better notes than those who were not provided with
notes, an independent samples t-test was utilized. Assigned note-taking condition did not
have significant effect on note quality total, t(88) = 1.67, p = 0.10, indicating that
Hypothesis 4 was not supported.

Table 1. Correlation Matrix

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<th>4</th>
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<td>6 SRS</td>
<td>0.07</td>
<td>-0.11</td>
<td>0.01</td>
<td>0.08</td>
<td>0.32**</td>
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<td>7 PALS</td>
<td>-0.11</td>
<td>0.31**</td>
<td>-0.08</td>
<td>0.27*</td>
<td>0.16</td>
<td>0.29*</td>
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* p < .05, ** p < .001

**Note Quality and Performance**

In addition to positively correlating with academic self-efficacy, r = .31, p < .01, note
quality total was also positively correlated with exam score, r = .57, p < .001. The
number of exam questions participants left blank was negatively correlated with exam score, $r = -.56, p < .001$. Additionally, there was an interesting relationship between condition and leaving questions blank, $r = .21, p = 0.04$. A $t$-test revealed that assignment to the no-notes-provided condition resulted in significantly more blanks on the exam than assignment to the notes-provided condition, $t(87) = -2.06, p = 0.04$.

Leaving more questions blank on the exam was negatively correlated with exam performance, $r = -.57, p < .001$. However, the number of questions participants answered incorrectly excluding those left blank (i.e., questions scored as wrong but not blank) did not differ as a function of condition $t(87) = .358, p = .72$. These findings suggest that not providing students with printed presentation materials does not lead to more wrong answers on attempted questions, but does lead to more skipped exam questions, which is in turn associated with poorer retrieval performance.

**Effectiveness of Study Incentives**

On a question asking participants how likely they thought they were to win the raffle, on a scale ranging from “Very Unlikely” to “Very Likely,” participants thought they were somewhat likely to win the raffle ($M = 4.74, SD = 1.57$). There were no significant differences between condition in how likely participants thought they were to win the raffle, $t(88) = -.77, p = .44$, indicating that condition did not affect participant’s beliefs about their chances to win the raffle.
Discussion

The hypothesis that the provision of printed presentation materials would positively affect exam performance was not directly supported, nor was the hypothesis regarding the impact of provision of printed materials on student perception of responsibility. Despite the fact that neither locus of control, condition, nor the interaction of condition and locus of control significantly impacted exam score, a positive impact of academic self-efficacy on exam score was revealed. Additionally, higher academic self-efficacy and a more internal locus of control were positively correlated with personal responsibility for learning and performance. The provision of printed presentation material did not have a direct effect on note quality, but did correlate negatively with the number of questions left blank on the exam. In addition, the number of questions left blank on the exam was found to be negatively correlated with exam score. These results suggest that providing students with printed presentation materials may lead to fewer skipped exam questions and, potentially, better academic performance.

Previous research findings on academic self-efficacy and the effect on performance were upheld in the present study, and this study also supports previous findings on the relationships between locus of control and perception of responsibility. The results of the present study suggest that providing printed presentation notes to students may indirectly affect their performance in their coursework, by reducing the likelihood that students will skip questions on the exam. Although the provision of printed presentation materials did not appear to increase the level of personal responsibility students felt for their own learning and performance, it is worth noting that the provision of such materials did not decrease the level of perceived responsibility for
students’ learning. The most important factors in academic performance seem to remain: internal locus of control and higher academic self-efficacy. However, although PowerPoint provision does not appear to directly influence student responsibility, it does seem to have an effect on other factors crucial to student success, such as number of exam questions skipped.

The implications for these findings are critical, both to teachers and students. These findings might allow teachers to confidently provide notes to students, expecting higher exam scores through the indirect means described above. For professors, this could mean more time spent lecturing and less time spent waiting for students to finish copying notes. Additionally, students might become more engaged in the classroom if their preferences for receiving notes are honored. Students might experience a decreased burden to divide their attention between copying notes verbatim and attending to the spoken lecture, allowing them to devote attention completely to their understanding of the lecture. Future studies could look to examine the cognitive load demands and performance of students attempting to divide their attention between copying slides and attending to spoken lecture. Additionally, future studies could investigate the impact of providing partial, or skeletal notes, as opposed to complete notes, on student sense of responsibility. While it is clear that provision of notes has an indirect impact on performance, it remains uncertain how the type of provided notes might differently impact this relationship.

**Limitations**

There were several limitations inherent in this study. The participants in this study understood that there were no long-term effects of poor performance on the
Kikitocian exam. As such, despite all efforts to prevent it, low motivation to succeed may have played a large role in the outcome of this study. Additionally, it was not feasible to permit participants to take notes home to study because of the risk of sharing with others, losing their notes, etc. Instead, participants were only provided their notes for a brief, five minute period before taking the exam. These kinds of study conditions do not mimic those found in typical college courses, and may have affected the results of the study. Furthermore, because the lecture was based on novel material, the participants did not have the added benefit of building on existing schemas to enhance their understanding, as they might in traditional college courses. Future research might seek to expand upon the understanding of the relationship between presentation software and student responsibility by utilizing an established college course to alleviate some of the limitations of this study. Students and educators alike would benefit from furthering our understanding of these variables and their effects on responsibility for learning.
References


https://doi.org/10.1177/1069072712471324


https://doi.org/10.1111/j.1467-9450.2009.00762.x

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https://doi.org/10.1177/0098628314549707

https://doi.org/10.1080/01411920802042911


APPENDIX A: PALS Academic Efficacy Scale  
(Midgley et al., 2000)

Here are some questions about you as a student in this StudyBoard Study. Please circle the number that best describes what you think.

1. I’m certain I can master the skills taught in class this year.
   1  2  3  4  5
   Not at All True  Somewhat True  Very True

2. I’m certain I can figure out how to do the most difficult class work.
   1  2  3  4  5
   Not at All True  Somewhat True  Very True

3. I can do almost all the work in class if I don’t give up.
   1  2  3  4  5
   Not at All True  Somewhat True  Very True

4. Even if the work is hard, I can learn it.
   1  2  3  4  5
   Not at All True  Somewhat True  Very True

5. I can do even the hardest work in this class if I try.
   1  2  3  4  5
   Not at All True  Somewhat True  Very True
APPENDIX B: FISHMAN’S STUDENT RESPONSIBILITY SCALE

(Fishman, 2014)

Please think about this StudyBoard Study. To what extent do you feel PERSONALLY responsible to make sure that each of the following happens?

1. I feel personally responsible to make sure I am interested in the subject area taught by the instructor.

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2. I feel personally responsible to make sure I make excellent progress in my class throughout the semester.

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3. I feel personally responsible to make sure I learn the required material in my class.

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4. I feel personally responsible to make sure I value the subject area taught by the instructor.

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5. I feel personally responsible to make sure I do well in my class.

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APPENDIX C: FISHMAN’S SCALES OF PRIMARY AND SECONDARY ACADEMIC CONTROL
(Fishman, 2014)

Please indicate your level of agreement with each statement below.

1. I have a great deal of control over my academic performance in my courses.
   
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<tr>
<td>Strongly Disagree</td>
<td>Neutral</td>
<td>Strongly Agree</td>
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2. The more effort I put into my courses, the better I do in them.
   
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<td>Strongly Disagree</td>
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3. No matter what I do, I can’t seem to do well in my courses.
   
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<td>Strongly Disagree</td>
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<td>Strongly Agree</td>
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4. I see myself as largely responsible for my performance throughout my college career.
   
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<td>Strongly Disagree</td>
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<td>Strongly Agree</td>
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5. How well I do in my courses is often the ‘luck of the draw’.
   
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6. There is little I can do about my performance in college.
   
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7. When I do poorly in a course, it’s usually because I haven’t given my best effort.

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8. My grades are basically determined by things beyond my control and there is little I can do to change that.

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9. My academic performance and experience has given me a deeper understanding of my life than could be achieved without this experience.

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10. Regardless of what my grades are, I try to appreciate how my college experience can make me a ‘stronger person’ overall.

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<td>Strongly Disagree</td>
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11. No matter how we do on a test or in a course, I try to see beyond my grades to how my experience at college helps me to learn about myself.

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12. Whenever I have a bad experience at college, I try to see how I can ‘turn it around’ and benefit from it.

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APPENDIX D: KIKITOCIAN EXAM

1. Where was the Kikitocian culture discovered?

2. How were the Kikitocian children educated?

3. What was the significance of the whaling ceremony?

4. When was the Kikitocian culture discovered?

5. Name three uses of the coconuts in the Kikitocian culture.

6. How would the Kikitocians explain an eclipse?

7. At what age did Kikitocians begin to divide labor tasks by gender?

8. What might have happened to the Kikitocians if the settlers had never discovered them?

9. When did the Kikitocians die out?

10. How would life have been different for the Kikitocians without palm trees?
11. Describe how the community participated in Kikitocian marriage celebrations.

12. How were families memorialized in the Kikitocian culture?

13. What system of social organization did the Kikitocians use?

14. What were the Kikitocians’ homes made of?

15. How did the Kikitocians address medical issues?

16. Name two of the Gods worshipped by the Kikitocians.

17. If citizens were unable to care for themselves, where were they expected to live?

18. What character trait did the lizard represent?

19. What did the Kikitocians use for trading?

20. Describe the transition from youth to adulthood for Kikitocian men.

21. What signified a Kikitocian woman as “mature” in her culture?
22. How would Kikitocians respond to a family who was experiencing 
difficulties?

23. What would happen if the elder women's tribunal did not give their blessing 
to two young Kikitocian people who wanted to marry?

24. How might the Kikitocians have understood a hurricane?

25. What might happen if the Earth God was displeased with the Kikitocians?

26. How were the God of the Sun and the God of the Moon related?

27. How was Kikitocian history shared?

28. Who was responsible for disciplining the children of the Kikitocian 
community?

29. Who was considered to be the “chief” among the Kikitocians?

30. Why would some Kikitocians have two figurines around their neck while 
others had only one?
APPENDIX E: DEMOGRAPHIC QUESTIONNAIRE

1. Year in School (please circle one):
   - Freshman
   - Sophomore
   - Junior
   - Senior
   - Other

2. How would you describe yourself? (Please circle one)
   - Male
   - Female
   - Transgender
   - Do not identify as female, male, or transgender

3. Age: _________

4. What is your major? _________________________________

5. Have you taken at least one previous semester of classes at WKU? (please circle one)
   - Yes
   - No

6. Is English your native language? (please circle one)
   - Yes
   - No
   - If no, what age did you learn to speak English? _______

7. Do you speak any languages other than English?
   - Yes
   - No
   - If yes, please list all other languages you speak and your proficiency level below.
APPENDIX F: STUDYING QUESTIONNAIRE

1. How did you use the study time allotted? (Circle One)
   a. Studied for the exam
   b. Passed the time some other way (daydreaming, drawing, etc.)

2. How often do you study for your courses?
   a. Daily
   b. Weekly
   c. Only when a big test/project is coming up
   d. Never

3. When you study, how do you study? (Select all that apply)
   a. I read over my notes
   b. PowerPoints from the professor
   c. I read the chapter
   d. “Cramming”—studying all of the information shortly before the exam
   e. I quiz myself
   f. I make outlines
   g. Another method (please describe)___________________________
   h. I don’t study

4. How did you study for this exam? (Select all that apply)
   a. I read over my notes/provided notes
   b. Memorization
   c. I quizzed myself
   d. Mnemonic devices
   e. Another method (please describe)___________________________
   f. I didn’t study

5. This semester, how many of your professors provide you with the PowerPoint notes (either on Blackboard or with paper copies in class)?
   a. 0
   b. 1
   c. 2
   d. 3
   e. 4 or more

6. If I have my own copy of the instructor’s PowerPoint notes during a lecture, I am (Circle One):
   More likely to take my own notes
   Less likely to take my own notes
   Just as likely to take my own notes as if I did not have my own copy of the instructor's notes
7. How likely do you think you are to win the raffle? (Circle One)

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<th>Very Likely</th>
<th>Likely</th>
<th>Somewhat Likely</th>
<th>Neither Likely nor Unlikely</th>
<th>Somewhat Unlikely</th>
<th>Unlikely</th>
<th>Very Unlikely</th>
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8. How difficult did you find the exam over the Kikitocians? (Circle One)

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<th>Extremely Easy</th>
<th>Somewhat Easy</th>
<th>Neither Difficult nor Easy</th>
<th>Somewhat Difficult</th>
<th>Extremely Difficult</th>
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APPENDIX G: KIKITOCIAN POWERPOINT PRESENTATION SLIDES

The Kikitocians

Geography and History
- Prince Nelson Island — Pacific Ocean Island Culture
- Discovered in 1759
- Little known of origin
- Settlers moved in through 1800’s
- Culture dwindled and extinct by 1876

Economy
- Small pelts for trade
- Fruits and vegetation for supplies
- Fishing popular for trade, food, supplies, etc.
- Whaling for supplies, food
- Trade over money, no formal currency

Dwellings
- Made of fiberboard, mud, sand, palm fronds
- One room with sand floors
- One dwelling for extended family (mother, father, children, grandparents, aunts, uncles, etc. as necessary)
- New dwelling for each newlywed couple
- Totem Pole addition to new dwellings

Culture
- Matriarchy — women considered head of house, made decisions for family and group as a whole
- Collectivist culture — good of group more important than good of self
- “It takes a village” ideology
- Totemistic

Illness and Treatment
- Most senior female member as “chief”, most wisdom
- Believed in healing power of seaweed
  - Applied to cuts, burns, bruises
  - Ingested in pastes and powders after cured in sun and mixed with ocean water
Gender Roles

- Women—homemakers and child-rearing
- Men—hunting, fishing, building dwellings, protection
- Whaling ceremony for young men signifies transition to manhood
- Marriage partners chosen by agreement of female elders
- Marriage often around age 13 for women and 14-15 for men

Education

- Children sent to gather fruits, coconuts daily until age 10
- Nightly story-telling by elders
- 10 years old—division of labor by gender roles
- Transition to manhood in whaling ceremony at 14
- Transition to womanhood in marriage and head of household

Religion

- Regular Praise and Ceremonies for various Gods
- Numerous Gods
  - Sun
  - Ocean
  - Earth
  - Moon
APPENDIX H: KIKITOCIAN LECTURE

SLIDE 2

L: The Kikitocians were first discovered in 1759 living on Prince Nelson Island. As a Pacific Ocean Island culture, little is still known of their origin. It is assumed that the culture existed on the island for potentially hundreds of years before they were discovered by settlers. However, once settlers discovered Prince Nelson Island and the Kikitocian culture, they began to relocate to the island in droves. Finding the fish and wildlife plentiful and the soil tenable for farming, and with a lush climate and crystal blue waters, settlers were thrilled to claim major pieces of land for themselves. The Kikitocians, although they were frightened by the presence of the settlers, were gracious hosts and taught the settlers how to fish, while the settlers taught the Kikitocians how to farm. This allowed the Kikitocians to spend more time around their homes instead of taking several days at a time to hunt and gather foods. Despite the positive working relationship between the settlers and the Kikitocians, the inter-mingling between settlers and Kikitocians and the increased colonial presence drove the Kikitocians to extinction. By 1876 the Kikitocians were gone.

SLIDE 3

L: For the purposes of trade, the Kikitocians used small pelts of animals they hunted. They also spent a great deal of time collecting fruits and vegetation, specifically coconuts, to use for supplies as well as food. The Kikitocians used coconuts for many purposes: the husk is shredded, dried, molded and heated into material like fiber board which was used to construct dwellings and temples, husk fibers were made into ropes, floor mats, scrub brushes, helmets, and toys for children. The shells were often hollowed out and used for bird houses and homes for children’s pet hermit crabs. They also used the shells to make music in their religious and rhythmic dance rituals. The milk provided important nutrients and was cooled and fermented to make a jello-like dessert at feasts. The seeds were ground to create an oil that was used to cook with, and were dried and superheated to create an oil used to repel sand fleas. The coconut meat was ground into a fine powder and used as a flour in cooking. In addition to coconuts, the Kikitocians used fish for food and trade. They also filed down the fish bones to make tools and spearheads. The Kikitocians hunted whales and used the bones to build boats and support their dwellings, burned the blubber as oil, and ate the meat at rhythmic festivals. The Kikitocians used trade instead of money, as they had no formal currency. Their culture was based on supporting and helping one another, and so the members shared what they had with those who had less.

SLIDE 4

L: The Kikitocians made their homes from the coconut fiberboard covered with bricks made mud, sand, and palm fronds. They used fiberboards not only as the internal structure of the house, but also as molds to build the bricks for the house. They would combine mud, sand, shredded palm fronds, and water into a cement-like material and pour it into the fiberboard molds. These would be allowed to harden and bake in the sun
and when finished the Kikitocians would stack the bricks around the fiberboard structure of a new dwelling. The roof of the dwelling was made with palm fronds tied together with coconut husk ropes. Generally, the dwellings were only one room and had sand floors, although many homes had mats covering much of the floor. In each of the dwellings, the extended family lived together, including the mother, father, children, grandparents, aunts, uncles and others as necessary. In each family, everyone looked out for each other. Any member of the family would be provided for if he/she was unable to care for himself. As such, in any dwelling it was not unusual to find as many as 15 people, or as few as 2 people. The entire community would come together to construct a new dwelling for a newlywed couple. In addition, the community would chop down a palm tree and carve the faces of the newlyweds into the base of the tree. They would leave large amounts of space at the top in which to carve the faces of the couple’s future children. This totem pole would be put in front of the couple’s home as a sort of territorial marker.

**SLIDE 5**

L: The culture of the Kikitocians was based on a matriarchy system. This means that women were considered to be both the head of the individual households and the heads of the culture as a whole. The women made decisions for the family and for the group. The eldest women of the group gathered once weekly in a special tribunal to discuss the important issues facing the culture, including which young people might be ready to pursue the coming of age ceremonies, which people might make appropriate marriage partners, and any possible solutions to issues facing the people like low fishing yields or community illnesses.

The Kikitocians were a collectivist culture, which meant that they valued the good of the group over the good of the self. Compared to more individualistic societies, like our own, the Kikitocians were more concerned with what they could do to benefit the community. Each citizen felt more responsibility to the group than to him/herself, and would often put their individual needs and wants second to those of the group. The Kikitocians similarly lived by the “it takes a village” ideology, believing it to be the responsibility of all adults to effectively raise the children in the ways of the culture. The children were taught to respect and listen to all of their elders and often it was not only the parents who disciplined the children.

Additionally, the culture of the Kikitocians was totemistic. The totem poles standing outside the dwellings were topped with a unique carving of an animal. Often, the Kikitocians would create their own animal creations to symbolize each individual family. One family might have a carving of an owl’s head on a lizard’s body, for example. The women’s tribunal would meet to decide which animals best represented the characteristics of the new family, for example the owl to represent wisdom or the lizard to represent creativity. When the couple had their first child, the women’s tribunal would carve the same animal from the top of the family’s totem pole into a small figurine, which the child would wear on a string around its neck when it became old enough. This allowed all citizens to keep their families close to their hearts at all times to show deference to the needs of the group above themselves. When citizens became part of a
new family, the tribunal carved new figurines for the couple, slightly larger than those provided to the citizen at birth, which they added to the strings around their necks. This allowed each citizen to keep and remember the interests of both families at all times.

**SLIDE 6**

**L:** In the Kikitocian culture the most senior female member was viewed as the “chief” or leader of the community. This woman was also seen to have the most wisdom, and so members of the community regularly sought her advice when it came to illnesses and treatments. The Kikitocians believed in the healing power of seaweed. They applied it to cuts, burns, and bruises. Additionally, they ate it in pastes and powders after they had cured it in the sun and mixed it with ocean water.

**SLIDE 7**

**L:** Gender roles in the Kikitocian culture were very distinct. Women were responsible for keeping the home and raising the children, often including those who were not their own. The oldest and most respected women were part of the tribunal. The tribunal was made up of 5 women, and when one member died the wives of all of the families voted on the woman who would replace her. Men were responsible for hunting, fishing, building dwellings, and protecting the other members from wild animals. When they boys of the Kikitocian culture became old enough, usually around age 14, the women tribunal would discuss whether or not the boys were ready to engage in the ceremony that would signify his transition to manhood. The women were very cautious to wait until the boys were ready before sending them out on this dangerous mission. When the boys were deemed ready, they were sent out alone on a canoe while a group of men went out in another canoe. The boy was armed with a bow and arrow, a weighted net, and a large knife and waited, sometimes for days, in the canoe until he saw a whale. It was his task to disable and disorient the whale so that the group of men could paddle over and, following the young man’s lead, bring the whale back to shore. If the boy was not able to complete the ceremony, he would not be allowed to marry or start his own family. Additionally, he would not be able to complete the ceremony again for at least a year. This kind of setback was devastating for the boy, and therefore to the culture, and so was avoided at all costs. This might include holding boys back from the ceremony for several years past the typical age of 14 or 15. In the meantime, the tribunal might encourage the boys to practice their fishing skills so that they will gain the confidence necessary to tackle the whale.

For young women, marriage signified the transition to adulthood. Young women would generally marry around age 13, at the blessing of the women’s tribunal and with their recommendation for whom the young girl would marry. Generally, the boys who completed the whaling ceremony at age 14 or younger were considered to be the ideal candidates for husbands. Boys who had not completed the whaling ceremony until age 16 or later were considered to be last resorts and were not expected to be as adept at providing for their new families. In these cases, the older men of the culture would step in to help the young man to shore up his abilities to provide. As the community was only as strong as its weakest link, it was seen as the responsibility of the community as a whole to care for each family.
SLIDE 8
L: Education for the children was somewhat informal. Until they were about 10 years old, children were typically set out to gather fruits and coconuts each day. They also participated in story-telling gatherings held by the older members of the tribe each evening. When children reached about 10 years of age, they were divided into new labor roles by gender. Boys would spend time learning to hunt and build with men, while girls would follow the women and learn to cook and care for younger children. The rituals signifying transition to adulthood typically took place for boys in the whaling ceremony around age 14, and for girls in marriage around age 13.

SLIDE 9
L: The Kikitocians praised numerous gods, and each god was celebrated in a specific ritual once each year. The Kikitocians paid tribute to the gods of the Sun, the Ocean, the Earth, and the Moon. The Kikitocians believed that the Sun God, when pleased, would warm the ocean waters and dry the bricks to create the dwellings. When the Sun God was displeased with the community, the days turned gray and colder. However, the Kikitocians believed that the Sun God went to sleep each year and prayed diligently to bring it back. The Sun God “slept” for several months out of the year, causing a prolonged period of rain. The rain would fall for several months, and the Kikitocians prayed for the swift return of the Sun God to end the rainy season.

The Kikitocians also praised the god of the Ocean. To keep the Ocean God happy meant plentiful fish and calm clear waters to navigate with canoes. The Kikitocians believed that the god of the Ocean was closely related to the god of the Sun, which explained why the ocean conditions changed so much during the sleeping season of the Sun God.

In the view of the Kikitocians, the god of the Moon was the sister of the god of the Sun. The two siblings were constantly fighting over which was the more important. The Kikitocians recognized that the moon would change shapes throughout the month, and they believed this to be the visible game of hide-and-seek the moon played with the sun.

The Kikitocians prayed regularly to the god of the Earth, hoping to keep her happy so that they might enjoy strong tall palm trees and plentiful hunting game. Additionally, the god of the Earth was responsible for providing the necessary conditions to grow the berries and coconuts the community depended on. In order to keep the god of the Earth happy, the Kikitocians would sacrifice an animal on an altar in the jungle. They believed that this returned the animal to the Earth from where it came.