INTRODUCTION
Higher education places considerable emphasis today on student learning specifically as it pertains to assessment. As a result, a significant number of educators, in the context of both teaching and research, seem transfixed with the desire and perhaps the need to focus attention on appropriate pedagogy. Since much rides on the instructor’s performance in the classroom, this focus is generally justified. As discussed later in the review of relevant literature, there is considerable research on what constitutes quality teaching and the role that technology, including presentation software, plays in its composition. Yet as one might expect, there is little consensus as to either of these focal points. Of significance, however, is that none of the prior research found has directly considered the intersection of the two related themes within the context of an accelerated course, i.e., one that is taught over roughly one-half of a standard (i.e., 16 week) semester, which serves as the motivation for this particular study. As a further twist to this study, the “presentation” software was only made available to students outside of the classroom and not as a tool to present material in class.

Non-classroom Use of “Presentation Software” in Accelerated Classes: Student Use and Perceptions of Value

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ABSTRACT
Numerous articles found in education literature discuss the advantages and disadvantages of using “presentation” software to deliver critical course content to students. Frequently the perceived value of the use of software such as PowerPoint is dependent upon how it is used, for instance, the extent to which bells and whistles are incorporated into the presentation. Extensive use of color, animation and variety can keep students interested and engaged, which, it is sometimes claimed, results in expanded student learning. However, these same techniques have been criticized for taking away from the significance of the content and resulting in students who become passive learners at best. This article summarizes the results of a study designed to assess the value of using “presentation” software outside of the classroom where the course is offered face-to-face but in an accelerated (i.e., abbreviated time) format. Specifically, results of a survey taken of accounting students completing a required federal individual income course over eight weeks are reported, where instructor-prepared PowerPoint slides were made available to students but not covered in class.

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to facilitate internships taken by students, usually for academic credit and usually with public accounting firms. It is common at the university to place thirty or more students annually with firms within the geographical region and beyond by early January through mid-March to help with the busy audit and, to a lesser degree, tax season. When students return from their internships, they will take notes or at least make a list of questions (for financial aid purposes) over the second half of the semester, a three credit hour "block" course will meet six hours a week, double the weekly coverage of a standard full-semester class. This by itself adds considerably to the burden imposed on students to keep current, and if they are enrolled in multiple block classes which is frequently the case, the workload is compounded. Students who do not register for an internship during the semester in question must also take the block class or classes as no other option for these classes is usually available; if they are registered for full-semester courses as well, they often must contend with the reality of having a majority of the week (term papers or presentations, for example) in these classes being assigned closer to the end of the academic term. Thus, regardless of whether a class is a block class or a traditional one, workload imbalance which is typically not well received by all of them, and raises a concern amongst faculty members that student learning is being compromised due to information overload. Student courses and the instructors also tend to suffer, which can later cause related issues for them when they are considered for salary adjustment, contract renewal, promotion and/or tenure.

PRIOR RESEARCH
While assessment is concerned with student learning, its measurement can be somewhat subjective in nature given what is being assessed, and efforts to be more objective frequently result in rigidity with no added insightfulness in terms of outcome or useful information. Similarly, what constitutes good teaching is also open to multiple definitions and subject to individual bias. However, teaching presence is often used as a proxy for learning. Specifically, good teaching is sometimes assumed to lead to enhanced student mastery of the material. This potential connection is convenient since what constitutes good teaching has been studied for many years. In 1953, Guthrie reported that students most frequently associated the creative use of information and communication technology (ICT) with good teaching; caring and understandable explanations; an active, personal interest in the progress of the class; a friendly and sympathetic manner; an interest and enthusiasm in the subject, and the ability to get students interested in the subject. Fifty years later, Witche et al (2003) noted that teachers possessing the following characteristics be the most effective: student-centered, knowledgeable about the subject matter, professional, enthusiastic about teaching, effective at communication, accessible at instruction, fair and respectful, and being a provider of adequate performance feedback. The findings of Korte, Lavin and Davies (2013) were similar: content knowledge, subject expertise was identified as having the greatest perceived contribution to good teaching, followed by strong communication skills, class preparedness, and respectfulness. At the opposite end of the scale, the following characteristics were found by Korte et al (2013) as contributing the least to good teaching: rank/title, professional attire, established research record, strict adherence to course material, and rigor. Of note, technological proficiency was ranked 27th out of the 35 traits examined in this 2013 study in terms of its contribution to good teaching.

Technology today is widely used in all aspects of life and has reached the point where its absence is conspicuous. This is true in academia as well and has been the case for years; Christensen (1999) found that students and their parents expect technology to be used. Some believe this phenomenon has been positive, and possesses the potential to make the learning environment more active and more subject to the control of the learner (Lowerison, Slater, Schmid & Abrami, 2006). Likewise, computer technology can support diverse student capacities by offering alternative methods to process information (McCombs, 2000). But the overall value of technology is dependent upon how it is used, by whom, and for what purpose (Burbedes & Callister, 2000).

PowerPoint, an example of presentation software, was originally developed for use in business and industry, but is also now firmly entrenched in academia and is viewed as a tool to deliver content (Sabat & Hastings, 2000). Its use in the classroom has been credited with adding order and pace to a lecture (Hlyncza & Mason, 1998) and being helpful to the instructor in presenting clear summaries (Lowry, 1999). Korte, Davies and Lavin (2008) believed that students believe their learning more when technology is used, have greater appreciation for the importance of the material being covered as well as for the instructor's effort in teaching the course. According to Clark (2008), weaknesses associated with bored lectures can also be overcome by using technology.

The creative use of information and communication technology (ICT), especially presentation software such as PowerPoint, can bring renewed energy and charged direction to the lecture format. Better learning outcomes can be achieved in the process by stimulating interest, improving note-taking and promoting higher-order learning. (Walsh & Frontczak, 2003). Given this divergence of opinion, it can perhaps only be said that many would agree with Laurillard (2002) that technology-based tools must be accompanied by appropriate pedagogy to be effective. Or, in other words, PowerPoint must support effective teaching (Walsh & Frontczak, 2003).

PRESENT STUDY
In spring 2014, 46 students taking an accelerated (i.e., eight week) senior-level federal individual income tax course at a mid-sized Midwest university were provided access to PowerPoint slides, as part of the course materials by the instructor for the very first time. All of the slides were accessible at the start of the course, covered content considered the most important by the instructor, and spanned 12 chapters and 80 topics. While these slides were not covered during class times, the students were told that the slides were available to be used however they wanted, including not at all. Class sessions were organized by having the instructor cover assigned homework problems along with participation from the students, the same way the instructor had generally taught the course for over 20 years. Students, when provided homework problems, had two parts to the discussion of homework problem being analyzed. Students were expected to come to class prepared to discuss the day's assignment; while they were not specifically required to bring them to class, the instructor asked for them. The questions. No points were given for the completion of homework or for participation, although the syllabus provided note-taking and higher-order thinking assignments. Most of these students (70%) printed them...
off, including 46% who printed off all the slides, 13% who printed off most of them, and 11% who printed about half of them. Most of the students (26) printed off the slides right before a chapter was covered. Of the 30% who did not print them off, almost all of them (93%) indicated that they looked at all of the slides. To provide additional context, the slides were prepared by the instructor and followed the 13-page organizational chart of the material found in the text as well as the assigned homework problems. Further, typically 12 to 14 slides were created for each of the covered chapters.

Students were then asked how and when they used the slides, with Table One summarizing the results in percentage terms. Students were instructed to mark all of the specified uses that applied to them. As can be seen, respondents indicated the most common uses of the provided PowerPoint slides came as they prepared for exams, both with respect to studying for a test and as help in preparing their crib sheet. It also appeared that the survey respondents considered the slides useful during class meetings as a way to organize their class notes and in following the instructor’s discussions of the homework problems, as well as to solve homework problems prior to a class session. However, the slides were used less frequently by the students in preparation for covering new material, i.e., prior to or while reading a chapter initially, even though this is when the slides were most frequently accessed for the first time based on the responses received.

As a follow-up, students were then asked how helpful the slides were with respect to their various uses, with Table Two summarizing the results. The percentages shown represent the responses of only those who had previously marked a particular use (as reported in this first table). Overall, the majority of students who reported a particular use found that the slides were at least somewhat helpful, and often extremely useful. At least 70% of the students acknowledging a specific use found the slides extremely helpful when it came to taking or supplementing their notes, following along in class, reviewing the material after class, studying for the exams and preparing a crib sheet. The value attributed to latter two (helping with tests) are especially noteworthy given the high number of students who used the slides for those purposes as reported in Table One. The slides were less helpful with respect to assisting students with answering homework problems prior to coming to class and in completing the tax return project.

Table Three reports how students perceived the value of the slides in more general terms. Students were asked whether they agreed or disagreed with the following statements, and the extent of their agreement or disagreement. Overall, students generally perceived that the slides, even though not used during class, made studying for the course and exams more efficient. Likewise, the slides were viewed positively in terms of helping identify the most important concepts. Of significance, most students (97%) considered the slides a beneficial learning tool to at least some extent, and a large percentage (85%) thought they also somewhat contributed to helping them achieve a higher grade. Also of interest although not mentioned in the table, when students were asked whether the instructor should spend more class time reviewing the slides given the nature and pace of the class, the results were as follows: strongly agree, 11%; somewhat agree, 28%; neither agree nor disagree, 37%; somewhat disagree, 22%, and strongly disagree 2%. Thus while almost 40% of the class would have liked the slides to focus students’ attention on the content, the rest were indifferent or against their increased usage during class time.

Finally, students were asked how helpful the slides were in a block class as compared to in a typical full-semester course. Exactly half of the class reported that the slides were "much more helpful” in the accelerated class, while 28% found them to be somewhat more helpful and 22% found them to be equally as helpful. So although the slides were not used in the accelerated class as a presentation tool, most students found them to be more helpful than when they are used in a full-semester class. Perhaps because of this, all 46 students indicated that the instructor should continue to make the slides available to future classes.

Table Two

<table>
<thead>
<tr>
<th>When and How Used</th>
<th>Extremely Helpful</th>
<th>Somewhat Helpful</th>
<th>Not Helpful</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prior to a reading a chapter to gain a general understanding of the material</td>
<td>55.00</td>
<td>35.00</td>
<td>10.00</td>
</tr>
<tr>
<td>While reading a chapter to help identify the most important parts of the material</td>
<td>50.00</td>
<td>37.50</td>
<td>12.50</td>
</tr>
<tr>
<td>After a reading a chapter to help answer homework questions</td>
<td>44.83</td>
<td>55.17</td>
<td>0.00</td>
</tr>
<tr>
<td>During class, as a way to take/supplement notes</td>
<td>76.66</td>
<td>16.67</td>
<td>6.67</td>
</tr>
<tr>
<td>During class, as a way to follow along with the instructor’s presentation of the material</td>
<td>77.42</td>
<td>16.13</td>
<td>6.45</td>
</tr>
<tr>
<td>After class, as a way to review the material just covered</td>
<td>70.00</td>
<td>20.00</td>
<td>10.00</td>
</tr>
<tr>
<td>Right before a test as a way to help study for an exam</td>
<td>72.18</td>
<td>25.58</td>
<td>2.32</td>
</tr>
<tr>
<td>Right before the test to help prepare the crib sheet</td>
<td>76.31</td>
<td>18.42</td>
<td>5.27</td>
</tr>
<tr>
<td>To help complete the tax return project</td>
<td>19.23</td>
<td>61.54</td>
<td>19.23</td>
</tr>
</tbody>
</table>

Table Three

<table>
<thead>
<tr>
<th>General Value of Slides</th>
<th>Agree</th>
<th>Neither</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Strongly</td>
<td>Somewhat</td>
<td>Strongly</td>
</tr>
<tr>
<td>The slides made studying for the class more efficient</td>
<td>58.70</td>
<td>30.43</td>
<td>8.27</td>
</tr>
<tr>
<td>The slides made studying for exams more efficient</td>
<td>67.39</td>
<td>26.09</td>
<td>4.35</td>
</tr>
<tr>
<td>The slides helped identify what content was the most important in this class</td>
<td>60.87</td>
<td>34.78</td>
<td>4.35</td>
</tr>
<tr>
<td>Overall the slides were a beneficial learning tool</td>
<td>71.74</td>
<td>26.89</td>
<td>0.00</td>
</tr>
<tr>
<td>The slides helped me achieve a better course grade</td>
<td>43.48</td>
<td>41.30</td>
<td>13.04</td>
</tr>
</tbody>
</table>

CONCLUSION

Prior research has revealed that presentation software such as PowerPoint has both its supporters and opponents. When used effectively, it can make a class more organized and can help communicate the relative importance of the content. Yet it can also have a detrimental effect on the students’ participation in their own learning, causing some to stop taking notes or attending class. In this study, the instructor made self-created PowerPoint slides available to students in an accelerated class as a study aid, but did not utilize them in class. It was hoped that the usage of the slides would focus students’ attention on the content that the instructor thought was the most important, but would not detract from their engagement in classroom discussions or provide an excuse not to attend or pay attention. The slides were not used to facilitate lectures, which were seldom used due to the presentation-oriented nature of the class, i.e., class time was used to solve homework problems assigned in the syllabus. Of note, eight of the students indicated in the questionnaire (administered after the last class but before the final exam) that they always came to class prepared, while 32 reported that they usually came...
to class prepared; on the other hand, five students indi-
cated they seldom came to class prepared, while one re-
ported he or she never prepared before class. Also, one-
third (15) of the students (45 of 46) who reported that they took notes during class indicated theirs closely
followed the PowerPoint slides, while 20 and 10 students, respectively, indicated that their notes somewhat followed or did not follow the slides. Thus it appears that most of
advantages normally associated with using presenta-
tion software were minimized by not using the slides in
class as a way to present the material. Students still took
notes and came to class prepared as a general rule.

The results of the questionnaire as reported above suggest that students used the slides in a variety of ways, including preparing for class, taking notes and following along in
class, as well as studying for the exams. In fact, review-
ing the slides was identified by the respondents as being
the third most relied on method for study for the test, only
following re-doing homework and reviewing instructor-
provided homework answers. In addition, while the slides
were generally found to be helpful with respect to all of
these uses, their greatest value related to studying for
the exam and preparing exam crib sheets; they were also
found to be of less help in answering homework problems
and completing the tax return project. This wasn’t surpris-
ingen to the instructor, as the slides included a more con-
ceptual discussion of the topics covered and did not offer
hints on how to solve particular problems or on how to
navigate tax forms.

Students also found the slides to be a beneficial learn-
ing tool even though they were not utilized in class, and
helped students achieve a better grade in the course, based
on their own perceptions. The slides also resulted in stu-
dents rating both the course and instructor higher in
general, as shown in Table Four. Six students (13%) did
indicate, however, that they rated the course lower than
they otherwise would have due to the instructor’s usage of
the slides. It is unclear whether this reaction was because
the slides were made available at all or because they were
used in a way that was less advantageous then they per-
haps could have been, for example, as a way to facilitate
the presentation of the material.

There are limitations associated with this study. It involved
only one class, i.e., one data point, and did not provide op-
tions as to how the slides were used. In other words, the
slides were made available to all students outside of the
classroom and were not covered by the instructor in the
only section of the courses offered. Further, the study
was undertaken at an institution where accelerated classes
have been offered frequently for a number of years; such
offerings may not be common at other institutions. There
was also a prior bias amongst the students that technology
improved their learning. However, it is believed that the
project still contributes to the body of research related to
the use of technology in the classroom even if accelerated
classes are not commonplace, and it should be noted that
majority of students found the “technology” to be even
more helpful than when used in a regular class.

The results of this study provide opportunities for future
research. Given differences in how students believe tech-
ology generally impacts their learning, further analysis
will be undertaken to see how these beliefs impacted their
usage of the slide in this particular situation. In addition,
the authors are exploring how demographic differences
among the respondents have impacted their usage and
perceptions of the value of slides, such as gender and grade
point average.

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<table>
<thead>
<tr>
<th>TABLE FOUR SLIDE AVAILABILITY’S IMPACT ON COURSE AND INSTRUCTOR EVALUATIONS (PERCENT RESPONSES BY SURVEY PARTICIPANTS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course</td>
</tr>
<tr>
<td>-------</td>
</tr>
<tr>
<td>Higher rating</td>
</tr>
<tr>
<td>Lower rating</td>
</tr>
<tr>
<td>No impact on rating</td>
</tr>
</tbody>
</table>