Eating Baby Food or Eating Meat? Student Voices on the "Everyday" Use of PowerPoint in University Teaching

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Abstract

This research study centres on the use of PowerPoint in university classes. It poses the question: How do students perceive PowerPoint specifically and technology overall impacting their university experiences as a process for learning, as an element of social community building and as a worldview lens for examining and critiquing their world? In a qualitative ethnographic narrative, based on the work of Dorothy Smith, student voices in the everyday are heard in order to provide insider perceptions on the key question. Twenty-four volunteer participants signed consent to engage in focus groups flowing from 3, twenty-one hour face-to-face courses. These courses were comprised of 13 sessions of two 75 minute classes weekly taught by one professor. Following the first introductory class session, remaining classes were divided into two halves. The first half (6 classes) of each course was instructed using PowerPoint and the second half (6 classes) was not. Students were asked to reflect on the impact and benefits of each half section of the course delivery. Additionally, they were asked to comment on how each half of the course affected their meaning making, memory retention of data, process for learning, engagement for community making and worldview lens regarding the use of PowerPoint in university. Findings revealed three themes to consider in the professorial use of PowerPoint as a teaching tool in university, and also raised reflective scrutiny by the learners involved in the benefits and shortcomings of PowerPoint use.

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Introduction

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Engaging the everyday institutional life of students, this study is centered on the perceived use of PowerPoint in university classes. This study examines how students themselves see technology in general and PowerPoint in particular as playing a part in the teaching/learning process, how this impacts their university experience in content knowledge, and/or how this serves as a potential means of creating community. Technological advance in the field of teacher education exists synonymously with innovative calls for the creation of an interpersonal community of educators (Organization for Economic Cooperation and Development, 2010) that engages social skills, empathy, and models the professional requirements or soft skills needed to be an effective and certified teacher. At the root of the interplay between technology and teacher and student development is a core problem in teaching adult learners: is technological instruction (the doing or delivery of a course), in its own right, more, less, or equally significant when compared to the intentional investment of developing future professionals (the being and social engagement within a course)?

In an age when MOOCs, [Massive Open Online Course(s)], and the flipped classroom—where students view class lectures online at home and do homework at school—are acquiring broad social and educational interest, a burgeoning move of marketing by those with invested interests may or may not appear to be threatening the life of higher education in the Canadian context (Sternberg, 2013). This provokes the question, is education becoming so saturated with educational technology that educators are often no longer willing to critique such practices? Within a battery of commercial propaganda to promote fewer educators in institutions and increase more technological intervention, how do university-based educators implement educational distinctiveness in relation to an ethnographic mission within the spin of such technological advance? Using the narrative ethnographic methodology of Dorothy Smith (2002, 2005, 2006) which gives value to the lens of everyday institutional life of students and their voices, this study examines both purpose and question: How do students perceive PowerPoint specifically and technology overall impacting their university experiences as a process for learning, as

an element of social community building and as a worldview lens for examining and critiquing their world?

The Researcher and the Research
In reflecting upon my experiences of the everyday as an educator, I cannot help but be cognizant of the many proposed changes in education over time that have claimed to help education become better. What is this better? In our current culture, better often presents itself clothed in technological efficiencies. The reasons for this may be individual and varied, but overall, the largest impact from technology lies in the fact that what the professor or teacher has formerly been able to have input into (e.g., class configuration, strategic opportunities for deep thinking and academic growth, creating community as life-long learners, imparting social skills, etc.) is now giving way to becoming secondary to the process of education and how it is delivered. The intent, content, and in some cases, the learning space itself, has now been surrendered not to what makes students think and mature, but to how process is framed. Once a school board mandates that all children are to be given laptops or tablets for school use, for example, the entire culture of the classroom must change to accommodate this technology. Spaces must be found to charge and store iPads, security must be upgraded, supervision of the device must be ensured, repairs and maintenance must be considered, and more (Maich & Hall, n.d.). Increasingly, these same issues occur in post-secondary settings.

As part of faculty in a small, independently-funded Christian university, I have certain aspects to consider which relate directly to my particularity as a university professor. As is true for any professor, I am to be about the business of teaching students how to think. As new waves of learning—short-term fads or long-lasting innovations—engage educational attention, I must consider how these affect who my students and colleagues are as people, what the new technology provides, what it takes away, and how such giving and taking may play out after my students are no longer in a university learning environment. Of course, this type of reflection is not bound to the Christian educator alone, but since I am one, this paper shall engage my journey and the journey of my students in hopes of truthfully seeking an answer to the value of using PowerPoint (PPT) and similar

technological tools in directly communicating content within university teaching. In fact, I have learned that when I use one technological intervention, for example, PowerPoint, others will always follow. But since PowerPoint is used so often by so many in higher education, this is my focus. This is where it all seems to begin.

Literature Review
I began my quest by following the trails my students habituate as digital natives (Page & Mapstone, 2010). In doing so, my inbox inflated regarding general online educational publications that dealt with MOOCs, the flipped classroom, and various invitations to engage online learning. Examples of such topics included newspaper reports of educational interest, such as the *Ashbury Park Press* (Boyd, 2013), *The Atlantic* (Carr, 2008); *Library Journal* (Academic Newswire) (Smith, 2013), *The Washington Post*(Strauss, 2103), *The Chronicle of Higher Education* (Kolowich, 2013; Perry, 2013). These served to provoke me to a more rigorous search of print-based sources. In tandem, short snippets on these topics emerged on my Facebook page, on my Twitter feed, in newspapers, educational journals, and professional magazines. Uninvited and non-dialogic, this information was presented as online communication (even though in reality it was transmission, not communication of information): the herald of new things to come. What this initial foray did do, besides annoy me with wondering why Facebook and Twitter were persistent in providing a pushed-in glut of information I did not directly request, was to make me aware that most of these electronic articles came from those with invested interests or financial concerns who thought mass delivery of education would be beneficial to institutions and to those who produced technological devices. Others looked at the goal of keeping up with technology. It became clear that the conversation regarding strategies for university learning was much more prevalent online than offline. Most information was not peer reviewed. So what was the story?

As my inquiry into the literature broadened, books (Carr, 2010; Oppenheimer, 2003; Postman, 1993; Rheingold, 1994; Schuurman, 2013; Turkle, 2011) gave me a balance of views, both positive and negative, around the subject of technology, learning, and the mind over a period of time—past,

present and projected ideas for the future. I pursued a timely Christian university study found on the topic (e.g., Calvin Centre for Christian Scholarship Working Group Examining Christian Higher Education Online, 2013) of technology and its place in learning—especially in higher education. This study's relevance was in its examination of the use of MOOCs as these related to media inviting student participation. This working group study scrutinized what MOOCs would do to course offerings, the affect on transfer credit, credibility, and the lack of challenge by the academy made to this new intervention. Key to this discourse was how Christian scholarship should shape or adopt online education. The article concluded that although much of this material addressed the how of education, little of it addressed the why and to what end that made Christian higher education particular. Promise, in the end, was not above pitfalls.

Peer-reviewed journal findings on this topic tended to address three main themes. Some saw technology as a new platform for virtual environments (Crawford-Ferre & Wiest, 2012; Renes & Strange, 2011; Rheingold, 1994) providing an opportunity for an alternative forum and process for learning. Others saw technology from a worldview perspective as a financial opportunity or a way to exercise democracy or even exclude private provider markets (Anderson & McGreal, 2012; Hockings, Brett, & Terentjevs, 2012; Oppenheimer, 2003; Postman, 1993). Yet others explored technology as it would affect the social contours of what it means to be a learner inside or outside of the classroom (Bowden & D'Alessandro, 2011; Carr, 2010; Kinchin, 2012; Sana, Weston, & Cepeda, 2013; Schuurman, 2013; Smyth, 2011; Turkle, 2011). Within these perspectives, Bowden and D'Alessandro (2011) and Kinchin (2012) examined student perceptions of learning, but they did so using a clinical, positivist approach. What is lacking in this work is students' voices and narrative retellings of learning in technologically-influenced contexts. Schuurman (2013) and Turkle (2011) looked more at the social implications of learning both individually and in community, exploring what kind of a community is made by learners themselves. In turn, I decided to look at the everyday life of my students (Smith, 2002, 2005, 2006) in order to explore what students and I could learn about thinking and learning in regard to technological interventions.

Methodology

This study emerged from the support of an internal learning and teaching grant, employed to improve teaching and learning at a university level. Following research ethics approval by the research ethics review board of the university in September 2012, verbal recruitment subsequently began in three courses offered during the Fall 2012 semester. I instructed all of these courses, and chose to use a narrative approach to exploring the nature of learning and technology alongside students.

Recruitment and Participants

At the commencement of each course I explained my own personal interest in serving students as learners as the reason for this pilot study. I further explained that I was conducting a pilot study in which the first half of the course following the initial course introduction (7 sessions of 75 minutes each) would be taught with technology integration using PowerPoint as an andragogical tool to support content teaching, and the second (6 sessions of 75 minutes each) would be taught with no technological intervention, in order to provide lengthy, contrasting experiences for authentic reflection. I explained that participation in follow-up discussions—focus groups related to this study—was voluntary, and that students interested in the project could sign a letter of consent to participate in any or all of three focus groups: one at the end of Stage One (using PowerPoint), one at the middle of Stage Two (without using PowerPoint) and one at Stage Three at the end of the project after courses ended. I also explained that the study itself had no connection with grades and that no incentives for participation would be provided. From these three classes with a total population of 73 students in their fourth and/or fifth years of university in a program of professional teacher education in a small, private-funded Christian post-secondary setting in Ontario, Canada, 24 students volunteered for the study. Students ranged in age from 20 to 40 with the majority being female, and three being male. Students were exposed to PowerPoint slides with visuals, limited text, and a quantity of approximately 20 slides in each 75-minute class, as a catalyst for focus group-based reflection.

Research Tradition: Ethnographic Narrative Qualitative Research

The methodology of the course relies heavily on the ethnographic and narrative work of Dorothy Smith (2002, 2005, 2006). It is also reflective of the grand conversations and dialogic interventions of Mikhail Bakhtin (1981, 1986). This is significant because it considers the voices of those engaged in learning in the classroom to be valuable.

> In contrast to other sociologies, it [institutional ethnography]… is one of inquiry which begins with the issues and problems of people's lives and develops inquiry from the standpoint of their experience in and of the actualities of their everyday living. (Smith, 2002, p. 18)

It becomes clear as the study progresses that the key questions of my study are significant for discovering student perceptions of PowerPoint and also how PowerPoint actually affects student perceptions as being key to future professional practice. It is also helpful in understanding how a learning community functions, in opposition to how I may assume it functions based on what I read professionally and personally. Smith (2002) stated, "Institutional ethnography begins with and takes for granted that people experience, see, and conceive things differently… social relations and organization generate difference" (p. 22). Smith's sociological focus has been further explained this way:

> The work of the sociologist [and educator] is to discover these relations and to map them so that people can begin to see how their own lives and work are hooked into the lives and work of others in relations of which most of us are not aware. (p. 18)

By implementing the dialogic processes of deep discourse evident in the writing of Bakhtin (1980, 1981) and engaging the voices of the students who are actually engaged in the learning, I became able to participate in what Bakhtin termed grand conversations that would otherwise not surface in a more top-down, conventional inquiry. This supports research by MacLure (2003) showing that community dynamics inform research in ways that quantitatively-based research cannot. Since education is a relational enterprise, it is beneficial to see the social landscape of the learning environment as being key to understanding how learning that results in meaning making occurs.

Focus Groups

At the commencement of this research project, all participants in the study signed letters of conformed consent, and were assigned pseudonyms to ensure confidentiality. Participants met for between one to three sessions of 45 minutes in duration. Over the entire study of the 24 participants, some students took part in all focus groups (12), some participated in two focus groups (8), and two only attended one focus group. Two other students were unable to make the focus sessions but did send an email requesting the questions in advance, and responded with their views in writing. The first focus group had 18 students, the second had 14 and the third and final focus group had 12 participants. Not all students participated equally. Nine key question prompts were used; three for each category of questioning as outlined in the following section. Questions also arose and were encouraged during the process of this semi-structured focus group.

During these three focus groups, I was careful to take notes from open-ended prompts and I also had a research assistant who was present making notes as well for accuracy and reliability in the process. This data is stored in a locked cabinet. The same questions were probed in all sessions.

Process questions: an alternative forum and process for learning. In inviting discourse about process, questions such as "Tell me what part of the first 6 sessions of course delivery assisted your learning, how, and why?" and "Tell me what part of this style of course delivery diminished your learning, how, and why?" provided reflective considerations from participants. Similar questions were posed for the aspects of learning, such as, "Tell me what part of the second six sessions of course delivery assisted your learning, how, and why?" and, "Tell me what part of this style of course delivery diminished your learning, how, and why?"

Social interactions: as it would affect social contours and community. In creating space for social contours in university life, questions such as, "How did each section of course process affect your social understanding of teaching and learning?" were offered. Since provider interest and markets were also prevalent in the literature review, questions regarding worldview were also posed.

Worldview recognition as a way to exercise democracy or exclude private provider markets. Since marketing and democracy are serious considerations in life after university, metacognitive questions such as "How did each section of course process display preferences and priorities held in the process of the delivery itself?" brought forth text-to-world connections. Perceptions and memory were considered through the question, "What is highly valued in each process and why, and can you think of where you see this put to use in the classrooms you visit on practicum?"

Analysis
Responses to focus group questions were transcribed using handwritten notes, then compared and contrasted to the electronic transcription of my research assistant. A chart of emergent themes was created using a handwritten, visual mind map of prominent key ideas. Following each focus group session, I reflected upon comments given in light of the categories emerging from the literature review, looking at technology as a platform for delivery in a virtual environment; as a process, as a social event, and as a way of expressing a democratic, financial or 'otherwise' worldview related perceptions. I then listened for how my students may see these categories as being beneficial or detrimental in light of PowerPoint delivery within courses and how such results related to the findings of the research in my literature review. In so doing, I highlighted: (1) repetitions of key vocabulary, (2) personal statements of perception, (3) links to common themes of the literature review, and, (4) cause-and-effect statements. From examining these transcripts of scribed conversations and reflections, I began to see key words and perceptions within the conversations of those in this project. Some supported previous research. Some did not. Some questions raised were not a part of previous research at all. Thus, as the inner voices of the institution emerged, it became clear to me that Smith's insight on the importance of context; that every institution being unique came to the fore.

Results and Discussion
Throughout focus group discussions with 24 participants, the following three themes became evident about the use of PowerPoint in higher education in my institution: its pragmatic use as a tool for teaching and learning, its use in the context of community, and its perception through a worldview lens.

Engaging PowerPoint as an Alternative Forum and Process for Learning

PowerPoint as a forum for educational process exhibits a particular way of engaging educational content. Since PowerPoint is used commonly for delivery of content while lecturing on my campus, one of my initial questions was to obtain participants' opinions of PowerPoint as a way of conveying information during classes. I thought that these digital natives would begin our conversation at the end of the first six sessions praising the wonders of technology and ease of using PowerPoint. Rather than starting with 'technique' as being key (e.g., pros and cons of delivery style), which I perhaps naïvely expected as a response in my first meeting with student volunteers, the first participant in the session provided a landscape for my whole inquiry:

> As a student, I come to four classes a day on some days. Every class uses PowerPoint. I go to church, and it uses PowerPoint. Many people are also using laptops which show the PPT – or other available features. I far prefer it when someone has time to actually listen to what I am saying, or gives me time to think, than to tie me to what I am watching, or being distracted by what someone else is watching. [Maggie]

Maggie acknowledges that technological tools are prevalent in social instruction. Maggie is a digital native: her formative years were immersed in PowerPoint as a tool for teaching and learning. As a final year student, she wonders if she will see as much of it in classrooms as she enters the world of work beyond university. When asked whether or not she thought her statements were related to the ability of the university instructor to use PowerPoint successfully as a teaching tool, she said:

> Some instructors use too many words; some have better balance of visual and words; some just read them—but that is not my point. My point is that it is still more distracting to use a steady diet of PowerPoint because everything is always moving faster than you are reflecting or thinking on what the slide says. And when it does not work, or the instructor has

problems setting it up, that breaks your train of thought, too. When the PowerPoint is too long, all I can think of is how many more slides I have to go till it ends … some of the worst classes used exclusively PowerPoint but what bothers me is that when it is exclusively used, I am just waiting for it to finish. But I want to stay when it is not exclusively used. [Maggie]

In response to Maggie, Betty, another student noted, "Having PowerPoint discussion based can be good if it can pose a discussion question to keep class focused, as long as it is not just stating the facts." But does PowerPoint basically become viable just because it does state content facts? Or do students see this differently? One student mentioned mindset as being central:

> There is a mindset that when you are using a PowerPoint you are lecturing and when you are not you are discussing. The flow is worse when you try to mix the two. I haven't had a single professor who can do both [use PowerPoint for content and discussion]. PowerPoint is content orientated. [Bob]

PowerPoint is used as it is embedded in context, showing not only content within process but context in structure, or lack thereof, within the formation of the PowerPoint. Students also considered process from a teaching and pacing perspective, as in this interchange between Kate and Abby:

> I get frustrated when I have to look at a dark PowerPoint. It hurts my eyes … when there is a lot of text on a slide it is frustrating, especially when the font is too small. A well-made PowerPoint with images and print that is large work[s] better. [Kate]

> The pacing is a problem for me–when a professor had to use a chalkboard there was a natural pacing. But you can flip through a PowerPoint very quickly. If you are going to provide us with a PowerPoint and not post the notes than how can we accommodate pacing? I'm wondering if PowerPoint has become the new consumable workbook. A lot of texts available have premade PowerPoint … if I just see a PowerPoint I won't remember. Applying what I have

learned requires me to make my own notes. [Abby]

Kate, Maggie, Bob, and Sally then engaged further in this conversation. Kate stated, "Well, PowerPoint puts things in lists. It orders content. It keeps me on task." A counterpoint is then offered when Maggie stated, "I can't recall a time when PowerPoint was helpful or when it aided me in my learning. It's not memorable." Bob then suggested that, "In year one or two it is useful that PowerPoint is used. The amount of material required as a history teacher is very large. Efficiency over effectiveness." Sally, who has been listening in, then offered: "Content based slides should be additional material or material added by the teacher, not regurgitated from the already assigned readings or text or the text book slides provided by the publisher."

All of the students in this discussion on process say the use of PPT in their everyday lives as being in need of improvement for some reason, except for the pragmatic idea of a presentation of orderly content–if the content on the slides are well-designed. This, however, does not make the student think or engage better in class in any way that is clearly noted, which is significant. It only makes notes for studying available to those who have computers, and in this group of participants, two students do not have updated technology at home.

Engaging Technology as Social Interaction for Community

In preparing students for engagement in the classroom, creating community is essential to a healthy learning environment. Courses are specifically crafted in teacher education that focus on this aspect of classroom management, and the Ontario College of Teachers (2012), sees the social embodiment of dispositions of care, respect, integrity, and trust as being the hallmarks of a professional teacher. For adults teaching children, community is central. The data in this next section explores PPT and its role in creating social interaction and community formation. It is interesting for me to note that all of these comments occurred later in the study, where no PPT was being implemented. This may suggest that when PPT is present, it is not being thought of in educational ways, but rather is being viewed without thought as to its benefits or flaws by students and perhaps, as suggested previously by the working group

document from Calvin College, by faculty as well. It is after the experience that the reflection seems to occur, and even then, only when reflection is intentionally requested. This is apparent in the musings of Abby who said:

> I found that when the PowerPoint was taken out the room was quieter and I liked that. PowerPoint turns the noise in the room and we do not tend to turn towards each other (the social relationship) … the PowerPoint did help us stick to some kind of agenda. In other classes you are madly trying to get all points down and therefore I am not really listening to the content. Where I did my undergrad there was not a lot of use of PowerPoint. I am trying to make comparisons to this. You can get a lot more down with PowerPoint and with computers, but is that what matters? If there is a lot of content being delivered, I always wished professors would give us the outline for the important content so we could discuss it further. [Abby]

Here Abby is sorting out what PPT gives and what it takes away, and is trying to find out what she thinks. Other students jumped in to the conversation:

> PowerPoint affects my learning and my short-term memory. If there is a list I need to remember that was posted on a PowerPoint, I can easily store it in my short-term memory but not my long [-term memory]. I do prefer the discussion- based learning, where we can feed off each other and build community, while with a PowerPoint I feel like I am being told what to think. Ideas seem more tangible when it's [sic] not on a PowerPoint. [Maggie]

These comments were then informed by Matt and Barb, who responded: "I need time for reflection which does not often correspond with this particular format of teaching … sometimes I get distracted by the PowerPoint and do not even pay attention to the presenter." Barb then added, "Discussion is memorable; PowerPoint is pointless because I build my own notes."

It is interesting that even though the majority of the students above regarded PowerPoint as being part of the social landscape, they also saw it as either imposing upon learning as a vehicle for generating information and/or detracting from the human aspects of reflection and discussion that provide meaningful thinking in the context of our social discussions. From this point the conversation moved to the larger worldview discussions of what is valued by the community and what may be suspect.

Engaging PowerPoint as a Value-Laden Aspect of Learning

When considering worldview, democracy, and the power of marketing, it is interesting to me that the longer we consider the intent and use of PowerPoint, the more the larger issues of how it serves us or disserves us link back to the dispositions of what it means to be a teacher and learner. PowerPoint is not neutral because any tool is used with a purpose in mind. Sally engaged this point by reflecting:

> I think when all is said and done that I find PowerPoint a little distracting because not only do the profs have an agenda but also they aren't adding to what is already on the screen. There is a more personal relationship formed when there is an absence of PowerPoint.

Abby and Kate extended this thought when Abby said: "There should be a message before a PowerPoint is created. Conversations are the memorable. We need to be evaluative of whether we are information-dumping." Kate quickly entered the conversation with: "When PowerPoint doesn't work [professors] don't have a backup plan. Knowing how many times that has happened and the teachers blaming the part time student Internet Technology worker and once even cancelling class … this does not assist learning."

As this conversation progressed from initial perceptions about PowerPoint use to social communities–and on to effects over time for values, learning, and living–students seemed to focus on the reasons for using or not using PowerPoint, a little differently: more deeply. This brings conversations back to initial comments that emerged—the first perception by Maggie that students are almost marinated in PowerPoint use at university, at church and through laptop use, but still have questions and concerns that require intensive face-to-face interaction with real people in the present moment.

This may provoke considerations of the possibility that students are not aware of what they have learned until they go through it and look back over the whole process of the course. At the same time, they intuitively know what they need in their learning, and only start to see its effects after the course is done. Maggie ended with this insight:

> PowerPoint was useful in relaying information but not in generating discussion. This second half of the class [no PowerPoint or technology use] is a deeply engaging class that I am really interested in. I will think back at those days and the learning was very memorable. I feel like the first three years of my undergrad I was being fed baby food but it wasn't till now that I was eating meat. That is because discussion does help me own my learning and build relationships with others. [Maggie]

Conclusions and Next Steps
Students come into university learning environments as divergent individuals who learn in diverse ways and for varied reasons. As a participant during the process of examining this question (especially at the end), I was struck by some overall, broad brush observations as a professor. In the first meeting, during the first section of the course, where PowerPoint was used in all class sessions, many students brought their computers to the participant session and some multi-tasked and said little during the interviews. This was not the case by the end in the final focus group. In the final conversations a number of students mentioned that it was annoying to be distracted by the technological equipment of others: laptops, cell phones, social media, etc. What did change was the level of engagement by participants the groups. Those who were not participating in internet browsing or other means of internet work or being distracted by their mobile phones during our engagement sessions were the most vocal in interviews and the most responsive to the prompt questions. In contrast, while working on their laptops, some only made one or two general comments—"I like it or I don't like it" -type comments—which added little to the study. We use technology, but now I was watching how others used it, reflected upon it, engaged it and reframed it.

Those who fully engaged across multiple focus groups rather than a single conversation appeared to be interested in the study itself, and perhaps had a different perspective. Many of the self-professed laptop users did not attend the final focus group, which may also show apathy to the study, or an ability to attend to conversations due to multitasking. One of the most engaging aspects of the study was the progression of thought that emerged across the three meetings from conversation to conversation. Therefore, the initial observation by Maggie on how technology is so prevalent, and how it uses us, was an informative but unexpected finding, moving beyond the scope of my initial questions.

At the beginning of this study, the purpose was posed: How do students perceive PowerPoint specifically and technology overall impacting their university experiences as a process for learning, as an element of social community building and as a worldview lens for examining and critiquing their world?

Early in the course of conversations, process was a key focus area and central to conversations; for example, the pragmatics of when to use PowerPoint, how to use it, how to use it well, how to use it poorly, and what benefit there is to using it in different ways at different times. As a platform for learning, it appeared that PowerPoint was often accepted by the participants without being scrutinized. This mirrors a key point that even faculty may not challenge its use (Calvin Center for Christian Scholarship Working Group, 2013). Technological use in university, therefore, is not only a product, but also a process, rife with many unexplored and perhaps unacknowledged contentions from the points of view of both its users and its consumers.

The second element related to social community building moved to the fore in discussion more often. The significance of having a person present in face-to-face real time within the context of interactive discourse was deemed beneficial beyond its passive delivery and viewing, even when the content itself was specific to learning goals. The process of delivery of the content was key (Were the slides read? Were students engaged as an audience?)—but the purpose had shifted (Was the goal to be interactive and create a community of learners?). Where did teaching students how to think fall in this paradigm?

Worldview conceptions regarding the use of power, economic means, and inequality in education—considerations key to Christian education and education in higher-level stages in general, became more of a focus in the ending discussions. Grand conversations that connected process, community building, and higher level reflective thinking on the agendas that may drive the use of technology and its use showed deeper considerations for exploring worldview.

Overall, what the study adds to the present research base is that conversations and reflective dialogic voices from the everyday life of students do produce more introspection about how PowerPoint affects learning over time. In other words, the voices of students are significant, even if they are seldom invited in studies to date on this topic. Essentially, through reflection, we get to examine how we use PowerPoint and how it uses us. A key principle in the book of Peter holds me to caution: we become a slave to whatever has mastered us (2 Peter 2:19). Hence, for good or ill, the Christian university must examine why it does what it does regarding its use of PowerPoint and technology overall in the future to a greater extent than it has.

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