A Tale of Two Cultures: Cross Cultural Comparison in Learning the Prezi Presentation Software Tool in the US and Norway

Sabra Brock
Touro College,
New York, NY, USA

Sabra.Brock@Touro.edu

Cornelia Brodahl
University of Agder,
Kristiansand, Norway

Cornelia.Brodahl@uia.no

Executive Summary

Presentation software is an important tool for both student and professorial communicators. PowerPoint has been the standard since it was introduced in 1990. However, new "improved" software platforms are emerging. Prezi is one of these, claiming to remedy the linear thinking that underlies PowerPoint by creating one canvas and permitting the presenter to zoom in and out as each element is introduced. Users can move back and forth to display the separate elements and reflect how they fit into a larger context.

As these new tools are introduced, there may be different responses to them depending on the cultural background of the user. In order to understand one such interplay, Prezi was introduced to students in a class in Norway and in the same way to a class in the U.S. The mixed method study compared the introduction of this new software tool to two undergraduate classes in Spring 2012. The two professors used the same introduction to the tool. The output was the final project presentation for the class done using the Prezi tool. Students evaluated each other's presentations on 10 attributes and answered two open-ended questions about the presentations. They also completed an 8-question self-evaluation of their or their team's presentation. The instructor/researchers also used the same questions to evaluate her class. An additional 13 questions were added to the instructor instrument. Each instructor/researcher also viewed videos of the presentations from the other class and evaluated these presentations using the same set of questions.

Results showed that both sets of students used the new tool well despite minimal direct instruction. Most made their presentations less linear than they would have been in PowerPoint. They generally used the Prezi technique of grouping elements and constructing a pathway between groups. Most inserted multimedia such as photos, videos, and links. Some especially appreciated the Prezi feature of more than one user being able to work on a presentation at the same time. Peers liked each other's presentations and found them engaging. However, open-ended comments were more directed to actual content than use of Prezi. In student feedback the answer to the first attribute, being engaging, appeared to create a halo for most of the other attributes.

In evaluating their peers' presentations, the U.S. students were significantly

Editor: Anthony Scime

more positive than the Norwegian ones, reinforcing the belief that the American culture is well above the global norm in optimism. Norwegians were lengthier in their open-ended feedback to their peers and focused more on content and style than the Americans. In self-evaluations, Americans had more to say than Norwegians. They stressed the creative aspect of Prezi whereas Norwegians highlighted presentations being tidy and calm.

Males were higher raters on average than females. The researchers were less positive than the students, reflecting stricter standards than students.

Researcher recommendations for teaching Prezi are included.

Keywords: Prezi, PowerPoint, teaching concept, higher education, presentation skills, multimedia presentations.

Introduction

Along with student presentations and peer critiques (Hadjerrouit, 2005; Koohang, Riley, & Smith, 2009; Zhang & Olfman, 2010), problem-based projects are encouraged activities in constructivist-based teaching and learning strategies. Consequently, effective presentation skills turn out to be critically important for students' path to academic success and career growth (Alshare & Hindi, 2004; Derrick, 2006). Presentation software has been an important component of postsecondary education for the last decade, not just in support of professorial lectures, but also for student projects (Huxham, 2010).

Presentation software is used to create and display information, normally in the form of a series of slides. It mostly includes three major functions: a text-editor, a method for embedding multimedia content, and a slide show generator. Each single slide may combine text, images, video clips, charts, tables, movies, and music files. All slides belonging to a presentation will be processed and stored together in one file.

Zooming presentation, a user interface based on scalable technology wherein the areas to be displayed can be zoomed in on demand, is an alternative to slides-based presentation techniques. The user prepares the content and creates a path to and the appropriate zoom level for each section at a time to be shown. Following this path during presentation, only a part of the entire content is being revealed and zoomed into at each step. Navigating further, the user is led to the next stopping point and zoom level by flowing animation.

One example of this technology is Prezi, a free online visual presentation tool launched in 2009 that allows the audience to interact with the content by moving around and zooming in and out on a large canvas that can be filled with images, video, and text (Fransson & Holmberg, 2012). Users can pan and zoom, import media, collaborate from remote sites, and make the presentation available online and offline. (See Figure 1 for screenshot.)

On a conceptual level, Prezi is a Web 2.0 tool, in terms of three key aspects of second generation software and its "Architecture of Participation": creation of content, communication, and collaboration (Barnatt, 2008; O'Reilly, 2005). Prezi offers online service delivery in which software and associated data are centrally hosted (Software as a service, SaaS), free from locally installed software. Prezi allows users to read, write, and save online, offers interpersonal content sharing, and more than one editor for simultaneous editing.

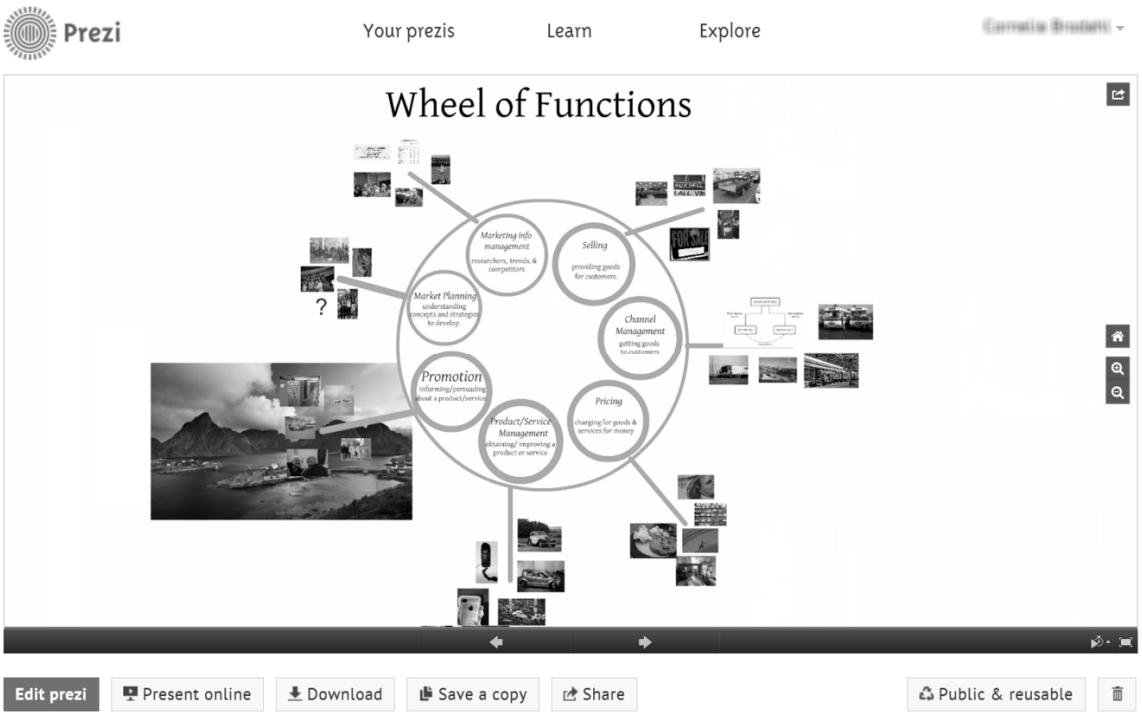

Figure 1. Screenshot of a Prezi created on prezi.com

In order to understand the different responses of college students to learning and using this new presentation software tool, research was conducted among undergraduates in two schools, an ICT (Information and Communication Technology) and learning class in Norway and a marketing management class in the U.S. Cultural differences between the two countries were expected to be reflected in the research, as well as the contrasting approaches of the two class subjects, and quite possibly gender.

The research was conducted during the 2012 Spring semester. The Prezi tool was new to all of the students.

Literature Review

Higher education studies on early use of presentation aids have primarily focused on the transition from overhead projection to PowerPoint slides as the main presentation medium in classrooms in the 1990s. Much of the PowerPoint research focuses on instructor use and its positive effect on students' learning (Adams, 2006; Burke & James, 2008; Daniels, 1999; Isaacs, 1994; Noppe, Achterberg, Duquaine, Huebbe, & Carol, 2007; Szabo & Hastings, 2000), but a negative impact on learning has also been reported (Frey & Birnbaum, 2002). PowerPoint has been criticized for homogenizing presentations, going through bullet by bullet in a linear fashion (Zuckerman, 1999).

Criticisms of PowerPoint have increased in the past decade. Tufte (2003) launched the most vehement critique, arguing that PowerPoint slides lead to over-reliance on a hierarchy of ideas, over-simplification, and linear thinking on part of the presenter and audience. In surveying classes with and without PowerPoint lectures, Cyphert (2004) and Kunkel (2004) discovered that there was no significant difference in student performance or understanding of material. Further, these studies argued that PowerPoint usage stifled pedagogical creativity and led to poorer audience engagement. There is at least one YouTube video pointing out "Death by PowerPoint" (BrainRulesBook, 2008). However, this type of caveat does not appear to be reducing PowerPoint

usage in business or even the military (Klein, 2009). Neal (1998) argues that technology use in the classroom can actually have a negative impact on teaching and learning by creating impersonality and a shift of focus from a "learning experience" to the "delivery of instruction." Several researchers have focused on discovering ways to use the existing format of PowerPoint more effectively, but Brock and Joglekar (2012) conclude that the non-linear structure of Prezi may be the wave of the future.

Studies of the usefulness of Prezi are more limited, but Conboy, Fletcher, Russell, and Wilson (2012) report this may be influenced by instructor style. They also mention the phenomenon of Prezi dizziness caused by excessive zooming. Virtanen, Myllärniemi, and Wallander (2012) note the need for a teacher skilled in the software and adequate preparation in the classroom for successful use of Prezi. Bender and Bull (2012) report a learning curve for professors and other users. The newer technologies reflected in Web 2.0 have been studied with recommendations that these technologies should be easy to use and take little time to learn, but a short introduction might be needed to motivate the necessary learning (Brodahl, Hansen, & Hadjerrouit, 2011; Zhang & Olfman, 2010).

Comparison of the use of rating scales across country cultures has been examined extensively. Heine, Lehman, Peng, and Greenholtz (2002) found that some researchers have cautioned that differences are exaggerated because the use of instruments varies among cultures and respondents use their own context (Berry, 2011; Gudykunst, Matsumoto, Ting-Toomey, Nishida, Kim, & Heyman, 1996). Americans were found to indicate extreme values on Likert scales compared to Canadian and Asian samples (Chen, Lee, & Stevenson, 1995), more optimism than Chinese (Lee & Seligman, 1997) and more openness than Hong Kong undergraduates (McCrae, Yik, Trapnell, Bond, & Paulhus, 1998).

In a study comparing U.S. and Norwegian subjects, Sørnes, Stephens, Sætre, and Browning (2003) showed that "ICTs [Information and Communication Technologies] have a homogenizing effect on cultural differences—but also a reinforcing effect on existing similarities." Olaussen & Bråten (1999) also found that Norwegian students adapted to reflect similar strategies to U.S. ones. However, Elkjær (2009) reported differences between the two country cultures: on the one hand, there is an emphasis in the US on action, results, and individual competitive achievements, while, on the other hand, the Norwegian orientation is to team competitive cooperative achievements and to value the equality of people and give them freedom to achieve.

Undergraduate college students have been found to demonstrate gender differences in learning styles with women more likely to display listening behaviors and value peers as collaborators, while men show an active approach to learning and to use peers for testing achievement, but these differences may diminish with maturity (Baxter Magolda, 1992). Women in mid-career have shown more receptivity to learning elements such as talk and reflection (Carter, 2002) and females, in general, may benefit from more social support than males (Taylor, Klein, Lewis, Gruenewald, Gurung, & Updegraff, 2000). Undergraduate female students have also indicated less receptivity to learning through competitive activities (Gneezy, Niederle, & Rustichini, 2003), making competition a negative factor insofar as workplace promotion is based on competition (Schrage, 2008), and women tend to benefit from a more cooperative atmosphere (Mason, 2009).

Research Questions

The following research questions were used to guide the study and analysis:

1. How well is the tool, Prezi, used by students? In addition to overall quality, did presenters make use of its advanced features?

2. How does use of Prezi differ from the commonly used PowerPoint presentation tool? Did presenters move away from the linear structure characteristic of PowerPoint and its commonly used formats such as bullet points?
3. What differences are observed in use of the tool between the two classes? In rating their peers, did Norwegian students differ from American ones in how they used predefined attributes and the overall ratings they gave on each attribute?
4. How do instructor ratings compare to those of students rating their peers? Using the predefined attributes, how were instructor ratings different from the ratings students gave their peers?

Method

Students were recruited from undergraduate programs at two different institutions. They were given an introduction to Prezi of approximately one hour early in the course. They also received one page of written highlights about Prezi (Diamond, 2010a).

The presentation was the culminating assignment of the classes. It was assigned through oral description and in the course outline. Students were informed that their peers and the instructor would rate their presentations on a questionnaire they had seen.

All students in both classes were a part of the research. A total of 14 marketing students participated in the U.S. sample and the same number in Norway. In the U.S. there were three group presentations with 12 of the 14 students presenting. The topic was marketing recommendations for the college's graduate school of business. All 14 rated the presentations of peer teams. In Norway the presentations were individual except for one pair who presented together. The subjects in Norway addressed emerging technologies and practices in education. Each student picked a software program such as Dropbox, FaceBook, Glogster, Google Earth, Mindmaster, Quizlet, Slideshare, Storybird, Wallwisher, and Youtube, to examine the tool's possible value as vehicle of learning. Every student rated the other presenters in this sample. Each student (except for three Norwegians) also rated their (or their team's) presentation.

The U.S. presentations were in English and the Norwegian ones in Norwegian. The questionnaires were in the respective native languages.

The instructors in each of the classes also rated videos made of the presentations from both classes on the same criteria students used plus 13 additional questions. No names were used and students were assigned code numbers (though of course they could be identified from the videos). No names or images were used in compiling the data.

The Norwegian sample was largely female (9 of the 14) and the U.S. sample largely male (9 of the 14). The average age of the Norwegian subjects was 35, of the American subjects 25. The percentage working more than part-time was 50% and 40%, respectively.

Ingoing assumptions included that (1) Web 2.0 technologies should be easy to use and take little time to learn, (2) a short introduction of tools might be needed, but with emphasis on good use and motivation, not details, and (3) the assignment had to focus on the academic/subject content, not on technical skills and instructions on the Prezi tool. Thus the instruction on Prezi was short and incidental to the main learning objectives of both classes. However, although the assignment to use Prezi was over and above subject content, the intention was to provide opportunities for students to acquire and practice ICT skills and technologies, in particular the Prezi application, as well as to experience its implications for presentation strategies.

Chi Square analysis in IBM SPSS Statistics software package (version 19) was used for quantitative data. NVivo software (version 9) was used to manage the qualitative data. NVivo is a qualita-

tive data management tool that enabled the researchers to input students' and researchers' open-ended and scaled data, links to students' presentations (videos), and then to code their data. Coding was mainly guided by the research questions themselves, as well as details of the questions from peer and observer evaluation forms and self-evaluations. Through reading and rereading, researchers identified themes, which they labeled with codes. NVivo was then used to group all chunks of data associated with each code or combination of codes. These data chunks under each code or combination of codes were viewed together and exported to Excel for further formatting, reading, and analysis.

Word count comparisons were also used in qualitative analysis after studying a series of data chunks and observing the difference of shorter and fuller answers along with students' attention to details. Although length in answers for each question by no means indicates quality and may play no role as a criterion of quality, a fuller answer will give more information (relate to more of the details students gave when asked "Consider content, form and delivery – one or all"), given the constraints that the student's answer was clearly expressed, and directly relevant to answering the question and without repetitions.

The appendixes show the specific questions. Analysis for Research Question 1 was drawn from answers from the peer survey shown in Appendix A, Questions 1, 11, and 12; for Research Question 2, answers from the self-evaluation survey shown in Appendix C. Research Question 3 analysis was based on answers to questions on the peer review form in Appendix A and the self-evaluation form shown in Appendix C. The analysis for Research Question 4 was taken from answers to the questions shown in Appendix A, and those for Questions 1-12 on the observer evaluation form in Appendix B.

Institutional Review Board approval had been obtained by both researchers for the study.

Results

This section is arranged by the four a priori research questions.

Research Question 1. How well is the tool, Prezi, used by students? In addition to overall quality, did presenters make use of its advanced features?

Students generally rated their peers' presentations as positive, 2.0 on a Likert scale ranging from 1 "Loved it" to 5 "Really didn't like it" for being engaging and for having effective visuals. See Appendix A, Questions 1and 10, for the exact wording.

The open-ended responses to what they liked considered content, form, and delivery, as well as the performance and professionalism of the presentation. In qualitative feedback when students were asked what they would improve in their peers' presentations, most said nothing or left the answer blank. Specific improvements suggested were larger visuals, less information and writing on the slides, more pictures, and less moving from picture to picture and zooming. Of the 88 suggestions made, only 19 were related to the use of Prezi. See Appendix A, Questions 11 and 12, for the exact wording.

Only the instructors rated the effectiveness of the overall use of Prezi, and that was a positive 2.4 ("somewhat effective").

Observers thought that the student presentations were mostly "very" or "somewhat organized," either "very" or "somewhat easy to follow," "somewhat attractive," and "somewhat compelling." See Appendix B, Questions 13 through 20, for exact wording.

Research Question 2. How does use of Prezi differ from the commonly used PowerPoint presentation tool? Did presenters move away from the linear structure characteristic of PowerPoint and its commonly used formats such as bullet points?

The presentations did include multimedia such as photos, videos, and links and, according to feedback, blended them with their work in a "very" or "somewhat interesting way." Students self-evaluated their presentations as being either "very" or "somewhat different from a PowerPoint presentation." Most (15 of the 25) said that their presentation broke with the bullet-point approach. They reported using the pre-defined path feature of Prezi. But in the end most (14 of the 25) of the presenters said that the structure of their presentation was not different from a PowerPoint one.

In qualitative feedback when asked what they liked about their peers' presentations, the students were positive about the use of Prezi. Specific comments included, "well made with many nice illustrations," "good to alternate between showing content on the website and the presentation about content," and "depth of slides on Prezi."

Students liked many aspects of the Prezi format, saying it was more alive, fresh, and exciting compared to the more limited and serious PowerPoint approach. One said, "To me Prezi is a fresh breeze in a world of boring PowerPoint use… I like the function that the video plays automatically." A similar comment was, "If we had done a PowerPoint presentation it would have been plain and boring with just facts and reading, but because Prezi allowed for the zooming-in-and-out effects and the space on the 'canvas' was pretty much infinite, it made the presentation much more interactive and fun."

Another said, "The best part is its ability for multiple-person viewing and editing at the same time." Another point of view was, "When using Prezi you are no longer giving an informative presentation as much as a show." In that respect, Prezi was felt to have potential as a sales and marketing tool. There was however, a learning curve, and possibly as one student said, "You need to be more creative in order to make a nice Prezi with flow." Or another remarked, "Prezi clearly has somewhat of a start and finish line and forces you to put things in order properly."

See Appendix C for question wording.

In looking at the specific Prezi features, the instructors noted that most of the presentations broke from the bullet list approach. Only four of the presentations used more than three "slides" with bullets. Most of the presentations did use the Prezi characteristic of grouping elements. All but one included an easily followed path. On the other hand, there was little organized use of the big canvas, but one presentation did take advantage of this feature. See Appendix B, Q14 for exact question wording.

Research Question 3. What differences are observed in use of the tool between the two classes? In rating their peers, did Norwegian students differ from American ones in how they used predefined attributes and the overall ratings they gave on each attribute?

The peer ratings of the Prezi presentations were substantially different between the two samples. Of the 10 closed-end rating questions, all but two showed statistically significant differences. In

general the U.S. students rated their peers much higher than the Norwegian ones did their peers. See Table 1. For precise question wording see Appendix A, Questions 1 to 10.

Table 1. Student Peer Ratings

Question	Norway	U.S.	Significance of Difference
Presentation engaging?			<.001
Loved it	5.4%	50.5%	
Liked it	75.8%	45.0%	
Not sure – Really didn't like it	18.8%	4.6%	
Topic clear?			.019
Absolutely	38.3%	50.5%	
Largely	47.7%	45.0%	
Not sure – Not really	14.1%	4.6%	
Presenter establish authority?			n.s.
Absolutely	46.3%	55.0%	
Largely	47.7%	36.7%	
Not sure – Not really	6.0%	8.3%	
Audience connection			n.s.
Absolutely	43.0%	46.8%	
Largely	48.3%	46.8%	
Not sure – Not really	8.7%	6.4%	
Speaker energy			<.001
Vibrant	4.0%	59.1%	
Alive	52.3%	29.1%	
Okay – Lifeless	43.6%	11.8%	
Body language			<.001
Excellent	10.8%	67.3%	
Very good	47.3%	20.0%	
Adequate	41.9%	12.7%	
Eye contact			<.001
Excellent	15.8%	56.4%	
Very good	52.1%	30.9%	
Adequate – Very distracting	32.2%	12.7%	
Vocal delivery			<.001
Excellent	25.7%	63.6%	
Very good	52.0%	22.7%	
Adequate – Distracting	22.3%	13.6%	
Grammar			<.001
Excellent	32.2%	62.0%	
Very good	54.1%	29.6%	
Adequate – Distracting	13.7%	8.3%	
Visuals			<.001
Excellent	21.8%	62.0%	
Very good	37.4%	30.6%	
Adequate – Distracting	40.8%	7.4%	

The first attribute, that of the presentation being engaging, may have contributed to a "halo" of most of the other attributes being rated highly. These following attributes included speaker energy, body language, eye contact, vocal delivery, grammar, and visuals. There was less of a follow through to the attributes of topic clarity, presenter authority, and audience connection.

In open-ended comments, Norwegians stressed improvements not related to the use of tool, especially related to presentation content. The Norwegian peers answered the open-ended questions more extensively than the Americans did (measured by the amount of words, not regarding the answer composition). See Figures 2 and 3 describing the word count for two questions on likes and improvements.

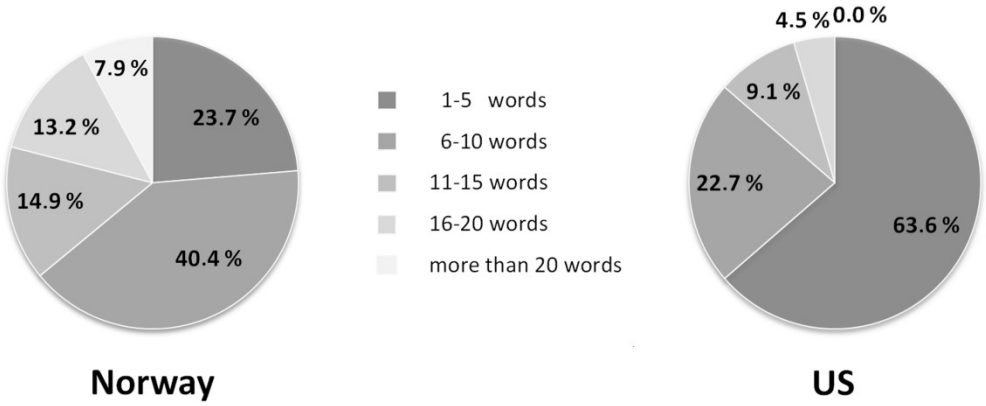

Figure 2. Length of peers' answers to the question "What did I like most about it?"

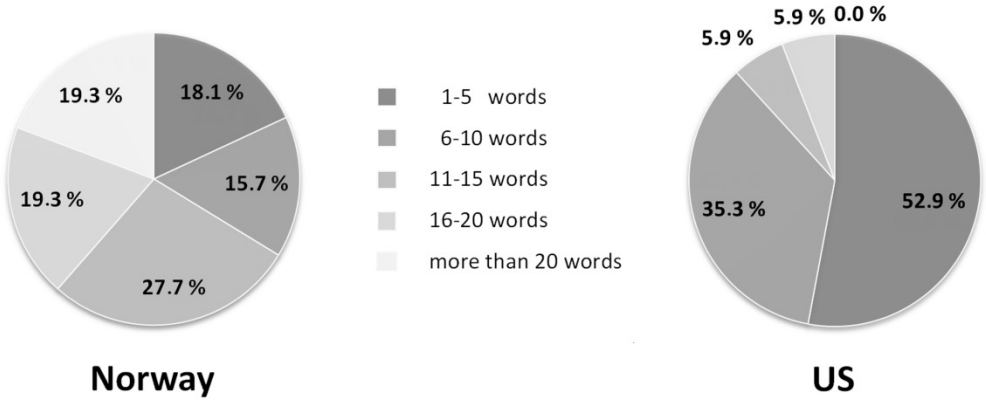

Figure 3. Length of peers' answers to the question "What could have been improved?"

In their open-ended overall responses, both the Norwegian and American peers responded more to the presentation of academic/subject content and to presentation style than to the use of the Prezi tool. In both classes, academic content was mentioned in 59.1% of non-blank responses about what they liked most about the presentation, followed by presentation style and the tool and its use. The Norwegians had more improvement suggestions referring to the academic/subject content, while the Americans responded more with "other" comments, mostly about group members' teamwork. They also focused more on the ease of learning the tool and the lack of experience in using it. See Figures 4 and 5. The exact question wording can be found in Appendix A, Questions 11 and 12.

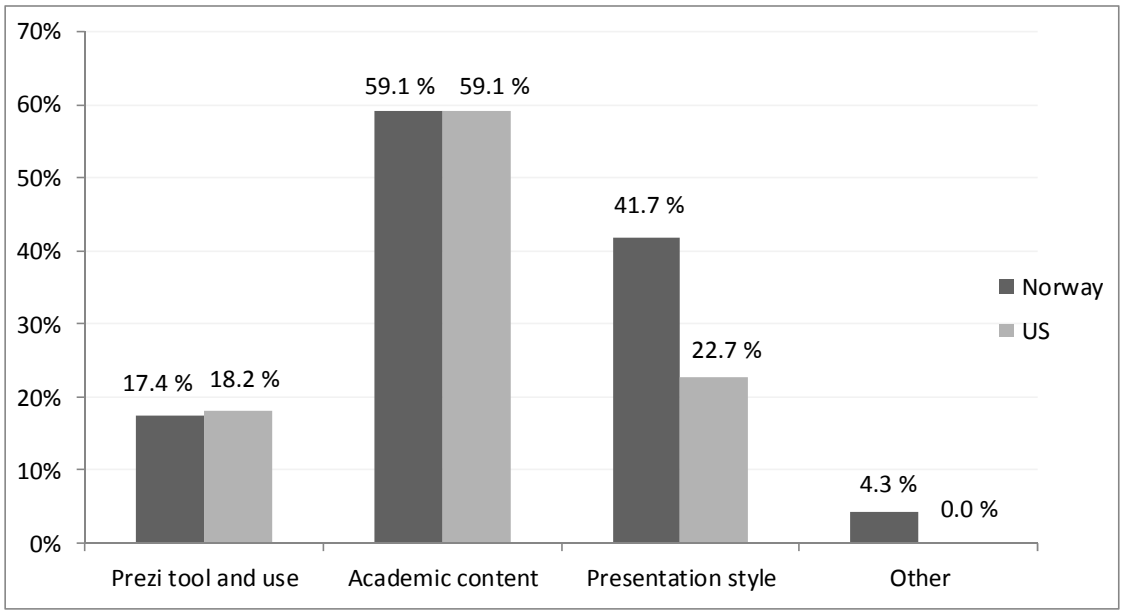

Figure 4. What Liked in Presentation Norwegian Students versus U.S. Students. Percentage of categories addressed.

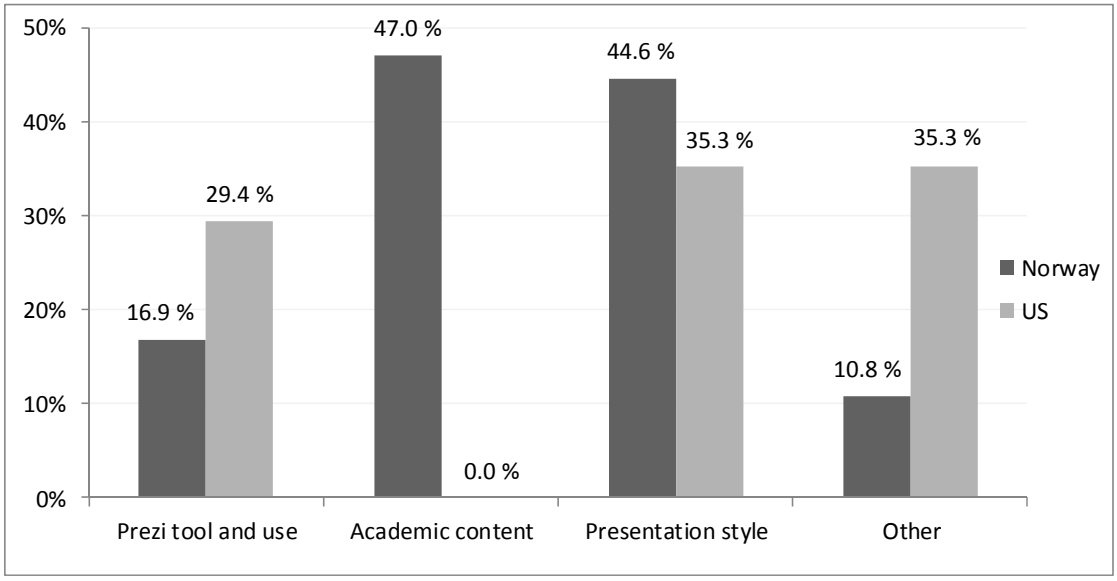

Figure 5. Suggested Improvements Norwegian Students versus U.S. Students. Percentage of categories addressed.

But when it came to self-evaluations, the American students elaborated more often and in greater detail on the Prezi tool than the Norwegian students.

Self-evaluations on the Prezi presentations included a liking of the movement and structure it creates and the fact that it can be used simultaneously within a group. However, it was noted that it can be "confusing for the majority of people who don't even know how to use PowerPoint." One American respondent noted Prezi "allowed me to be more creative, interactive and graphic," but another commented that Prezi is more of a "show, whereas PowerPoint is informative." Both samples remarked on the engaging quality of the visuals, perhaps at least in part referring to the greater use of photos and videos made easier with Prezi. Some Norwegians referred to a "tidy"

and “calm” presentation, not mentioned at all in the U.S. sample. See Appendix C for question wording.

In considering possible gender differences, males did rate their peers significantly higher than females on seven of the 10 attributes measures: engagingness, speaker energy, body language, eye contract, vocal delivery, grammar, and visuals. See Table 2. The initial attribute, the engaging quality of the presentation, was significantly higher for males. This difference carried through, perhaps because of a halo effect, to significantly higher ratings on speaker energy, body language, eye contact, vocal delivery, grammar, and visuals. There were no significant differences, however in topic clarity, presenter authority, and audience connection. See Table 2.

Research Question 4. How do instructor ratings compare to those of students rating their peers? Using the predefined attributes, how were instructor ratings different from the ratings students gave their peers?

On the whole, the instructors rated the student presentations significantly less positively than the students rated their peers. There was, in effect, a second cultural difference besides the country culture effect. Instructors noted a significantly lower rating on the engaging quality of presentations than did peers, topic clarity, and on the quality of the visuals. They were also significantly less positive about speakers’ characteristics such as establishing authority, connecting with the audience, speaker energy, body language, eye contact, and vocal delivery. See Table 3. For precise question wording see Appendix A and B, Questions 1 to 10.

Looking at open-ended responses on likes and suggested improvements, students and instructors also showed differences in what they addressed as liked in presentation and what they suggested improved, in four categories: Prezi tool and use, academic content, presentation style, and other. Instructors did have different goals for their ratings than peers did, in that they were focused on differences in how the Prezi tool was used between the two cultures. Peers were motivated by the fact that it was an assignment. A total of 60.5% of the instructors’ observations were on what they liked about the presentation with regard to Prezi tool and use and 76.3% of their improvement suggestions, while 17.5% of students’ non-blank responses included likes and 19.0% improvement suggestions referring to the Prezi tool and use. See Figures 6 and 7. For exact wording, see Appendixes A and B, Questions 11 and 12.

Analysis

In answering the first research question, how well students used Prezi and its advanced features, both peers and the instructors rated usage as positive, with the mean rating among peers being 2.0 and instructors 2.4 on a scale where 1 was the most positive rating. Both students and instructors did believe that presentations were different than they would have been if PowerPoint had been used. Specifically the differences centered on breaking away from bullets points and using advanced features such as grouping with a predefined path among those groups.

Analysis to answer the second research question, the movement away from the linear thinking many scholars believe inherent to PowerPoint, shows that there was a change to a more holistic approach. Being able to blend photos, videos, and links in fresh, interesting ways was particularly noted as a change from PowerPoint. The capability of working together collaboratively in real time on a presentation was also a vehicle for moving away from the more static, individualistic characteristic of PowerPoint.

Table 2. Female and Male Student Peer Ratings

Question	Female	Male	Significance of Difference
Presentation engaging?			<.001
Loved it	11.2%	40.9%	
Liked it	76.2%	46.1%	
Not sure – Really didn't like it	12.6%	13.0%	
Topic clear?			n.s.
Absolutely	37.8%	50.4%	
Largely	51.7%	40.0%	
Not sure – Not really	10.5%	9.6%	
Presenter establish authority?			n.s.
Absolutely	46.9%	53.9%	
Largely	47.6%	37.4%	
Not sure – Not really	5.6%	8.7%	
Audience connection			n.s.
Absolutely	43.4%	46.1%	
Largely	49.7%	45.2%	
Not sure – Not really	7.0%	8.7%	
Speaker energy			<.001
Vibrant	9.7%	49.6%	
Alive	55.6%	26.1%	
Okay – Lifeless	34.7%	24.3%	
Body language			<.001
Excellent	17.5%	56.5%	
Very good	48.3%	20.0%	
Adequate	34.3%	23.5%	
Eye contact			<.001
Excellent	17.7%	52.2%	
Very good	55.3%	27.8%	
Adequate – Very distracting	27.0%	20.0%	
Vocal delivery			0.011
Excellent	35.0%	50.4%	
Very good	47.6%	29.6%	
Adequate – Distracting	17.5%	20.0%	
Grammar			0.004
Excellent	36.0%	55.7%	
Very good	52.5%	33.0%	
Adequate – Distracting	11.5%	11.3%	
Visuals			<.001
Excellent	25.7%	54.8%	
Very good	40.7%	27.0%	
Adequate – Distracting	33.6%	18.3%	

Table 3. Researchers' Evaluation and Student Peer Rating

Question	Researchers	Students	Significance of Difference
Presentation engaging?			.002
Loved it	3.6%	24.4%	
Liked it	83.9%	62.8%	
Not sure – Really didn't like it	12.5%	12.8%	
Topic clear?			.014
Absolutely	64.3%	43.4%	
Largely	32.1%	46.5%	
Not sure – Not really	3.6%	10.1%	
Presenter establish authority?			<.001
Absolutely	21.4%	50.0%	
Largely	51.7%	43.0%	
Not sure – Not really	26.8%	7.0%	
Audience connection			<.001
Absolutely	17.9%	44.6%	
Largely	58.9%	47.7%	
Not sure – Not really	23.2%	7.8%	
Speaker energy			.010
Vibrant	8.9%	27.4%	
Alive	48.2%	42.5%	
Okay – Lifeless	42.9%	30.1%	
Body language			<.001
Excellent	14.3%	34.9%	
Very good	21.4%	35.7%	
Adequate – Distracting	64.3%	29.5%	
Eye contact			<.001
Excellent	1.8%	33.2%	
Very good	50.0%	43.0%	
Adequate – Very distracting	48.2%	23.8%	
Vocal delivery			<.001
Excellent	5.4%	41.9%	
Very good	44.6%	39.5%	
Adequate – Distracting	50.0%	18.6%	
Grammar			n.s.
Excellent	46.4%	44.9%	
Very good	53.6%	43.7%	
Adequate – Distracting	0.0%	11.4%	
Visuals			<.001
Excellent	5.4%	38.8%	
Very good	39.3%	34.5%	
Adequate – Distracting	55.4%	26.7%	

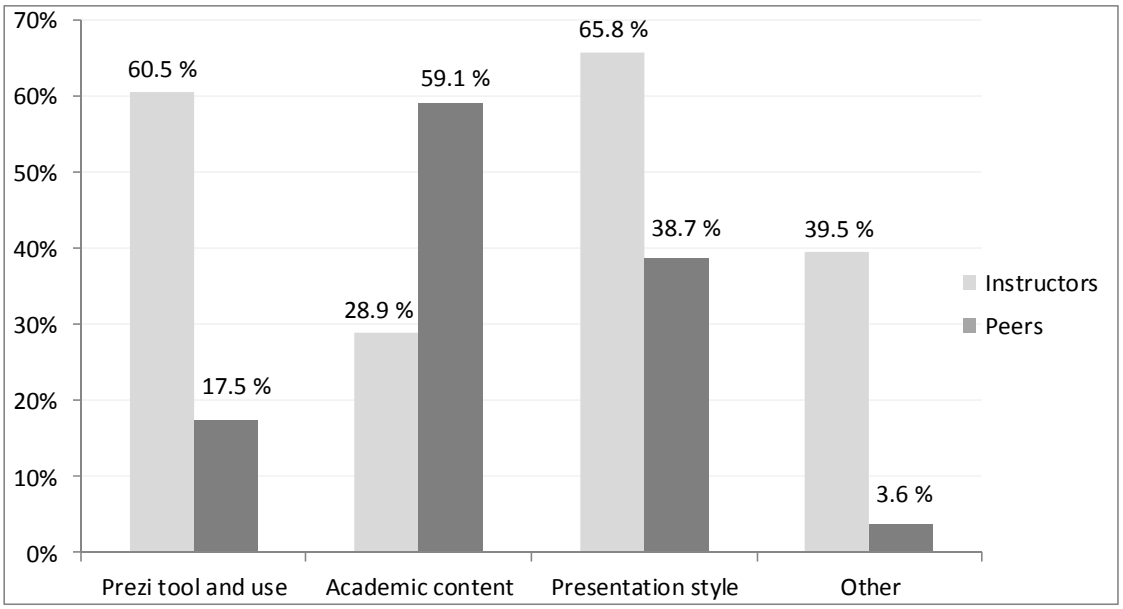

Figure 6. Instructor versus Peer Likes. Percentage of categories addressed.

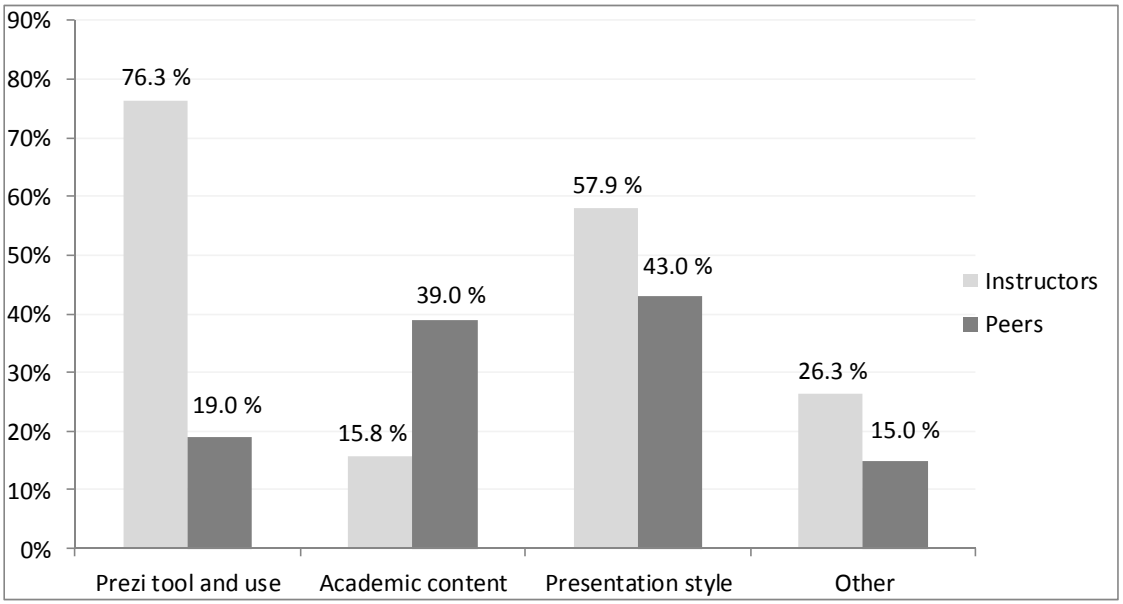

Figure 7. Instructor versus Peer Suggested Improvements. Percentage of categories addressed.

The third research question on the differences between Norwegian and American students in using Prezi indicated there was a cultural difference at least in the way they perceived each other's presentations. Specifically, 50.5% of Americans said they "loved" their classmates' presentations, whereas only 5.4% of Norwegians did so. This pattern carried through to many of the other attributes, with Americans selecting the top rating for their peers in speaker energy, body language, eye contact, vocal delivery, grammar, and visuals, resulting in differences significant at better than .001.The average Norwegian rating on the three remaining attributes of topic clarity, presenter authority, and audience connection was higher, closer to 50% top box, the difference falling to a .019 level significant difference on the first and no significance on the others. See Table

1. The Norwegian students did have more to say about how their peers' presentations could be improved, with only 23.7% using 5 words or fewer but 63.6% of U.S. students using so few words. Americans were also not very forthcoming in saying what they liked, 52.9% used 5 words or fewer and only 18.1% or Norwegians doing so. See Figures 1 and 2.

The profile of open-ended answers on suggested improvements were also quite different between the two cultures with Norwegians noting academic content more than Americans (47.7% vs. 0), and also presentation style more than Americans (44.6% versus 35.3%). However, more Americans made specific comments about Prezi, 29.4% versus 16.9%. The profile of likes was more similar than improvements with 59.1% noting academic content in both samples. Similar proportions liked Prezi elements, 17.5% and 18.2% for Norwegians and Americans. However, 41.7% of Norwegians mentioned presentation style, whereas only 22.7% of Americans did so. See Figures 4 and 5.

With regard to differences between the genders on use of the attribute scale, men were significantly more positive than women, 40.9% versus 11.2% saying they "loved" their peers' presentations. This difference carried through to higher male ratings on speaker energy (49.6% versus 9.7%), body language (56.5% versus 17.5%), eye contact (52.2% versus 17.7%), vocal delivery 50.4% versus 35.0%, grammar (55.7% versus 36.0%), and visuals (54.8% versus 25.7%). Male scores were higher, but not significantly so on clarity of topic, establishment of presenter authority, and audience connection. See Table 2.

In answering Research Question 4, instructors appeared to use somewhat different categories than peers did in rating student presentations, indicating different criteria for evaluation, probably due to different goals for the presentations. Instructors were most likely thinking about learning and students about grades. Instructors commented most often on style (65.8%), compared to only 38.7% of peers doing so. Closely behind was use of the Prezi tool, 60.5% among instructors, whereas only 17.5% of peers made a comment about the use of Prezi. The biggest category of peer comments was academic content with 59.1% saying this, but only 28.9% of instructors doing so. See Figure 6. The instructors most often commented on the use of the Prezi (76.3%), mentioned by only 19.0% of students. They also noted presentation style (57.9%), but it was mentioned by only 43.0% of students. The category on improvements in academic content was more popular among students (39.0%) than among instructors (15.8%). See Figures 6 and 7. Instructors had significantly fewer top-box ratings than students about the presenter establishing authority (50.0% versus 21.4%), audience connection (44.6% versus 17.9%), body language (34.9% versus 14.3%), eye contact (33.2 versus 1.8%), vocal delivery (41.9% versus 5.4%), and visuals (38.8% versus 5.4%). The direction of difference was the same on the remaining attributes, with lower statistical significance for presentation engagingness (24.4% versus 3.6%) and speaker energy (27.4% versus 8.9%), and no significant difference on grammar. Students were more significantly less likely to mention topic clarity, 43.4% versus 64.3%). See Table 3.

Conclusions

In the Results and Analysis sections, this study showed that usage of Prezi did change the way students approached presenting their topics. The research showed that the Prezi tool had been used relatively well. Most of the student presenters broke away from the more linear PowerPoint flow, adding interactivity and engagement. In answer to Research Question 1 peers liked each other's presentations, although most of their open-ended comments were not related specifically to the Prezi tool. Answers relevant to Research Question 2 indicated that most users had been more holistic than they would have been using PowerPoint, but overall the presentation structure was not really that different. Qualitative feedback focused on more depth and freshness of slides. One of the features of Prezi most liked was the ability of multiple users to work on a presentation concurrently, which may have contributed to a change in the type of thinking used.

Examination of the study results and successive analysis indicated, mostly in instructor observations and open-ended responses, that students in both the U.S. and Norway experienced a learning curve for Prezi. Other researchers (Bender & Bull, 2012) found a similar experience in a 7th grade sample, saying, "However, as with any new tool, software, hardware, or emerging technology, there is a learning curve. […] Prezi was difficult to learn at first, and because of the short duration of this intervention [to a] 'mastery' phase" (p. 2713). Also the pedagogical approach did not stress technical skills and instructions on the Prezi tool; the students had to attain their mastery phase while their focus was on the academic subject.

Between the two cultures, as shown in answer to Research Question 3, the U.S. students were much higher raters on questionnaire scales than the Norwegians; which is consistent with the literature (Chen et al., 1995; McCrae et al., 1998). On the one hand, the Norwegians answered the open-ended questions in giving feedback and suggestions for improvement more extensively than their U.S. counterparts. On the other hand, Americans more often noted the quality of teamwork, perhaps due to the greater use of teams in the American design, and American students did more often reflect on how they used Prezi in the open-ended questions. Norwegians remarked on neatness and tidiness, concepts unmentioned in the American responses.

In looking at the answer to Research Question 4, the researchers were generally lower raters of the student presentations than peers were, possibly indicating their higher standards.

Delimitations and Limitations

This study was limited to two classes. Observations of differences in cultures may have been confounded by the fact that the subject of one class was marketing management, the other ICT and learning. Also one class had exclusively group presentations, whereas the other class was mainly individual ones. The personalities of the instructors differed. As well, the gender composition of the two groups was not the same, with the Norwegian being more female and the U.S. one more male. The small samples make these results exploratory and not definitive.

Recommendations

The instructors had made three assumptions in designing their classes:

1) Web 2.0 technologies should supposedly be easy to use and take little time to learn;
2) A short introduction of tools might be needed, but with emphasis on good use and motivation, not details; and
3) The assignment had to focus on the academic/subject content, not on technical skills and instructions on the Prezi tool.

Prezi is a tool that facilitates new ways of approaching communication, while at the same time being relatively easy to learn with an immediately visible output. While it is possible to limit an introduction to a one-hour session and how best to use the tool, instructors may consider that introduction of new presentation tools such as Prezi allows the opportunity to expand students' knowledge about visual thinking. More general recommendations include the continued inclusion of presentation skills and practice in undergraduate curricula. Communication skill continues to be an extremely important qualification in the workplace (Mantell, 2012).

The students all adapted the tool without prior hands-on training, but did not take full advantage of the features that would make their first Prezi differ from PowerPoint-based presentations. What do students need to know before using Prezi to more quickly use the tool's central capabilities and navigation styles? The following suggestions come directly from the research and are derived from the conclusions that address the major challenges from a pedagogical perspective.

Challenge (1) - To be Innovative in Creating Something From Nothing

A blank canvas presents a challenge and makes it hard to start out. A recommendation would be to provide templates using Prezi as part of the introduction, although a template may diminish creativity. However, the instructor may give creative examples of Prezis where blank canvas is split up by using backdrops behind parts of the presentation or metaphors are used that visualize the structure of the presentation on the canvas.

The authors recommend that when introducing Prezi, instructors put particular emphasis on demonstrating good use and encouraging discussion. Examples (Diamond, 2010b) may stimulate students to think how to begin. The focus in the classroom needs to be raising students' level of awareness of the benefits that can be drawn from the infinite canvas by visual-spatial organization of content. Students need to grasp:

- the importance of sorting and grouping elements and chunk information,
- the importance of the placement and scale of items on the blank canvas, and
- the features and concepts of zooming.

The instructor may provide Prezis where mapping, scaling items, and placing them around has some kind of logical sense. For example, the instructor might present a Prezi showing images used as examples of a bigger idea, shrunk down a bit, and placed under the text that represents the idea, followed by a discussion about how items logically and technically are grouped, placed, and connected, and how well the concept of zooming has been applied.

A recommendation is to have a central discussion in class on how to avoid motion sickness. This may be initiated by comparing a Prezi with respectively intuitive navigation and a pleasant zoom and a Prezi with a rather bizarre path between the elements and an uncomfortable zoom. Explaining the intentions of useful zooming and discussing examples that contrast good and distracting use, may make students aware that logical placement of elements on the canvas will support a natural path for delivery of the presentation, and, when needing to zoom far out for something, this can be done by going in stages so that zooming is not so extreme.

Recommendations include to present Prezis providing a perspective on the big picture (zoom out) in order to give a summary or overview, and changing focus to provide the audience with a detail of the presentation (zoom in), both related to the level of information (main point vs. detail). Then discuss how to think about placing information in layers in order to create a stacked effect, where each layer of information would support itself on its own.

A good example of panning the canvas to show relationships among grouped items is recommended, as well, as it may both communicate approach and the possibility of moving along in several directions.

Challenge (2) - To Break From Traditional Bullet Lists and Sequential Approach

Take time to discuss the advantages and disadvantages coming with bulleted presentations driven by navigation from slide to slide ("powerpointification" of communication) and reasons to rethink, and stimulate considering a new mindset and new ways of presenting by breaking the slides barrier. The benefits of freshness and creativity will motivate many students. With American students, emphasis on the enhanced creativity benefits, as well as improvements in teamwork, may work well; whereas, in a Norwegian classroom, the appeal may be to the tidiness a Prezi format allows in contrast to the more drawn out PowerPoint. Olaussen & Bråten (1999) and Adorno (2009) had previously observed that differences between students in the two country cultures.

Challenge (3) - To Develop Demonstrating Non-Linear Thinking

The conceptual jump from linear (point to point) to non-linear design would appear to be a first step to students' learning and utilization of tool. They may need to experience the fact that Prezi can be used both in a linear or non-linear way and grasp the difference. Presenting a Prezi that reflects associations and mind maps could serve this purpose.

In line with students' valuing Prezi as a collaboration tool, another recommendation is to include a brief demonstration of the collaborative features of the Prezi presentation tool that will inspire students to take advantage of meeting online to collaborate on their Prezi. The simultaneous collaboration feature of Prezi, not available in PowerPoint, may be a tool to incorporate new ways of thinking through immediate feedback from collaborators.

References

Adams, C. (2006). PowerPoint, habits of mind, and classroom culture. *Journal of Curriculum Studies, 38,* 389-411.

Adorno, T. W. (2009). 'Kultur' and culture. *Social Text, 27*(2), 145-158. doi: 10.1215/01642472-2008-028.

Alshare, K., & Hindi, N. M. (2004). The importance of presentation skills in the classroom: Students and instructors perspectives. *Journal of Computing Sciences in Colleges*, *19*(4), 6-15.

Barnatt, C. (2008, March 30). *Explaining Web 2.0*. Retrieved from http://youtu.be/7BAXvFdMBWw

Baxter Magolda, M. (1992). *Knowing and reasoning in college: Gender-related patterns in students' intellectual development*. San Francisco: Jossey-Bass.

Bender, C., & Bull, P. H. (2012). Using Prezi in a middle school science class. In P. Resta (Ed.), *Proceedings of Society for Information Technology & Teacher Education International Conference 2012*, 2708-2713. Retrieved from http://www.editlib.org/p/39996

Berry, J. W. (2011). *Cross-cultural psychology: Research and applications* (3rd ed.), 652. Downloaded eBook (free on EBSCOhost). Book Collection (EBSCOhost).

BrainRulesBook. (2008, March 6). *Death by PowerPoint*. Retrieved from http://youtu.be/FJ5dbUCu2Ug

Brock, S. & Joglekar, Y. (2012). Empowering PowerPoint: Slides and teaching effectiveness. *Interdisciplinary Journal of Information, Knowledge, and Management, 6*, 85-94. Retrieved from http://www.ijikm.org/Volume6/IJIKMv6p085-094Brock545.pdf

Brodahl, C., Hansen, N.K., & Hadjerrouit, S. (2011). Collaborative writing with web 2.0 technologies: Education students' perceptions. *Journal of Information Technology Education, 10*, IIP73-IIP103. Retrieved from http://www.jite.org/documents/Vol10/JITEv10IIPp073-103Brodahl948.pdf

Burke, L. A., & James, K. E. (2008). PowerPoint-based lectures in business education: An empirical investigation of student-perceived novelty and effectiveness. *Business Communication Quarterly, 71*, 278-296.

Carter, T. (2002). The importance of talk to mid-career women's development: A collaborative inquiry. *The Journal of Business Communication, 39*(1), 55-91.

Chen, C., Lee, S. Y., & Stevenson, H. W. (1995). Response style and cross-cultural comparisons of rating scales among East Asian and North American students. *Psychological Science, 6*(3), 170-175.

Conboy, C., Fletcher, S., Russell, K., & Wilson, M., (2012). An evaluation of the potential and impact of Prezi, the zooming editor software as a tool to facilitate learning in higher education. *Innovations in Practice, 7*, 31-45.

Cyphert, D. (2004). The problem of PowerPoint: Visual aid or visual rhetoric? *Business Communication Quarterly, 67*, 80-84.

Daniels, L. (1999). Introducing technology in the classroom: PowerPoint as a first step. *Journal of Computing in Higher Education, 10*, 42-56.

Derrick, E. J. (2006). Tools for student engagement that facilitate development of communication skills. In K. Elleithy, T. Sobh, A. Mahmood, M. Iskander & M. Karim (Eds.), *advances in computer, information, and systems sciences, and engineering* (pp. 481-484). Springer Netherlands.

Diamond, S. (2010a). *Prezi for dummies cheat sheet*. Retrieved from http://www.dummies.com/how-to/content/prezi-for-dummies-cheat-sheet.html

Diamond, S. (2010b). *Prezi for dummies*. Hoboken, N.J., Wiley Publ.

Elkjær, J. K. (Ed.) (2009). *Global leadership country report.* Copenhagen Business School, Denmark.

Fransson, G., & Holmberg, J. (2012): Understanding the theoretical framework of technological pedagogical content knowledge: A collaborative self-study to understand teaching practice and aspects of knowledge. *Studying Teacher Education, 8*(2), 193-204.

Frey, B., & Birnbaum, P. (2002). Learners' perceptions on the use of PowerPoint in lectures. *Computers and Education, 41*, 72-86.

Gneezy, U., Niederle, M., & Rustichini, A. (2003). Performance in competitive environments: Gender differences. *The Quarterly Journal of Economics, 118*(3), 1049.

Gudykunst, W. B., Matsumoto, Y., Ting-Toomey, S., Nishida, T., Kim, K., & Heyman, S. (1996). The influence of cultural individualism-collectivism, self construals, and individual values on communication styles across cultures. *Human Communication Research*, 22, 510–543.

Hadjerrouit, S. (2005). Designing a pedagogical model for web engineering education: An evolutionary perspective. *Journal of Information Technology Education, 4*, 115-140. Retrieved from http://www.jite.org/documents/Vol4/v4p115-140Hadj50.pdf

Heine, S. J., Lehman, D. R., Peng, K., & Greenholtz, J. (2002). What's wrong with cross-cultural comparisons of subjective Likert scales? The reference-group effect. *Journal of Personality and Social Psychology*, *82*, 903–918.

Huxham, M. (2010). The medium makes the message: Effects of cues on students' lecture notes. *Learning in Higher Education*, *11*(3), 179-188.

Isaacs, G. (1994). Lecturing practices and note-taking purposes. *Studies in Higher Education, 19*, 203-217.

Klein, J. (2009, December 28). *Time*, 174(25), 86-93.

Koohang, A., Riley, L., & Smith, T. (2009). E-learning and constructivism: From theory to application. *Interdisciplinary Journal of E-Learning and Learning Objects*, *5*, 91-109. Retrieved from http://www.ijello.org/Volume5/IJELLOv5p091-109Koohang655.pdf

Kunkel, K. (2004). A research note assessing the benefit of PowerPoint software in different lecture courses. *Teaching Sociology, 32*, 188-196.

Lee, Y. T., & Seligman, M. E. P. (1997). Are Americans more optimistic than the Chinese? *PSPB, 23*(1), 34-40.

Mason, M. (2009). How the 'snow-woman effect' slows women's progress. *The Chronicle of Higher Education*, 1-4.

Mantell, R. (2012). Must-have job skills in 2013. *Online Wall St. Journal*, 11 Nov. 2012. Retrieved from http://online.wsj.com/article/SB10001424127887324735104578118902763095818.html

McCrae, R., Yik, M. S. M., Trapnell, P. D., Bond, M. H., & Paulhus, D. L. (1998). Interpreting personality profiles across cultures: Bilingual, acculturation, and peer rating studies of Chinese undergraduates. *Journal of Personality and Social Psychology, 74*(4), 1041-1055.

Neal, E. (1998, June 19). Using technology in teaching: We need to exercise healthy skepticism. *The Chronicle of Higher Education.*

Noppe, I., Achterberg, J., Duquaine, L., Huebbe, M., & Carol, W. (2007). PowerPoint handouts and college student learning outcomes. *International Journal for the Scholarship of Teaching and Learning, 48*(1), 2-10.

Olaussen, B. S., & Bråten, I. (1999). Students' use of strategies for self-regulated learning: Cross-cultural perspectives. *Scandinavian Journal of Educational Research, 43*(4), 409-443.

O'Reilly, T. (2005). The open source paradigm shift. In J. Feller, B. Fitzgerald, S. Hissam, & K. Lakhani (Eds.). *Perspectives on free and open source software* (pp. 461-481). Boston: The MIT Press.

Schrage, M. (2008). A better work force. *The Conference Board Review*, 37-45.

Sørnes, J. O., Stephens, K. K., Sætre, A. S., & Browning, L. D. (2003). Leveling differences and reinforcing similarities: The interaction between information and communication technologies and national culture. *Proceedings of the 2003 Informing Science and IT Education Conference, Pori, Finland*, 1157-1181. Retrieved from http://proceedings.informingscience.org/IS2003Proceedings/docs/144Soern.pdf

Szabo, A., & Hastings, N. (2000). Using IT in the undergraduate classroom: Should we replace the blackboard with PowerPoint? *Computers and Education*, *35*, 175-187.

Taylor, S. E., Klein, L. C., Lewis, B. P., Gruenewald, T. L. Gurung, A. R., & Updegraff, J. A. (2000). Biobehavioral responses to stress in females: Tend-and-befriend, not fight-or-fight. *Psychological Review, 107*(3), 411-429.

Tufte, E. (2003). PowerPoint is evil. *Wired, 11*. Retrieved from *Wired*: http://www.wired.com/wired/archive/11.09/ppt2.html

Virtanen, P., Myllärniemi, J., & Wallander, H. (2012). Diversifying higher education: Innovative tools to facilitate different ways of learning. *Proceedings of the 12th International Conference on Information Communication Technologies in Education (ICICTE) 2012*, 105-116. Retrieved from http://www.icicte.org/Proceedings2012/Papers/03-2-Virtanen.pdf

Zhang, X., & Olfman, L. (2010). Studios, mini-lectures, project presentations, class blog and wiki: A new approach to teaching web technologies. *Journal of Information Technology Education,* IIP187-IIP199. Retrieved from http://www.jite.org/documents/Vol9/JITEv9IIPp187-199Zhang813.pdf

Zuckerman, L. (1999, April 17). Words go right to the brain, but can they stir the heart? *New York Times*, A17-A19.

Appendix A

Peer Review Form for Students' Presenter Ratings (English version)

Q01. How engaging was the presentation?

1 - Loved it 2 - Liked it 3 - Not sure 4 - Didn't like it 5 - Really didn't like it

Q02. Was the topic clear?

1 - Absolutely 2 - Largely 3 - Not sure 4 - Not really 5 - Not at all

Q03. Did the presenter establish authority?

1 - Absolutely 2 - Largely 3 - Not sure 4 - Not really 5 - Not at all

Q04. Did the presenter connect with the audience?

1 - Absolutely 2 - Largely 3 - Not sure 4 - Not really 5 - Not at all

Q05. How was the speaker's overall energy?

1 - Vibrant 2 - Alive 3 - Okay 4 - Low energy 5 - Lifeless

Q06. How was the overall body language?

1 - Excellent 2 - Very good 3 - Adequate 4 - Distracting 5 - Very distracting

Q07. How was the overall eye contact?

1 - Excellent 2 - Very good 3 - Adequate 4 - Distracting 5 - Very distracting

Q08. How was the vocal delivery? (Consider diction, volume, pitch, pace and use of pauses)

1 - Excellent 2 - Very good 3 - Adequate 4 - Distracting 5 - Very distracting

Q09. How was the speaker's grammar?

1 - Excellent 2 - Very good 3 - Adequate 4 - Distracting 5 - Very distracting

Q10. How effective were the visuals?

1 - Excellent 2 - Very good 3 - Adequate 4 - Distracting 5 - Very distracting

Q11. What did I like most about it? (Consider content, form and delivery – one or all)

Q12. What could have been improved? (Consider content, form and delivery – one or all)

Appendix B

Observer Evaluation Form for Students' Presentations

Q01. How engaging was the presentation?

1 - Loved it 2 - Liked it 3 - Not sure 4 - Didn't like it 5 - Really didn't like it

Q02. Was the topic clear?

1 - Absolutely 2 - Largely 3 - Not sure 4 - Not really 5 - Not at all

Q03. Did the presenter establish authority?

1 - Absolutely 2 - Largely 3 - Not sure 4 - Not really 5 - Not at all

Q04. Did the presenter connect with the audience?

1 - Absolutely 2 - Largely 3 - Not sure 4 - Not really 5 - Not at all

Q05. How was the speaker's overall energy?

1 - Vibrant 2 - Alive 3 - Okay 4 - Low energy 5 - Lifeless

Q06. How was the overall body language?

1 - Excellent 2 - Very good 3 - Adequate 4 - Distracting 5 - Very distracting

Q07. How was the overall eye contact?

1 - Excellent 2 - Very good 3 - Adequate 4 - Distracting 5 - Very distracting

Q08. How was the vocal delivery? (Consider diction, volume, pitch, pace and use of pauses)

1 - Excellent 2 - Very good 3 - Adequate 4 - Distracting 5 - Very distracting

Q09. How was the speaker's grammar?

1 - Excellent 2 - Very good 3 - Adequate 4 - Distracting 5 - Very distracting

Q10. How effective were the visuals?

1 - Excellent 2 - Very good 3 - Adequate 4 - Distracting 5 - Very distracting

Q11. What did I like most about it? (Consider content, form and delivery – one or all)

Q12. What could have been improved? (Consider content, form and delivery – one or all)

Q13. How well was the tool (Prezi) used?

1 - Very effective 2 - Somewhat effective 3 - Neither effective nor ineffective
4 - Somewhat ineffective 5 - Very ineffective

Q14. How different was the presentation from a PowerPoint presentation?

1 - Very 2 - Somewhat 3 - No difference

Q14a. If Q14 answered 1 or 2, did it break from the bullet list approach?

1 - Yes 2 - No

Q14b. If Q14 answered 1 or 2, did it group elements in sections?

1 - Yes 2 - No

Q14c. If Q14 answered 1 or 2, did it include an easily followed path?

1 - Yes 2 - No

Q14d. If Q14 answered 1 or 2, did the Prezi include a structure based on features other than those PowerPoint could provide?

1 - Yes 2 - No

Q14e. If answered (Yes) in question Q14a, Q14b, Q14c or Q14d, please explain the difference. (Consider structure, content, form and delivery – one or all, in single parts of the Prezi or of the whole)?

Q15. How well was the presentation organized?

1 - Very organized 2 - Somewhat organized
3 - Somewhat disorganized 4 - Very disorganized

Q16. Was it easy to follow?

1 - Very easy to follow 2 - Somewhat easy to follow
3 - Somewhat hard to follow 4 - Very hard to follow

Q17. Was it attractive?

1 - Very 2 - Somewhat 3 - Not at all

Q18. Did the presentation include multimedia (photos, videos, and links)?

1 - Yes 2 - No

Q19. Did it blend existing media and the presenter's work in an interesting way?

1 - Very 2 - Somewhat 3 - Not at all

Q20. Was the final product compelling?

1 - Very 2 - Somewhat 3 - Not at all

Appendix C

Self-evaluation Form (English Version)

Q21. How different was your Prezi presentation from what you would have created in a PowerPoint presentation? (Consider content, form and delivery – one or all)

1 - Very 2 - Somewhat 3 - No difference

Q22. If answered (1) and (2) in question Q21, please explain the difference. (Consider content, form and delivery – one or all)

Q23. Did your Prezi presentation break from the bullet list approach?

1 - Yes 2 - No

Q24. Did your Prezi include a predefined path?

1 - Yes 2 - No

Q25. Did you design a structure in your Prezi different from how you would have done in a PowerPoint presentation?

1 - Yes 2 - No

Q26. If answered (1) in question Q25, please explain the difference. (Consider the structure – in single parts of your Prezi or of the whole)

Q27. Retrospectively, what did you like most about your Prezi presentation? (Consider structure, content, form and delivery – one or all)

Q28. Retrospectively, what could have been improved? (Consider structure, content, form and delivery – one or all)

Biographies

Sabra Brock is Interim Dean at the Touro College Graduate School of Business in New York City, also teaching marketing and change management at the graduate and undergraduate level. She received her doctorate from New York University. Her research interests include collaborative learning in business schools and the workplace, cross cultural teaching, and managing change through transformative learning.

Cornelia Brodahl is an Associate Professor at the Faculty of Engineering and Science at University of Agder in Kristiansand/Norway. She received the master degree in Mathematics from the University of Münster/Germany in 1979. Her research and teaching interests include ICT and learning, Professional ICT Didactics, and Mathematics in Teacher Education. Main areas of expertise and interest are ICT supported learning, digital teaching aids, learning and teaching with Web 2.0, pedagogical Web design, didactical animations and adopting flipped classroom.