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Improving Student Presentations: Pecha Kucha and Just Plain PowerPoint

SAGE

Alisa Miller Beyer[1]

Abstract
Students often use PowerPoint for presentations. Pecha Kucha was introduced as an alternative type of PowerPoint presentation. Pecha Kucha is a fast-paced presentation style that forces students to focus on their message with automated, 20-second slides. Three studies, including a pilot, examined whether Pecha Kucha enhanced the quality of student presentations as compared to traditional PowerPoint presentations. In a pilot study, students chose their presentation style; those who selected Pecha Kucha had higher quality presentations than did those who used a traditional PowerPoint presentation. When randomly assigned to presentation styles, student presentation quality did not differ. In another experimental study, when students presented using both styles, Pecha Kucha presentations were rated higher than were those using traditional PowerPoint. The results suggest that Pecha Kucha is a new, useful presentation style for students.

Keywords
student presentations, Pecha Kucha, PowerPoint

Microsoft PowerPoint has been used in higher education for nearly 20 years. PowerPoint is used for the ease of preparation and organization it provides (Eves & Davis, 2008; Klemm, 2007). Technology-enhanced classrooms encourage students and instructors to use PowerPoint. Students enjoy integrating technology into the classroom and rate professors more favorably when PowerPoint is used (Apperson, Laws, & Scepansky, 2006; Clark, 2008).

PowerPoint is a tool that students are often expected to use, but there has been limited research on students' PowerPoint presentations (Blake, Poranek, & MacCulloch, 2007; Dobson, 2006; Downing & Garmon, 2001). Downing and Garmon (2001) examined ways of training students to be more confident in using PowerPoint while Dobson (2006) explored how to assess student PowerPoint presentations. Students can experience the same presentation pitfalls as instructors and may have even more challenges depending on their experience (Hardin, 2007). The goal of this study was to explore student use of PowerPoint presentations adding a new presentation style, Pecha Kucha, as an option to improve student presentations. Developed in 2003, Pecha Kucha has caught on as a creative presentation style outside the classroom (Klein Dytham Architecture, 2008). The presentation is very visual because each slide is automatically presented for 20 seconds and uses only pictures, photos, or graphics; text is not involved (Glendall, 2007).

Pecha Kucha has the potential to improve student presentations for several reasons. Because slides are automated, the presenter must be organized to capture the message of each slide in the time permitted. Pecha Kucha presentations use imagery to support key points and make visual connections between abstract concepts (Eves & Davis, 2008). Furthermore, when using only images, the message should be clearer according to Paivio's (1971) Dual Coding Theory because the presenter's verbal message is not competing with text. Without text, there is no confusion if the text is not well linked to the presenter's message; there is no reading from the slide, and there are no issues with text font size. These are ineffective PowerPoint presenter traits that distract from the presentation (Eves & Davis, 2008; Paradi, 2003; Tufte, 2003).

In sum, Pecha Kucha presentations may move presenters away from common weaknesses found with traditional PowerPoint. Pecha Kucha forces students to be more focused on their message because the time frame per slide is limited. Although there are many slides in a short period of time, they are filled with visual images connected to the presenter's comments. Thus, the fast pace may keep the audience engaged and keep the presenter organized and connected.

Method

I conducted a series of studies to examine differences in students' presentation quality based on presentation style, in

[1] Dominican University, River Forest, IL

Corresponding Author:
Alisa Miller Beyer, Department of Psychology, Dominican University, 7900 W. Division St., River Forest, IL 60305
Email: abeyer@dom.edu

Table 1. Means and Standard Deviations for Presentation Quality Categories as a Function of Presentation Type and Rater Type

	PowerPoint Presentation ($n = 15$)		Pecha Kucha Presentation ($n = 8$)	
	Student Ratings	Instructor Ratings	Student Ratings	Instructor Ratings
Content	4.75 (0.26)	4.00 (0.54)	4.92 (0.08)	4.43 (0.54)
Organization	4.70 (0.25)	4.73 (0.59)	4.92 (0.04)	4.71 (0.49)
Eye contact	4.60 (0.17)	4.20 (0.78)	4.88 (0.08)	5.00 (0.00)
Voice quality	4.68 (0.24)	3.93 (0.70)	4.88 (0.17)	4.86 (0.38)
Visual	4.75 (0.22)	4.33 (0.72)	4.91 (0.11)	4.86 (0.38)
Overall	4.76 (0.23)	4.23 (0.32)	4.94 (0.08)	4.92 (0.19)

traditional PowerPoint or Pecha Kucha. For these studies, both types of presentations lasted 5 minutes. Students created the PowerPoint and Pecha Kucha presentation slides and were only allowed to use images for the Pecha Kucha slides. The presentations were about students' final application projects, which connected course material with either service-learning or interview experiences completed during the semester. The purpose of the presentation was to share and integrate course content with their experiences. The instructor gave a handout of presentation tips, demonstrated a Pecha Kucha, and provided a Pecha Kucha template to use (i.e., instructor created blank, timed PowerPoint slides that lasted 20 seconds each).

Students and the instructor evaluated the presenter or presentation on content, organization, voice quality, eye contact, visuals aids, and an overall score for the presentation using a five-point Likert-type scale ($1 = poor$, $2 = below\ average$, $3 = average$, $4 = good$, $5 = excellent$). Student and instructor ratings were expected to be similar (Falchikov & Goldfinch, 2000; Mackiewicz, 2008). Students' scores for their own presentations were not included because previous research has found discrepancies between self-ratings and instructor and peer ratings (e.g., Langan et al., 2008; Patri, 2002). A pilot study was first conducted to explore whether Pecha Kucha was an effective student presentation option.

Pilot Study

Participants were 22 undergraduate students (19 females, 3 males) in an undergraduate development psychology course that met three times a week for 50 minutes. Students chose what presentation style they wanted to use, Pecha Kucha or traditional PowerPoint. Eight students chose to do Pecha Kucha style for their final presentation. Results indicate that overall students' presentations were of good quality (above average ratings; see Table 1). Using paired t tests to examine instructor and student ratings, the average student quality scores were more generous than the instructor's scores were for five of the six quality dimensions, ts(21) > 2.28, ps < .03.

I performed independent samples t tests comparing the two presentation styles on the six quality dimensions for both student and instructor ratings. Student raters scored the Pecha Kucha presenters significantly higher for content, organization,

eye contact, and overall presentation quality, ts(20) ≥ 2.22, ps < .04. The instructor scored Pecha Kucha presenters significantly higher for voice quality, eye contact, visuals, and overall presentation quality, ts(20) ≥ 2.23, ps < .04. Thus, both students and the instructor rated the Pecha Kucha presenters as having better eye contact and overall presentation quality compared to the traditional PowerPoint presenters.

Limitations to the pilot study are the unequal group sample sizes and individual differences between the two groups. More upperclassmen were in the Pecha Kucha group, and Pecha Kucha students scored higher on an exam, $t(20) = 2.92, p = .008$, and a paper assignment, $t(20) = 2.89, p = .009$. Thus, an experiment was conducted using random assignment to compare the two presentation styles and to obtain additional information about students' presentation style preferences and preparation time for the presentation.

Experiment 1

Participants

Thirty-one undergraduate students (25 females, 6 males) enrolled in two undergraduate developmental psychology courses gave permission to use their course grades for the purpose of the study. Sixteen students were psychology majors. One course was adolescent psychology ($n = 21$) while the other course was adult development ($n = 10$). Although the subject areas differed, both courses had the same application project with a final presentation. One student had prior exposure to Pecha Kucha in an art department course.

Procedure

Students were randomly assigned to a presentation condition (Pecha Kucha or PowerPoint) after an introduction to Pecha Kucha. After their 5-minute presentations, students were given a short questionnaire asking how many hours per week they studied for the course, their amount of preparation for the presentation, and their attitudes toward assigned presentation style.

Results and Brief Discussion

Table 2 presents averages for the presentation quality categories by presentation style and rater for each course. Mean

Table 2. Means and Standard Deviations for Presentation Quality Categories as a Function of Presentation Type and Rater Type for Each Course

	PowerPoint Presentation		Pecha Kucha Presentation	
	Student Ratings	Instructor Ratings	Student Ratings	Instructor Ratings
Adult development course[a]				
Content	4.75 (0.14)	3.4 (0.89)	4.84 (0.11)	3.6 (0.89)
Organization	4.70 (0.23)	4.5 (0.56)	4.84 (0.11)	4.4 (0.55)
Eye contact	4.50 (0.33)	4.0 (0.71)	4.82 (0.25)	4.7 (0.45)
Voice quality	4.53 (0.47)	3.2 (1.30)	4.66 (0.35)	3.2 (0.45)
Visual	4.33 (0.77)	4.0 (0.71)	4.80 (0.16)	4.8 (0.45)
Overall	4.79 (0.11)	4.1 (0.74)	4.86 (0.10)	4.7 (0.45)
Adolescent course[b]				
Content	4.46 (0.28)	4.10 (0.54)	4.48 (0.31)	4.0 (0.67)
Organization	4.54 (0.22)	4.45 (0.82)	4.45 (0.28)	4.3 (0.68)
Eye contact	4.33 (0.51)	3.91 (0.54)	4.23 (0.40)	3.4 (0.69)
Voice quality	4.50 (0.25)	3.77 (0.93)	4.30 (0.48)	3.5 (1.05)
Visual	4.37 (0.41)	4.36 (0.51)	4.63 (0.28)	4.7 (0.48)
Overall	4.49 (0.27)	4.05 (0.52)	4.45 (0.34)	3.9 (0.59)

[a] PowerPoint presentation $n = 5$; Pecha Kucha presentation $n = 5$.
[b] PowerPoint presentation $n = 11$; Pecha Kucha presentation $n = 10$.

presentations were rated higher than three (average) for all categories by both students and instructor. Using paired t tests to examine instructor and student ratings for each course, the average quality ratings from the student raters were more generous than ratings from the instructor for four of the six quality dimensions, ts(20) $\geq$ 3.04, ps $\leq$ .007; ts(9) $\geq$ 3.01, ps < .001.

For each course, independent samples t tests comparing the two presentation styles on the six quality dimensions for both student and instructor ratings. For both courses, there were no significant differences for any of the presentation quality dimensions as rated by the instructor and students. These findings indicate that presentation style differences in the pilot study may be due to selection bias because random assignment was not used (i.e., stronger students selected Pecha Kucha). There were no significant differences by presentation style for grades on course assignments, hours studied per week, presentation preparation time, or attitudes toward assigned presentation style. Thus, students who used Pecha Kucha did not spend more time preparing for their presentations. A final experiment examined differences in presentation style using a within subjects design to account for individual differences across presenters.

Experiment 2

Participants

Twenty-one undergraduate students (20 females, 1 male) enrolled in an undergraduate developmental psychology course gave permission to use their course grades for the purpose of the study. Fifteen students were psychology majors. Two students had prior exposure to Pecha Kucha in a previous course.

Procedure

The same procedure was followed except students did both presentation styles. Students were randomly assigned which

presentation they would do first. Students presented during last 3 weeks of the semester and then filled out a short questionnaire about the presentations.

Results and Brief Discussion

Table 3 presents averages for presentation quality by presentation style and rater. The mean presentation ratings were higher than three (average) for all presentation quality categories by both students and instructor. Using paired t tests to compare instructor and student ratings, the student raters gave higher presentation quality scores than the instructor did for content, voice quality, eye contact, and overall score, ts(21) $\geq$ 2.35, ps $\leq$ .028. It is likely that the instructor was more experienced and invested in rating students.

Mixed 2 (presentation style) $\times$ 2 (order) ANOVAs were run to compare the two presentation styles and the effect of order on presentation quality dimensions for both student and instructor ratings. Students rated visuals better for the Pecha Kucha presentations than for the traditional PowerPoint presentations, $F(1,20) = 6.57$, $p = .02$. For student rating, although randomly assigned, there was an effect of order for introduction, $F(1,20) = 21.13$, $p < .001$; voice quality, $F(1,20) = 7.61$, $p = .01$; and overall presentation quality, $F(1,20) = 8.3$, $p = .009$, such that the second presentation had higher scores. For the instructor rating, the Pecha Kucha presentation scores were higher for eye contact, $F(1,20) = 7.28$, $p = .01$; visuals, $F(1,20) = 12.6$, $p = .002$; and overall presentation quality, $F(1,20) = 12.1$; $p = .002$. There also was one order effect such that the instructor rated the second time presenting using better voice quality than the first time, $F(1,20) = 10.23$, $p = .004$.

Students reported that Pecha Kucha was fun, enjoyable, and easier than expected. Half of the class preferred presenting using Pecha Kucha, but 63% ($n = 14$) felt more confident

Table 3. Means and Standard Deviations for Presentation Quality Categories as a Function of Presentation Type and Rater Type

	PowerPoint Presentation		Pecha Kucha Presentation	
	Student Ratings	Instructor Ratings	Student Ratings	Instructor Ratings
Content	4.58 (0.20)	3.14 (0.77)	4.59 (0.22)	3.09 (0.68)
Organization	4.73 (0.12)	3.64 (0.79)	4.71 (0.16)	4.09 (0.61)
Eye contact	4.45 (0.38)	4.10 (0.87)	4.44 (0.43)	3.91 (0.87)
Voice quality	4.29 (0.40)	3.45 (0.91)	4.39 (0.33)	4.05 (0.79)
Visual	4.58 (0.35)	3.41 (0.85)	4.81 (0.15)	4.36 (0.85)
Overall	4.59 (0.24)	3.41 (0.50)	4.63 (0.26)	3.92 (0.53)

presenting using the traditional PowerPoint. Students liked the familiarity, use of text, and no slide time constraints of the traditional PowerPoint. Several students liked Pecha Kucha because presenters cannot read from their slides and the style kept the presentation moving.

General Discussion

The findings indicate that there are individual differences in presentation quality, and Pecha Kucha improves some aspects of student presentation quality as compared to traditional PowerPoint. The students and instructor rated Pecha Kucha presentations higher for visuals, and the instructor also rated eye contact and overall presentation quality higher. Although Pecha Kucha is a beneficial alternative, the presenter's effectiveness is important and can determine presentation quality more so than the presentation style (Clark, 2008; Cyphert, 2007; Hardin, 2007).

Student and instructor ratings were similar, but students were more generous in their scoring. Given that the instructor developed the ratings scale and had more experience rating presentations, this was expected. Students tend to rate their own peers higher than the instructor does for oral presentation grades (Langan et al., 2008). Additionally, although student ratings were similar to the instructor ratings, perhaps the overrating from the students reflects their reluctance to judge peers (Miller, 2003), or lack of investment as the student ratings were not used for assigning presentation grades (Margin & Helmore, 2003).

Pecha Kucha can mitigate some of the potential downfalls of traditional PowerPoint, but the current study findings suggest that students already avoided these problems as presentation quality ratings were above average in every category. Because all students were given a Pecha Kucha introduction and presentation tips, they may have been more likely to include images and use less text for the traditional PowerPoint presentations. Most students invested the time to organize and rehearse their presentations, as evidenced in the generally positive student and instructor assessments.

Findings indicate that adding Pecha Kucha as an option for student presentations is worthwhile. Students like incorporating new technology into the classroom and enjoy pictures and movement in PowerPoint presentations (Clark, 2008). Research has shown that Pecha Kucha is just as effective as traditional PowerPoint presentations are for learning (Klentzin, Paladino, Johnson, & Devine, 2010). Additionally, Pecha Kucha is available at no extra cost as long as one has access to PowerPoint. This is a bonus considering the mixed findings for the effectiveness of instructional technology (e.g., DeBord, Aruguete, and Muhlig, 2004; Klentzin et al., 2010; Kulik, 1983; Pemberton, Borrego, & Cohen, 2006).

Although this was one of the first studies to introduce Pecha Kucha to academic settings and to examine the quality of Pecha Kucha presentations, it is not without limitations. As the study compared only traditional PowerPoint presentations with Pecha Kucha, future work should examine the different uses of PowerPoint in further detail. Samples were small, predominately female (due to the college population), and collected from a small liberal arts college, which perhaps limits generalizability of the findings.

In conclusion, findings indicate that some aspects of student presentation quality improved and, although Pecha Kucha was novel to students, it did not require more preparation time. Although presentation times were identical in this study, Pecha Kucha may be a way to limit presentation time without decreasing content and other facets of the presentation. Pecha Kucha may also alleviate some of the concerns students have for presentation preparations. Thus, future research may examine if Pecha Kucha can more succinctly present information at the same quality level as a longer PowerPoint format.

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Bios

Dr. Alisa Beyer is an assistant professor of Psychology at Dominican University in River Forest, IL. She teaches developmental courses, and two sequenced research methods and statistics courses. Her research areas of interest include: scholarship of teaching and learning and children's memory development.