The Infographics Assignment: A Qualitative Study of Students' and Professionals' Perspectives

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ABSTRACT

In the evolving digital landscape, educators can consider adopting emerging tactics to prepare students for the workplace. One of these tactics, the infographic, incorporates storytelling characteristics by presenting synthesized knowledge and data in a visual way (Fernando, 2012). Through five focus groups with 37 students at three universities and interviews with 15 public relations professionals from various workplace settings, we explored strategies for teaching the infographics assignment and documented learning outcomes. This study also describes the characteristics of strong infographics, which could be of interest to public relations professionals.

Keywords: infographic; pedagogy, storytelling; teaching; technology; visual communication

In Richard Edelman's (2012) opening remarks to public relations educators at the Edelman Academic Summit, he stated, "We have become a profession that is brilliant with the written word, but we must become a profession that knows how to show as equally as we tell" (p. 4). He explained, "There is a huge place for deeper, more informative visuals… which infographics – visual representations of information, data or knowledge – provide" (p. 4). In this "era of big data," Edelman stressed the importance of training students to work with data and make information meaningful in a visual way (p. 4). A Pew Research Center study of social media users concluded that visual content is a form of social currency that people create, curate, and discuss through online platforms (Rainie, Brenner, & Purcell, 2012).

Educators have noted the increased importance of teaching students visual communication due to digital media and reduced attention spans (Kim & Chung, 2012; Lester, 2012), as well as the importance of giving students additional practice with research and data analysis (DiStaso, Stacks, & Botan, 2009; Kent, Carr, Husted, & Pop, 2011). The need for students to learn how to engage in visual communication and learn how to work with data is also reflected in Standard 2 of accreditation standards by the Accrediting Council on Education in Journalism and Mass Communications. This

standard is focused on "preparing students to work in a diverse global and domestic society" and thus includes the following competencies: "understand concepts and apply theories in the use and presentation of images and information," "conduct research and evaluate information," and "apply basic numerical and statistical concepts" (ACEJMC, 2004, pp. 2-3). In addition, research skills are emphasized in the report from the Commission on Public Relations Education (2006), an organization comprised of educators and professionals from 15 professional associations in public relations and related fields.

The Commission on Public Relations Education (2006) also recommends that students keep up with changes in technology (also see support from Miller Russell, 2007; Waters & Robinson, 2008). Furthermore, Millennial public relations practitioners are eager to reverse mentor their colleagues about digital media, and they define their generation as pioneers in this area (Gallicano, 2013). Millennials are digital natives and are more likely to be comfortable and familiar with digital tools and technologies, as compared with digital immigrants (Válek & Sládek, 2012); however, Millennials need training to learn how to use digital media strategically (Miller Russell, 2007). With this in mind, educators can consider the needs placed on them due to the emerging technologies public relations professionals are using and incorporate these into classroom activities. It is imperative that educators prepare public relations students for successful careers (DiStaso et al., 2009; Stacks, Botan & VanSlyke Turk, 1999).

Due to the professional encouragement for this assignment, the call by educators to teach visual communication and data skills (while continuing to cultivate traditional skills), and the assignment's relevance to accreditation standards, we decided to adopt the infographic assignment in our classes. The purpose of this exploratory study is to document learning outcomes that can result from the infographics assignment, as well as best practices for teaching it. As Taylor (2011) noted, "Being able to prove teaching effectiveness is an imperative today" (p. 439). This study is significant because it not only provides educators with the information they need to decide whether to incorporate the assignment into their classes but also provides evidence for the effectiveness of the infographics assignment and strategies for teaching it. In addition, public relations professionals can benefit from the insights presented for creating powerful infographics.

LITERATURE REVIEW

Infographics

Infographics are defined as a form of storytelling that people can use to visualize data in a way that illustrates knowledge, experiences, or events (see Fernando, 2012; Smiciklas, 2012). One of the defining characteristics of infographics is that they are a visual tactic that can be created and curated to reveal insights about an individual or brand. Based on Piktochart's (2012) summary, there are four types of infographics:

- Typical: Headline and various points, such as a summary of a study
- Singular: One large graphic, such as the traditional *USA Today*

> infographics
> - Comparison: Display of a comparison of items, such as competing products
> - Process flow: Illustration of the process of something, such as how coffee is made

One way infographics can be used is to frame a story, which could be about various topics, such as a product, process, fundraising initiative, legislative bill, social issue, or research study. In this way, infographics are a form of strategic storytelling, a practice that occurs when an employee shares an organization's story to advance an organization's goals with one or more key audiences (Tyler, 2007). In a classroom setting, this basic information about infographics can be complemented with stories about public relations professionals' experiences with infographics in the workplace. Therefore, we posed the following research question:

> **RQ 1: What are public relations professionals' experiences with regard to infographics?**

Our approach to this question includes the possibility of professionals not using infographics.

The visual nature of infographics results in several advantages, as compared with tactics that lack visuals. Infographics can explain complex issues in visually interesting ways (Perry, 2012; Rendgen, 2012). They also have a higher likelihood of being shared through social media than tactics without visuals, and they can result in media coverage (Jaffe PR, 2012), which is known as *media catching*. Media catching occurs when organizations attract journalists' attention through their digital media use (Waters, Tindall, & Morton, 2010).

People commonly view infographics through social media. In digital form, infographics are cost effective and easy to create, and they can reach a broad audience (Meadows, 2003). In the digital environment, individuals who are engaged with the infographic have power because they can add their own commentary when sharing it via social media. In this sense, infographics are not necessarily static documents for storytelling; they can ignite dialogue about a particular subject, trend, or organization online.

When deciding whether to include particular information in an infographic, the author should consider the audience and decide whether the information contributes interest or insight to the story, whether it unnecessarily complicates or confuses the issue, and whether the information is accurate (Fernando, 2012). Communicators must exercise discipline by not overcrowding their infographics with information (Fernando, 2012). Despite the need to keep infographics clutter free, communicators should identify the organizational author and include references to satisfy the requirements of transparency in digital media (for discussions of transparency in social media, see Bivins, 2009; DiStaso & Bortree, 2012; and Sweetser, 2010).

Practitioner Participation in Education

According to the Commission on Public Relations Education (2006), "Practitioner support of public relations education has been inadequate" (p. 17). A recent study, however, suggested that public relations educators are increasingly recognizing the need to partner with public relations practitioners to adapt the curriculum to industry changes (Cheng & de Gregorio, 2007), and preliminary research has also endorsed engagement with practitioners to provide the education needed to succeed in entry-level public relations positions (Freberg, Remund, & Keltner-Previs, 2013).

Infographic Assignment Variations

For this study, we leaned on the expertise of public relations professionals to identify best practices for creating an infographic, make recommendations for teaching the assignment, and offer criticism of student work. Our students' perspectives were also valuable, particularly because we each took slightly different approaches to the assignment and could compare our students' experiences. Specifically, students at University of Oregon (UO) and University of Louisville (U of L) worked individually, and students at Marquette University (MU) worked in pairs. UO students submitted a statement of purpose and content with source citations for the infographic and obtained instructor approval prior to creating the infographic, whereas MU students did not, and students at U of L submitted a strategic brief at the same time as the infographic. The strategic brief included the purpose of the infographic, a three- to four-sentence bio of the client, measurable objectives for the infographic that specified the audience, and metrics for evaluating the infographic. Our assignment descriptions can be found at http://bit.ly/13ye3zj. Through focus groups with students and interviews with public relations professionals, we examined the following research questions:

> **RQ 2: What is the value of the infographics assignment from the perspectives of public relations students and professionals?**
>
> **RQ 3: What can be learned about how to teach the infographics assignment from the perspectives of public relations students and professionals?**

METHOD

We used the same semi-structured protocol across our focus groups with students and a separate semi-structured protocol that we shared for our interviews with professionals. The audio for all focus groups and interviews was recorded with participants' permission and transcribed.

Focus Groups with Students

To explore students' perceptions, we conducted focus groups with students from our classes after they received instructor feedback and final grades on the assignment. We

used extra credit as an incentive. A drawback of our study design is that we invited our students to tell us their thoughts about the assignment, and we were concerned that students might give more flattering reviews of the assignment than they would otherwise share due to their desire to cultivate good relationships with us. In attempt to offset this drawback, we positioned the assignment to them as an experiment (rather than as a permanent addition to the course) and told them we needed their help in deciding whether to keep the assignment, and if they thought we should keep it, we needed their help in identifying the best way to teach it. This disclosure also follows the guideline to inform focus groups of what the researcher wants to learn from them (Krueger, 1988). We reminded students that past students were responsible for our recent improvements to their class, so this was a good opportunity to "pay it forward" for the next class. Our students seemed comfortable with stepping into the role of teaching the teacher, as evidenced by their constructive feedback and suggestions for changes. During the focus groups, we reacted in supportive, non-defensive ways to students who offered constructive feedback or expressed frustration with aspects of the assignment.

The choice of focus groups as a method for studying students' perceptions was ideal. Focus groups were better than a survey would have been because we needed responses to open-ended questions about what to keep doing and what to do differently, and we wanted the opportunity to ask follow-up questions to achieve depth (see Krueger, 1988). Focus groups were better than interviews because the power of the group helped to offset the power differential between the teacher-researcher and student-participant (see Lee, 1993; Lindlof & Taylor, 2002; Madriz, 2000). We believe the students were comfortable with sharing constructive feedback because they saw others doing it, so we believe there was a "safety in numbers" benefit to the students giving mixed feedback in a group setting. In addition, focus groups are ideal for the natural process of generating meaning through interaction, and we believe the quality of the results was enhanced by the opportunity students utilized to build off each other's responses (see Madriz, 2000).

The focus group protocol began with grand tour questions, such as "What was your first reaction to learning that we were going to do an infographics assignment? Why?" and "How would you describe your level of interest in this assignment, as compared to other public relations assignments in general?" The second part of the protocol involved questions about any background training from outside of our classes that students applied, and we asked follow-up questions about their comfort with visual design. The third section of the protocol focused on students' tips for teaching the assignment, and we asked follow-up questions about the different ways to teach it. The fourth section of the protocol focused on what students learned from the assignment, and for the final section, we asked questions about what value, if any, the assignment had to them. The focus groups lasted an average length of the following times: 52 minutes at UO, 25 minutes at MU, 28 minutes at U of L. The difference in length is due to a couple factors: additional follow-up questions at UO, particularly regarding the relation between prior course work and the assignment (i.e., UO students had 4 relevant pre-requisite courses, as compared with 2 at MU and 1 at U of L) and the choice to ask each participant to share a substantive answer to each question, even if she or he agreed with what had

already been said. Despite the differences in length, we found common patterns across all three focus groups, which provide some assurance of quality across the focus groups.

The following number of students participated from each university: 15 from UO, 14 from MU, and 8 from U of L, for a cumulative total of 37 students. We each conducted 1 to 2 focus groups for a cumulative total of 5 focus groups, and each focus group contained 7 to 8 students. These practices follow focus group guidelines to conduct at least five or six focus groups for semi-structured protocols with 6 to 10 participants in each group (Morgan, 1988). We achieved saturation with our focus groups, which occur when the researcher learns little from subsequent data collection (Glaser & Strauss, 1967).

Regarding demographics, there were 4 African-American students (including 1 male and 3 females); 3 Asian females; 27 Caucasian students (including 5 males and 22 females); 2 Hispanic students (including 1 male and 1 female), and 1 Hispanic-Caucasian female. Students ranged in age from 20 to 27, with the exception of a 45-year-old student. The median age was 21. Students had an average of 1.6 public relations internships at UO, 1.2 internships at MU and .5 internships at U of L. All students were juniors and seniors. The assignment was taught in a 400-level direct-to-audience public relations class at UO (with pre-requisites including a principles course, public relations writing class, and three classes in transmedia storytelling), a 300-level public relations writing class at MU (with pre-requisites including the principles course and a media writing course), and a 400-level strategic social media class at U of L (with an introductory communication class as a prerequisite).

In-Depth Interviews With Professionals

We were concerned initially that public relations professionals might feel reluctant to criticize the assignment we planned to show them during the interviews, but their feedback gave us confidence that they were comfortable with critiquing what we were doing in our classes. Similar to the focus groups, we responded to constructive criticism in a welcoming way and recognized our participants as experts. The qualitative method allowed us to achieve depth by asking open-ended questions with follow-up questions (see Krueger, 1988). We chose interviews rather than focus groups to maximize the amount we could learn from each individual. Moreover, we were less concerned with the professionals than we were with the students about the need to even out the power differential through focus groups because of the status of our participants as successful public relations professionals.

The protocol began with grand tour questions about the skills new public relations practitioners need to have and how deep we should go in our classes with technological training in software programs, such as InDesign. The second part of the protocol explored professionals' thoughts about having students complete an infographics assignment, including whether students should learn how to create infographics and why, and if we were to teach the assignment, what kinds of choices we should make in

the assignment requirements. The third part of the protocol included questions about professionals' experience (if any) with infographics and what they look for in a good infographic. Member checks were performed with all professionals to ensure accuracy.

We chose participants we already knew and used maximum variation sampling by recruiting public relations professionals from a variety of settings with various amounts of experience (see Lindlof & Taylor, 2002). We interviewed 15 public relations professionals. One participant holds a senior executive position at a large public relations agency and three participants represent boutique agencies (including two senior executives with at least 16 years of experience each and a junior executive with two years of experience). Three communications professionals represented nonprofit organizations, including a woman with nine years of experience at an affiliate of a church-based national organization, a man with eight years of experience at a university, and a woman with two years of experience at an affiliate of a national children's organization. Representing a corporate perspective, three participants with at least 16 years of experience participated, two represent large companies and one represents a small company. A mid-level public information officer and a senior advisor participated whom each have six to 10 years of experience; one works for a city and one works for a federal agency. Three freelance professionals also participated; two have more than 20 years of experience and the other has 14 years of experience. Two interviewees were African-American women, eight were Caucasian women, and five were Caucasian men. Seven interviews were conducted by phone due to geographic distance, and seven were conducted in person. One of the interviews was conducted via email with a consultant and author of two social media books due to his travel schedule. In-person and phone interviews lasted an average of 44 minutes. We achieved saturation through our interviews with the professionals for our research questions about the value of the assignment and teaching tips (see Glaser & Strauss, 1967).

Data Analysis

The data were examined through a thematic analysis by looking for common patterns while noting the variety of responses we received (see Miles & Huberman, 1994). After reading through the transcripts once, we reduced the data based on our research questions and coded the relevant content by phrase, sentence, or paragraph, depending on the length of the relevant chunk of text (see Miles & Huberman, 1994). We used emic codes (i.e., the participants' phrases) when possible and otherwise used etic codes (i.e., our words) when participants' phrases were too long or did not summarize the content (see Lindlof & Taylor, 2002). We created a codebook that included all of our codes, key quotes to serve as evidence, and vivid language participants used, known as in vivo codes (see Lindlof & Taylor, 2002). We focused on capturing the range of opinions in our analysis to provide a variety of perspectives and rationales from students and professionals (see Miles & Huberman, 1994). With IRB approval, we name the public relations professionals we interviewed in the next section when they chose to have their identities included (we asked this question at the end of

each interview) and protected the identities of our other participants choosing this option.

RESULTS

Overall, we found strong support from both public relations students and professionals for teaching this assignment, and we discovered evidence that the assignment is an original way for students to refine their writing, research, and visual storytelling skills. Infographics can also help students stand out in job interviews, although candidates would need to otherwise be equal for this to happen. Students and professionals shared insightful recommendations for teaching the assignment, and we identified differences in both learning outcomes and recommended software for students to use, which appear to be connected with topic choice, prior knowledge of InDesign, and differences in their pre-requisite classes.

Nearly all of the professionals we interviewed had either used infographics, planned to use them, or someone else at their workplace had used them. They shared examples that are reported in the first research question about ways infographics can be used, which can provide students with an understanding of some of the contexts for infographics.

There was a consensus among professionals that infographics may have peaked in popularity, but they have become a permanent part of the communications toolkit. Jason Falls, chief investigator for Social Media Explorer, digital strategist for Café Press, and author of two social media books explained

I think it definitely had an explosion in the last year or two that I think will die down but not completely. …There are some people out there…that are like, "If I see another infographic, I'm going to stab someone in the head." But infographics are useful because they communicate complex things into simple terms very quickly and visually. …Infographics are always going to be an important part of the mix, but I do not they will be as important as they have been in the last couple of years.

Similarly, Shonali Burke, a consultant and former communications strategist for the American Society for the Prevention of Cruelty to Animals (ASPCA), commented, "I think they have seen their heyday. …I don't think they will pass—you are always going to need that graphic and visual content." She mentioned that many of her clients continue to request infographics. Similarly, a junior executive at a boutique agency also commented, "Displaying information visually probably isn't going away." To understand the strategic context for using infographics, we asked professionals to share their experiences, which are explored below.

> ### RQ 1: What Are Public Relations Professionals' Experiences With Regard to Infographics?

Public relations professionals expressed strong support for the use of infographics, provided that they fit well with audience preferences for consuming information. Examples of how professionals used or planned to use infographics included displaying eye-catching data in an employee dining room, calling attention to health disparities in a newspaper that is read by public officials, justifying social media use and displaying an agency's expertise to attract clients, illustrating how a nonprofit's donations make a difference, and displaying an organization's community efforts in an annual report. Many professionals used infographics already or someone at their organization used infographics; others expressed interest in creating infographics in the near future, with the exception of a federal agency employee.

The Importance of Knowing the Audience

The federal agency employee, who was the only interviewee who had not already created infographics or planned to do so, explained that the most influential members of her audience prefer data in a traditional format. She expressed that for internal communication, her most important co-workers prefer "a zip file full of Excel spreadsheets" rather than condensed information: "Let's say 90% of the people in the room like it, but 10% have a much bigger hammer—that's who's going to really make the most impact [on the format of data]."

Contexts for Using Infographics

A couple of the examples listed earlier are expanded upon below to provide rich stories that can help students understand situations for using infographics. Tiffany Thomas Smith, chief public information officer at City of Baltimore Health Department, commented

> I am convincing the folks here on the beauty of a crisp infographic. There
> is 30- to 40-year difference in life expectancy if you live in Roland Park
> versus some areas in East Baltimore. …We can tell that visually.
> Everything from health access to mental health to food access—and that
> is the kind of thing that rather than having a policy brief that five people…
> read, we can put together an infographic that the Baltimore Sun …can
> take and use as its source.

In addition, Catherine Spellman, a statewide events coordinator for Make-A-Wish Foundation®, expressed interest in using infographics to tell the story about not only how people's donations are used but also how a granted wish makes a difference: "Our foundation does not cure diseases, so donors might prefer to donate to a foundation that does medical research towards finding a cure, but if you look at statistics, there are many positive benefits of a granted wish on a child's health." She explained that nonprofit organizations could use infographics to make persuasive appeals by combining the power of statistics with the power of an image, such as "a child smiling with a dolphin."

Infographics are a tool for an organization to not only communicate but also listen. The federal agency participant explained that examining publics' infographics would provide insight into "how people think and what people really take away." With the strategic context in place for how professionals use infographics, we also wanted to explore the perceived value of the infographic assignment, which is investigated below.

RQ 2: What is the Value of the Infographics Assignment From the Perspectives of Public Relations Students and Professionals?

This assignment enables students to improve their writing, research, and visual storytelling skills. In addition, infographics can enhance students' portfolios and to some degree, their job candidacy. These skills are discussed below.

Writing skills. Reflecting several professionals' comments, Sarah McGee, owner of Wiley McGee Communications, explained that an infographic "shows that they can summarize a message and get to the most important facts, which translates to a lot of different jobs, not just infographics." Several students from the three universities agreed that their writing improved by "figuring out what information is important and what is not really relevant to your audience," and nearly all participants agreed that the assignment was a helpful exercise for concise writing. Many students from all three universities acknowledged that it reinforced or strengthened writing lessons they had learned in previous classes:

> By the end of the infographic, you should have a message—a takeaway or something that you are persuaded to think… [and you should make] your title tap into people's self-interests. Who is the audience and what do they care about? …There was not a lot of writing, but the parts that were there, yes, were strengthened. (UO student)

Another value from students' perspectives was the enjoyment of combining a writing exercise with "using a different part of the brain." Students from all three universities emphasized that the assignment was interesting to work on, and they appreciated the opportunity to have writing mixed with computer skills, creativity, and storytelling: "They do work together: I think this is such a nice item to bridge those two." A few U of L students did not identify improvement to their writing.

Although infographics could strengthen writing skills, a junior executive at a boutique agency expressed concern about the visual design portion of the assignment taking away too much class time from other writing exercises, such as news releases and blog posts. She recommended offering the infographics assignment as part of an elective class or as a weekend workshop.

Research skills. Professionals described the importance of research skills, particularly Phil Gomes, senior vice president of Edelman Digital, who discussed the ability to contextualize data in a meaningful way: "I wouldn't want students to get the idea that they can be satisfied with just finding raw data and presenting it." Gomes explained that

students' use of basic high school math could help them frame a story in a way that showcases a client's strengths. He gave an example in which ratios could be used to show more innovation per dollar for a particular company, as compared with a competitor.

Several students from all three universities explained that the assignment helped them with their basic research skills:

> It was good for me to get to know how to go back to the original source and cite it with AP[A] style. I kept messing up a few times, but I think I finally got them right, and it was good to just know where to find them and to keep digging and find credible sources, not just websites. (UO student)

A federal agency advisor expressed that as a student, she did not appreciate learning citation styles in school, but she recognizes the value now: "It is about the drill as much as it is about the style. Learning to be that focused develops a part of your brain that you weren't using and you need that."

Some students pointed out that the need to have visually appealing data kept them searching for the right facts, and they gained experience with "figuring out what was the most credible source very quick[ly]." There were, however, several exceptions, which were related to topic choice at UO and were related to already having strong research skills at U of L. For example, a UO woman who wrote an infographic about supporting the Girl Scouts through cookie purchases did not find that the assignment developed her research skills.

Visual storytelling skills. Several professionals explained that the infographic assignment helps students gain experience with visual storytelling. Spellman added, "I think that this assignment, specifically, is really helpful because it's so visual, and I think that these days, the more visual you can be with what you're trying to show your audience, the better." Several students from all three universities reported that the assignment improved their visual storytelling skills. A U of L student reported, "It did enhance my design skills of being able to effectively communicate a lot of information in a visual aspect," and a UO student explained

> My original one had the icons all kind of zigzagged. Oh this looks cool, but then you lean back and well, this would be easier for the reader if all the icons were on one side… then all your quotes were on this side… It told the story better and more clearly for the quick glance… Even though I had…a pretty good understanding of visual layout, it definitely brought to attention things that obviously I hadn't thought about and I will think about next time … if I were to make another one.

Students reported that it helped them appreciate and apply a simple design, and a U of L student stated that getting more practice with Photoshop improved her "ability to make visuals more eye catching." Some students came to appreciate for the first time that a

visual aid could make "an old text come to life and be extravagant and exciting." Other people explained that they learned about visual design by getting their instructors' feedback and seeing the improvement to their work that resulted from applying design principles such as repetition.

Some MU students reported that the opportunity to apply the design principles they learned in a prior class reinforced their earlier lessons, whereas another MU student thought the prior visual design class was "just theories." A couple UO students, who earned high grades in their class in which the infographic was taught, did not think of themselves as design-oriented and did not think they learned much regarding visual design: "I just wanted to get this done, and get a good grade on it, but I wasn't really focusing on learning anything." In fact, several UO students thought that the assignment helped only a little with exercising visual design skills because of the ease of using Piktochart, which is a drag-and-drop software program with preloaded infographics templates: "It wasn't like I got a huge boost to my [visual storytelling] skills, because Piktochart is so easy." A UO student who chose to create the infographic in InDesign asserted that the assignment improved her visual design skills, and she said the proof is in the comparison between the one she created more than a year ago in a prior class and the one she recently created: "It's a big step up." At least a couple students at each university reported no improvement to their visual design skills due to one or more factors: a strong skillset in this area already, the heavy lifting that the Piktochart program did for them, or their preoccupation with grades rather than with learning visual storytelling.

Portfolio and employment. Reflecting several professionals' opinions, an internal communication manager for a casino commented, "The more the students can have under their belt, the more marketable they're going to be." She also qualified her statement (also reflecting several professionals' opinions), explaining that two job candidates would need to have equal writing skills for the infographic to make a difference to a candidate's employment. Many students, however, did not qualify their enthusiasm for the importance of the assignment with regard to their employment: "The most important thing we should know is what companies are doing now because it keeps changing and stuff. Infographics are things that are actually being used." Some students discussed their ability to "think visually as opposed to just textually, which is a really big advantage when applying for jobs" and were proud to display their work in their portfolios.

However, several UO students who created their infographics in Piktochart did not think they would use their work in their portfolios because "it's not fantastic," and they were sensitive to having created the infographic on Piktochart: "I don't think it would be credible enough…to say, 'I made an infographic,' because I didn't. I pulled very already-made pictures and stuff." Given the value of the assignment, we also asked students and professionals for their teaching tips, which are presented below.

RQ 3: What can be Learned About How to Teach the Infographics Assignment From the Perspectives of Public Relations Students and Professionals?

To address this research question about teaching the assignment, we discuss below the qualities of a good infographic, software recommendations, topic choice, the use of a strategic brief to accompany the assignment, and ideas for training students to create their infographics.

Professionals' opinions about a good infographic. Educators can teach students about the attributes of good infographics based on professionals' insights. Overall qualities of a good infographic include simplicity, visual storytelling, accurate and ethical presentation of the data (by not glossing over contextual details that might change the audience's conclusions), source citation, and the application of design principles. Details are presented below.

Burke was among many of the professionals to emphasize simplicity: "I first would look at the initial reaction…Sometimes infographics are so complicated your head spins…The topic and title need to catch my attention—so this really relies on their creative skills and writing skills. Corey duBrowa, senior vice president of global communications and international public affairs for Starbucks, discussed the importance of pruning data, so it creates a narrative arc:

> I think you can overdose on data, right? I don't want to see something that's 10 pounds of data in a 5-pound sack because all you've done there is just tried to convince me that you've covered every potential base, but you haven't told me what's important and you haven't told me what the narrative is. …I love a narrative arc, and I think even data can show you a narrative arc. You can prune data down to just about any narrative angle and …that doesn't mean you're spinning something. It's just that you've decided or chosen which elements of the narrative you're trying to punch up.

He said an effective coaching technique is to encourage the producer of the infographic to step back from the data and explain the story he or she wants to tell and why. Burke added that the infographic should take no more than 30-40 seconds to read, and the data must be interesting, accurate, and credible.

> Falls provided bad examples of data interpretation:

> I saw an infographic one time…it was a company that produced Web videos—they…had a title that said 'Web video killing television [advertisements].' They drew their conclusions based on this one stat….I believe it was that television advertising revenue grew by 8 percent and Web advertising grew about 48 percent."

Falls explained that the statistic came from a few years ago and pointed to the faster rate of growth that year of Web videos, compared with television advertising:

> I did the math and if Web video grew by 48 percent every year, it would take 26 years to catch television. Yet, this infographic was convincing people that TV is dead. So you have an ethical obligation to your audience…that the data is good [and] you are presenting [the data] in a fair way.

In another example, Falls described a marketing software company that published data about the best day and time for companies to update their social media to reach the most people. Based on the data, the company recommended Saturday at 8:30 a.m., Falls commented, "They never asked what types of posts are relevant on Saturday mornings," and he pointed out that people were arguably looking to connect with friends rather than companies at this time. "That is an example of a company that runs the ball halfway." Falls recommended that students ask themselves, "Can I stand behind this data?" and suggested that this assignment could be valuable in a research methods class where students collect their own data.

On a related note, professionals such as Gomes discussed the importance of citing sources through footnotes. With regard to the visual part of the infographic, several professionals recommended telling the story of the infographic visually (so readers have an idea of the content without even reading), showing the eye where to look through the placement of images and prominent text, and applying design principles, such as contrast between the text and background, visual balance, and repetition with images, colors, font styles, and font sizes.

InDesign versus alternatives. Nearly all professionals agreed that using InDesign would be ideal if students already knew how to use it, but the consensus among the professionals we interviewed was that Piktochart or PowerPoint was sufficient for demonstrating basic skills in visual storytelling. Mark Schaefer, a communications consultant and author of three social media books, commented, "I don't think they should be required to be designers," and design skills are required for using InDesign. Falls noted that while students don't have to be artists, "you have to think visually—you have to be able to translate complex ideas into simple, visual executions in mind…You need to be able to translate this to someone that can implement these ideas visually."

The nonprofit professionals, however, found that being able to use InDesign themselves helped them tremendously in their careers, particularly when working for small nonprofits. Malkemes explained, "I've… had to wear so many different hats… [and there have been] limited resources, and to be able to offer those sort of skills where they don't need to get outsourced is really helpful." Spellman expressed that she uses InDesign on a daily basis, and she would be more impressed if students created their infographics using InDesign rather than alternatives. However, she also expressed that for some students, using a blank canvas on InDesign might be too advanced, so template programs could be a good starting point.

Smith commented, "The next big thing comes and goes so quickly. I remember going for job interviews and having folks say, 'Well, do you know how to use Publisher?'" She explained that the important learning outcome is being "flexible and inquisitive about the technology out there" and being "able to pick up technology quickly and apply it." Reflecting several professionals' comments, Gomes suggested, "Bring students to familiarity [in InDesign], rather than competence. Just spend a day showing off the basics, and if they are so moved, they can develop the expertise on their own."

Students' preferences for which software to use seemed related to their existing skills. All UO students had learned how to use InDesign in a prior class and thought they were taking a step backwards in their educational training by using what they viewed as a remedial program while their InDesign skills continued to deteriorate from the lack of exercise. Although UO students had the option to use InDesign, they wanted either a strong encouragement to use it or a requirement to use it. MU students preferred creating the infographics in Piktochart, with the exception of a student who explained, "I actually would prefer InDesign because I have previous knowledge of it." U of L students used PowerPoint or InDesign, depending on whether they already knew InDesign, and were satisfied with their software choices.

Topic choice. Public relations professionals recognized that students would enjoy choosing their infographics topics; however, several also acknowledged, "it might be most valuable for them to just be handed the topic," as a junior executive from a boutique agency pointed out. Similarly, Gomes explained that being assigned a topic that is "as dull as dirt" can prepare students for the challenge of making dry topics interesting. Gomes, as well as several other participants, stated that ideally, students should have a mixture of assignments that sometimes allows them to pursue their interests and other times requires them to work with assigned topics. Brodzeller suggested providing a list of 20 topics to give students room to choose while controlling for rigor, considering that topics can vary greatly in difficulty.

Not surprisingly, students from all three universities preferred to choose their own topic and explained that they had more energy for the project because of their interest in the topic. Some UO students added that they thought they would work in an area of public relations that they were passionate about, so they did not anticipate dull topics, and they wanted to have tactics in their portfolio that represented their interests in particular public relations industries.

Strategic brief. All public relations professionals we interviewed suggested that students write at least an audience analysis, if not a strategic brief, that includes the purpose of the infographic, as well as a description of the audience, how the infographic would be shared with the audience, and how the infographic would be evaluated. For students' strategic brief, Gomes described several ways to evaluate infographics, such as the number of times an item has been shared—"not liked but shared." He also explained that communicators should consider their non-publicity objectives in measuring the infographic. Professionals can measure the number of times a promotional code or link

is used or the number of people who join a particular online community that can be approached from time to time with questions. Students from UO and MU, who did not create a strategic brief, expressed support for the idea of writing one: "I think it's something that a lot of people don't think about. I'm not one for more work, but I think it would have been helpful." Students from U of L, who wrote strategic briefs, found this part of the assignment to be valuable.

Training ideas from students. Students emphasized the importance of learning through the presentation of good and bad examples, such as a UO student, who commented, "I have a friend who… sent me his [infographic from a pre-requisite class], and I critiqued it a lot from your lecture and your examples and your critiques. I have a different eye for it now." Two UO students with a combination of grade and design anxiety suggested that the first draft could be ungraded to encourage creative risks and provide "comfort with failing." Students from this university also expressed interest in having a peer design coach who would be available to trade feedback and ideas, and students from MU enjoyed exchanging visual ideas for their assignments. MU students expressed interest in having an orientation to Piktochart rather than needing to figure it out themselves, and UO students thought the Piktochart orientation was a waste of time because they should be refreshing their InDesign skills. U of L students appreciated their instructor's tutorial, such as one person, who commented, "I would have been completely lost without [it]." Also, UO students expressed that a presentation project with slides was a helpful assignment to have before the infographic because they could continue to apply lessons about brevity and visual design.

DISCUSSION

Summary of Findings

This study builds on prior research about partnering with professionals to shape the curriculum (Cheng & de Gregorio, 2007) and examine a case (Freberg et al., 2013). Evidence from this study suggests that the infographics assignment is a valuable addition to the public relations curriculum, provided that time is not wasted on mastering advanced software, such as InDesign, which should only be used if students already know it from a prior class, self-study, or both.

There was a consensus among professionals and students that the assignment could make students more attractive to employers by showcasing their visual storytelling skills and technological proficiency. The public relations professionals and many of the students representing all three universities expressed that the assignment could strengthen students' research skills, visual storytelling skills, and writing skills.

Specifically, many students reported that the assignment helped them with research skills because they needed to find many sources to identify the best information to present, quickly judge the credibility of sources, remember to use original sources, and develop their attention to detail with formatting citations. Regarding visual storytelling, several students explained that the assignment required them to identify how to produce

ideas for visuals that would symbolize data, and they learned to shape the data into a cohesive story, from grabbing people's attention to presenting evidence and closing with an argument or call to action. Finally, students refined their writing skills by selecting the most relevant information, identifying audiences' self-interests, creating a takeaway message, and writing concisely.

Professionals also described the attributes of good and bad infographics, which can be shared with students. Students should "prune the data," so there is a narrative arc to the infographic, tell the story through the selection of visuals, guide the eye down the page through the placement of images and prominent text, and apply design principles. The infographic should end with a clear call to action. Sources should be footnoted.

Professionals suggested that sometimes it is good for students to apply assignments such as the infographic to their own interests, but they should also be asked to perform public relations for dull topics to develop their ability to make dry subject matter interesting. Naturally, students from all three universities expressed that they were more motivated to work on their infographics than they would otherwise be due to their ability to choose the topic. In our role as educators, however, we were concerned about disparities that resulted from the difference in topics, a concern that was also expressed by one of the professionals we interviewed. For example, some topics did not require extensive research, and not surprisingly, students with these topics explained that they did not develop their research skills. Consequently, instructors might consider requiring topic approval as a stage of the assignment, providing a list of rigorous topics, or doing both.

Professionals and students from all three universities supported the creation of a strategic brief to accompany the assignment, which would explain the purpose of the infographic, an analysis of the audience, an explanation of how the infographic would reach the audience, and plans for assessment. Students also emphasized the utility of good examples and bad examples for understanding how to create their infographics. Another teaching idea from students was to have a peer design coach to exchange feedback and ideas. In addition, UO students reinforced the placement of the infographics assignment after a project to create presentation slides, which allowed them to apply the design principles from a familiar project to a new project. Two students suggested making the first draft of the infographic ungraded to encourage creative risks, especially for students with significant grade anxiety. In addition, students appreciated instructors' tutorials for the software programs they used. Our step-by-step tutorial for using Piktochart can be found at http://bit.ly/piktochartdirections.

Significance, Limitations, and Future Directions

This study identifies qualities of strong infographics, which can be valuable to both public relations professionals and students. In addition, instructors can use the conceptualization of this study to explain infographics to their students. We have also shared rich examples from professionals about using infographics, which is valuable because educators can use these stories and pithy quotes as a powerful way to engage

students and help them retain the material (see C. Heath & D. Heath, 2007). Furthermore, educators can consider what students and professionals have shared about how to teach the assignment and the value of it. Although we achieved saturation in the areas of teaching tips and perceived value of the assignment, as a qualitative study, the results are not generalizable.

For future research, experiments can be conducted to examine how infographics compare with other online forms of communication with regard to influencing engagement, information retention, and other variables, such as those from the situational theory of problem solving (i.e., problem recognition, constraint recognition, involvement recognition, and referent criterion; Kim & J. E. Grunig, 2011). Future research can also investigate aspects of individual infographics. For example, a rhetorical analysis can be used to identify how a particular infographic functions persuasively.

CONCLUSION

Visual communication is prominent in contemporary public relations, and we expect its use will continue to grow (see Pew Research Center, 2012). Additional focus, continued practice, and emphasis on strategic thinking with visual tactics (including the incorporation of data) can help prepare students for public relations careers. The infographics assignment can be used to update the status quo curriculum, which tends to emphasize tactics that are not visually based.

Our research focused on insights from professionals and students; however, educators must also be part of the equation in determining what students need and how to satisfy both parties. In this sense, educators serve as both a key contributor, as well as a liaison between students and professionals, in the evolving discussion about public relations pedagogy. As educators and researchers, we must continue to ask the question about how to manage the balance of time between technology and core skills, such as writing. On a surface level, the infographics assignment is a convenient way to discount this question as a false dichotomy because it involves both areas, but a deeper examination of this assignment reveals the choices instructors confront in terms of software requirements and how deep to go with teaching technology. Certainly, we want to teach assignments in ways that inspire our students, but we must also keep a close eye on how prepared our students are in the core areas, such as writing.

The good news is that the recent change to curriculum requirements for schools accredited through ACEJMC (2012) introduces opportunities for public relations curricula to incorporate additional credits, such as technology-intensive electives or required courses. Determining how to allocate these additional opportunities is a great problem to have, and it is our hope that educators will use our study to decide whether to add the infographics assignment to a public relations class, and if so, how to teach it.

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