Linking Education to Industry: A Collaborative Logo Design Project

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As a result of faculty, student, and industry collaboration, a logo design project was initiated to serve the research, teaching, and service needs of the faculty, learning needs of the student, and the branding efforts of the company. The paper provides the description of the project and the implementation process that facilitated various learning outcomes for the student, faculty, and client, and of how the challenges encountered were overcome. As part of the project, the associations and industry representation of the logo were empirically tested. The results indicated that semiotic and industry associations were positive and conveyed the intended associations.

INTRODUCTION

Incorporating collaborative projects into the curriculum provides multi-faceted benefits to students, faculty, and the industry. As Denise (1999) points out, many higher education projects may involve communication (exchanging ideas and emotions), coordination (working together efficiently and effectively by knowing what to do, how to do, and when to do), and cooperation (working together by agreement for a common purpose) but not necessarily collaboration. In his book, *Shared Minds*, Michael Schrage (1990, p. 140) explains collaboration as "the process of shared creation: two or more individuals with complementary skills interacting to create a shared understanding that none had previously possessed or could have come to on their own." Projects, in consultative nature that link education to industry, require collaboration along with communication, coordination, and cooperation among the faculty, student, and client. The importance of incorporating collaborative projects into pedagogy has been emphasized. However, the extant literature has failed to demonstrate how project-based pedagogy could be implemented successfully and properly. This involves incorporation of relevant theories, planning out the crucial steps in the collaborative process, and determining the learning outcomes to be achieved based on the entire collaborative experience.

This paper reports on the collaboration process of a logo design project so that academics can implement similar consultative projects of this nature while creating positive learning outcomes for and relationships among students, clients, and faculty. First, it describes the project and the theory and method for designing the logo. As a part of the project, the associations and industry representation of the logo were empirically tested. Therefore, the paper describes briefly the process for development of measurements and testing the logo's semiotic associations and industry representation, and reports on the results for the strength of the relationships among the antecedent factors that contribute to the logo's

ability to trust in the company. Second, the paper discusses the best practices for implementing a project of this kind and the learning outcomes for student, faculty, and client, and the challenges that were encountered and how they were overcome.

BACKGROUND OF THE PROJECT

The project was first initiated at the beginning of spring 2015 semester through an email contact of the owner of a Therapeutics Medicine startup company to the faculty member who specializes in logo design and testing and is affiliated with a large university in the Mid-Atlantic region of the United States. The owner requested that a logo be designed for the company and provided the faculty member with information on the company background, product, mission statement, and motto "Assisting Patients to Manage Their Lives" developed by the owner. The startup company had invented an herbal supplement and it aimed to produce an herbal supplement for Type II diabetics that is naturally extracted from plants and taken orally with a well-known Type II diabetes medication. At the time, the herbal supplement was in a clinical trial stage with preliminary positive results and obtained a pending-patent. Two researchers founded the company in 2014 in San Diego, California.

Because designing and testing a logo takes time, understanding the theoretical concepts, and artistic and technology-based skill sets, the faculty member selected a junior undergraduate student who was technologically skilled and was willing to work on a long-term project with a dedication to learn the design software, research and data analysis, and co-author and co-present papers on different parts of the project at academic conferences.

THE LOGO DESIGN PROCESS

Logo design process can be costly for companies if they outsource the service to a graphic design firm. One of the beneficial ways that can provide a no-cost to minimum-cost approach for companies is a collaboration with a higher education institution in a logo design project. Companies can avoid or reduce some of the high fix cost through collaboration with faculty because most universities or colleges purchase licenses for graphic design software programs such as Adobe Photoshop readily available to faculty and students to use in the arts and design related fields. However, designing a company logo should not be performed hastily. The logo design project of the company evolved through a collaboration between the faculty and client (owner/manager), and the faculty and student. Although involvement of the student in all or some of the correspondence or communication could be beneficial, the faculty member needs to use discretion in taking account of confidentiality, time-management, efficiency, and professionalism.

Although the importance of designing the logos to convey positive and precise associations has been greatly emphasized (Keller and Lehmann, 2006, Green and Lovelock, 1994; Mick 1986), research on logos has been very limited. To the authors' best knowledge and based on their exhaustive review of literature, no research study has taken the issue on a more comprehensive scale by examining the theoretical foundation for designing a logo and testing whether the logo conveys the intended associations while representing the industry for which it was designed.

The first step in designing the logo was to understand the mission, goals and objectives, and offerings of the company (Girard and Pope 2010). To make strong, precise, and positive associations with a therapeutic medicine brand, the authors started the process with understanding the mission statement of the company and the description of its offering. The company's mission statement, "*To offer improved and sustained control of blood glucose-levels for type 2 diabetes mellitus patients through development of clinically validated tablets comprising a naturally-derived product prescribed in conjunction with an existing anti-diabetes medication,*" suggested that the key components of the logo were the human body to represent the diabetic target market, a leaf to represent the plant, and an outer ring to symbolize continuity.

Studies suggest that a logo design needs to communicate consistent associations with the overall goals and objectives of the company (Kilic, Miller, and Vollmers 2011; Girard, Anitsal and Anitsal 2013, 2015; Herskovitz and Crystal 2010; Henderson, Giese, and Cote 2004). The owner's stated objective for the logo was to create trustworthiness among customer, case patients, and doctors.

During the spring of 2015 semester, faculty member and the student started with reviewing the published literature to understand what meanings the colors represent in general. Based on colors, symbols, and shapes used, the associations made in the context were created by each element as a whole. In order to design the logo, the theory of semiotics was utilized. Semiotics is the study of symbols and their meanings (Bhat, Suboth and Srinivas Reddy, 1998; Solomon, 2016).

The literature suggested that green leaves have typically been used to symbolize nature or a natural product, and something that is connected with the environment. Two tones of the green color are used in the logo to outline the leaf and make it standout. Showing the leaf held overhead by the human icon indicates a strong bond with the natural ingredient of the product, a benefit that people seek and cherish when taking the next step to a healthier lifestyle. The green outline of the human icon symbolizes the inter-dependency between human beings and the environment. In order to give an animated look, the human icon, originally shaped as a skewed X (Fig. 1a), was modified to appear to be stepping through and over the ring (Fig 1b). Stepping through the outer ring is a subtle way to show the strides that diabetic patients are making to overcome their setbacks. The outer ring around the logo is used to convey multiple messages. First, a light blue circle is the global symbol for diabetes and a trademarked symbol owned by International Diabetes Federation (Fig. 1b). To avoid a violation of the copyrights, the circle was modified to be a three-dimensional (3D) darker blue circle (Fig. 1c). While the circle represents the continuity, the darker blue color symbolizes the water that provides sustainability to health and life. The three-dimensional ring also has shapes that resemble the flow of water. The flow of water is another symbol that can be traced back to naturally water-extracted medicines and supplements, which is the case for this company's product.

The authors (faculty member and student) used prior research findings in the semiotics related literature to understand the meanings consumers attach to colors. Hynes (2009) provided empirical evidence that color and design of the logos were directly related with representativeness. Logo color is also very important due to its mnemonic quality in consumers' recognition and recall (Henderson and Cote, 1998; Napoles, 1988).

The published research reports on the findings that the red color can increase pulse, blood pressure, and appetite (Wright, 2016; Fraser and Banks, 2004). Because maintaining normal blood sugar levels for diabetics is important, the dark red color is chosen for the human body to symbolize blood, and being active and healthy.

The blue color has been reported to convey a calming effect, purity, intelligence, efficiency, logic, dependability, and trust (Wright, 2016; Fraser and Banks, 2004), which are desirable associations by most if not all medical institutions and companies. Inspired by the light blue circle universally used as the symbol of diabetes, the authors chose a darker blue circle to symbolize water and to avoid copying the IDF's trademarked diabetes circle. Lastly, the white color is known to be associated with simplicity, purity, hygiene and cleanliness, sophistication, and efficiency (Wright, 2016; Fraser and Banks, 2004). White is used as the background that is surrounded by the dark blue circle (Fig. 1d).

After checking with IDF on the acceptability of using the modified blue circle in this company's logo design, the authors were notified by the owner who contacted IDF. IDF would accept the logo as original if a part of the circle was blue instead of the entire circle. Therefore, the top part of the circle was modified to darker green and the bottom remained blue to represent water with a hint of the diabetes circle (Fig. 1d). With the company owner's approval of the logo in Fig. 1d, the finalized logo's associations were tested anonymously (i.e., without the company name attached) using an online survey instrument. Permission was obtained from the owner to use the designed logo for this pedagogical study and it was initially a part of the agreement to collaborate.

The first draft of the logo was a two-dimensional sketch illustrating a human figure holding a leaf overhead enclosed in a circle (Fig. 1a). Figure 1a-1d shows the evolution of the logo from a hand-drawn sketch to a more polished form using the Adobe Photoshop program.

COLLABORATIVE LEARNING PROCESS AND OUTCOMES

In order to create a new logo, certain preliminary skill and knowledge sets had to be gained. During the summer of 2015, the student researcher started learning the Adobe Photoshop program by watching tutorial videos in YouTube and Lynda.com assigned by the faculty member and practicing with the design functions. An internal grant for research assistance was secured by the faculty member for the student to research and work on the project while being compensated throughout the summer. Because most students do not typically take summer courses and live off campus, the faculty member provided the student with access to the Photoshop program through screen sharing software called Teamviewer. This allowed the student to work from distance while accessing the Photoshop program on the faculty member's computer. Through screen sharing, the faculty member and student were able to work collaboratively in distance to design the logo through instant feedback and modifications.

The logo drafts were emailed to the client and based on the feedback and suggestions by the client, improvements were made. Sometimes receiving feedback from the client took a few weeks, which provided the student with adequate time to balance his academic schedule with his part-time work schedule. The owner suggested that the final logo (in Fig. 1d) have additional symbols to make the logo look like a target. However, he left the final decision to the faculty member and student. A search of literature on the topic revealed that even though the use of visuals has increased over the past several years, it has been recommended that when designing a logo, it needs to be kept simple (Goforth 2003). Goforth (2003) asserts that trying to execute something elaborate generally does not project a professional image. Logos with clear meanings are well liked, create a positive affect to the company, and are more easily recognizable (Henderson et al. 2004). Based on these suggestions, no further symbols were added to the final logo as suggested in the literature.

The next step of the collaborative learning process was to test the logo to ensure that it conveyed the meanings intended and it represented the industry associated with human health, health care, therapeutic medicine, or natural/herbal supplements. This step enabled the faculty member to teach the student the entire marketing research process in addition to introducing academic research. During the fall of 2015 semester, the faculty member and student designed an online survey to test the logo's perceived associations and its ability to represent the health/therapeutics industry. The online survey built in Qualtrics, a cloud-based online survey building software, made it possible to upload the picture of the logo preserving the true colors chosen in the design. Due to the no-cost nature of this collaborative project, funds were not available for data collection using a market research firm. Therefore, members of the various professional Facebook and LinkedIn groups (e.g., Human Resources, Medical Tourism, etc.) were invited to participate in the survey. To account for any possible bias from the respondents in assessing the logo's ability to build trust, the name of the company or any information that could have hinted toward medical product or industry were not provided in the survey.

At the beginning of the spring 2016 semester, the results were shared with the client to inform him that the designed logo created positive and precise associations, and carried the intended meaning. The majority of responses were skewed toward agreement, which included Sophisticated, Affectionate, Successful, Unique, Exciting, Elegant, Stylish, Well-crafted, Expressive, Trustworthy, Friendly, Dynamic, and Trendy from the highest to lowest mean values. Glamorous and Complex were not significant associations with the logo. The most representative industry associations of the logo included Healthcare, Therapeutics Medicine, Agriculture, Education, and Pharmaceuticals. The relationships tested were significant and positive indicating that as long as a logo was designed to be easily recognized (and recalled) and conveys positive associations, it would lead to an initial trust in the company, assuming that the company lived up to its promises.

Within the one-year period spent to complete the project, the learning outcomes for the student included learning new programs such as Photoshop to design the logo, Qualtrics to build the online survey, and SPSS to analyze the data. Researching using the resources of the university's library system (e.g., online databases, checking out books on interlibrary loan), learning, and writing a literature review on semiotic associations and meanings of colors, what symbols and colors are important in the medical/medicine/supplement industry and why the symbols and colors have such importance. Finally, the student had to use his time management skills to balance his school and work schedule while working on the research and design aspects of the project.

As to teaching and mentoring opportunities, the faculty member was able to incorporate different aspects of the project into the courses the student researcher took from the faculty member. Those courses were Principles of Marketing, Consumer Behavior, and a Marketing Research course as an independent study. Students in these courses were utilized as convenience samples to provide feedback through in-class exercises and homework assignments. For example, in the Principles of Marketing course, as an in-class exercise, students in groups were provided with the mission statement and motto of the startup and asked to improve them, and then create a logo design that reflected the information and associations provided in the original mission statement. In the Consumer Behavior course, students were introduced to the semiotics concept and asked to complete the online survey to learn how logo associations were tested and asked to provide feedback on the survey for improvement. This exercise was used as a pilot test of the survey in Qualtrics. In the Marketing Research independent study course, the data were collected using the finalized survey and the student learned how to analyze data in SPSS. To maximize the experience, the faculty member and student documented the entire collaborative process in this paper to make it available to other academics.

The collaboration started with receiving information and feedback and suggestions from the client to be able to create the logo for his company. Without the collaboration among the faculty member, student, and the client, it would not have been possible to create a meaningful logo that had no-cost to the client while providing invaluable learning experience for the student. The project provided the faculty member with various teaching opportunities and creation of meaningful exercises in the courses taught, and fulfilling service aspect of being an academic through consulting.

THE CHALLENGES

The authors encountered a few challenges during the implementation of the logo design project. First, because the logo drafts were designed in Adobe Photoshop, the file sizes were too large to send through a regular email server. This barrier was overcome by using the Box server of the university, which provided a high-speed upload and download ability and practically an unlimited storage space. The drafts of the logo files could not be emailed to the client because he did not have the program and the large file size. Instead, screen shot of the logo drafts were saved as jpeg files and sent.

Second, accessing the Photoshop software program from distance was another challenge to the student during the summer when he did not have access to computers on campus. The student was able to take advantage of a 30-day trial of the program; however, after the 30-day period, the free of charge Teamviewer screen sharing program was utilized so that student could access Photoshop on the faculty member's computer.

Third, the blue circle on the earlier draft of the logo was used as the trademarked universal symbol of diabetes by IDF. Therefore, the circle had to be somehow differentiated. Even though the client tried to contacted IDF officials, they were initially not responsive. The client was able to speak with them at a medical conference and received feedback on the blue circle. Only after designing the logo based on IDF officials' suggestions on how to differentiate, the logo was finalized. Finally, another challenge was that because the project was undertaken to serve the needs of a startup company with limited financial resources, no funds were available for data collection. This challenge was overcome by using available members of professional networks in Facebook and LinkedIn.

LIMITATIONS AND SUGGESTIONS FOR FUTURE COLLABORATIVE PROJECTS

Although this collaborative project has accomplished various learning outcomes for the faculty member, the student, and the client, it can still be expanded to create more opportunities for collaboration in teaching, research, and service areas among the faculty, students, and industry. First, the relationship between mission statement and colors was not tested but can be incorporated to create further learning opportunities for students in a marketing research or consumer behavior course by providing a statement of corporate identity and mission without presenting the logo and asking which color best represents the company and its identity.

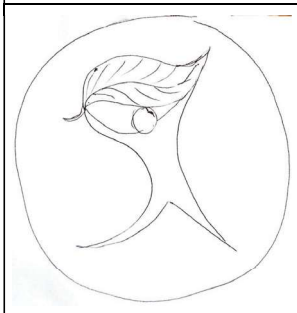
Second, although it is recommended that opinions on logos be tested using the intended target market for the product/service (Girard and Pope 2010), using opinions of the convenience sample may not be representative of the target population of the product, which are people with type II diabetes and doctors. Girard (2005) suggested that while a logo may evoke negative emotions by one segment, it might evoke positive emotions by another segment. Therefore, testing the prospective logos on multiple samples from target markets or current customers before adopting the logo is beneficial. This process also provides the faculty member with multiple opportunities to work with different students to teach the concept of semiotics, logo design process, empirically measuring and testing the associations based on the literature and company mission, and analyzing and interpreting the data. Although reporting the empirical testing of the logo associations was not one of the objectives of this paper, Girard & Hallman (2017) present the operationalization of the measurements of relevant constructs and the results.

CONCLUSION

In this paper, the authors provide a description of a collaborative project that can be used in academia and the business world. The paper illustrates the steps taken in designing and testing the associations of a logo while reporting on various learning experiences for the student. The collaboration of a faculty member, student, and a startup company's owner involved analyzing the company's mission statement, product, and objectives, drawing the theoretical concepts and measurements from the literature, and using an online survey instrument to obtain the data. The collaboration provided the client with a free of cost company logo that creates positive associations and precise industry representation, and the student with various learning objectives. It also met the needs of the faculty member for teaching and mentoring, research, and service through consulting.

FIGURES

FIGURE 1A-1D
EVOLUTION OF THE LOGO

1a. Hand-sketched	1b. Blue Circle Added	1c. 3D Circle	1d. Final Logo
			

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