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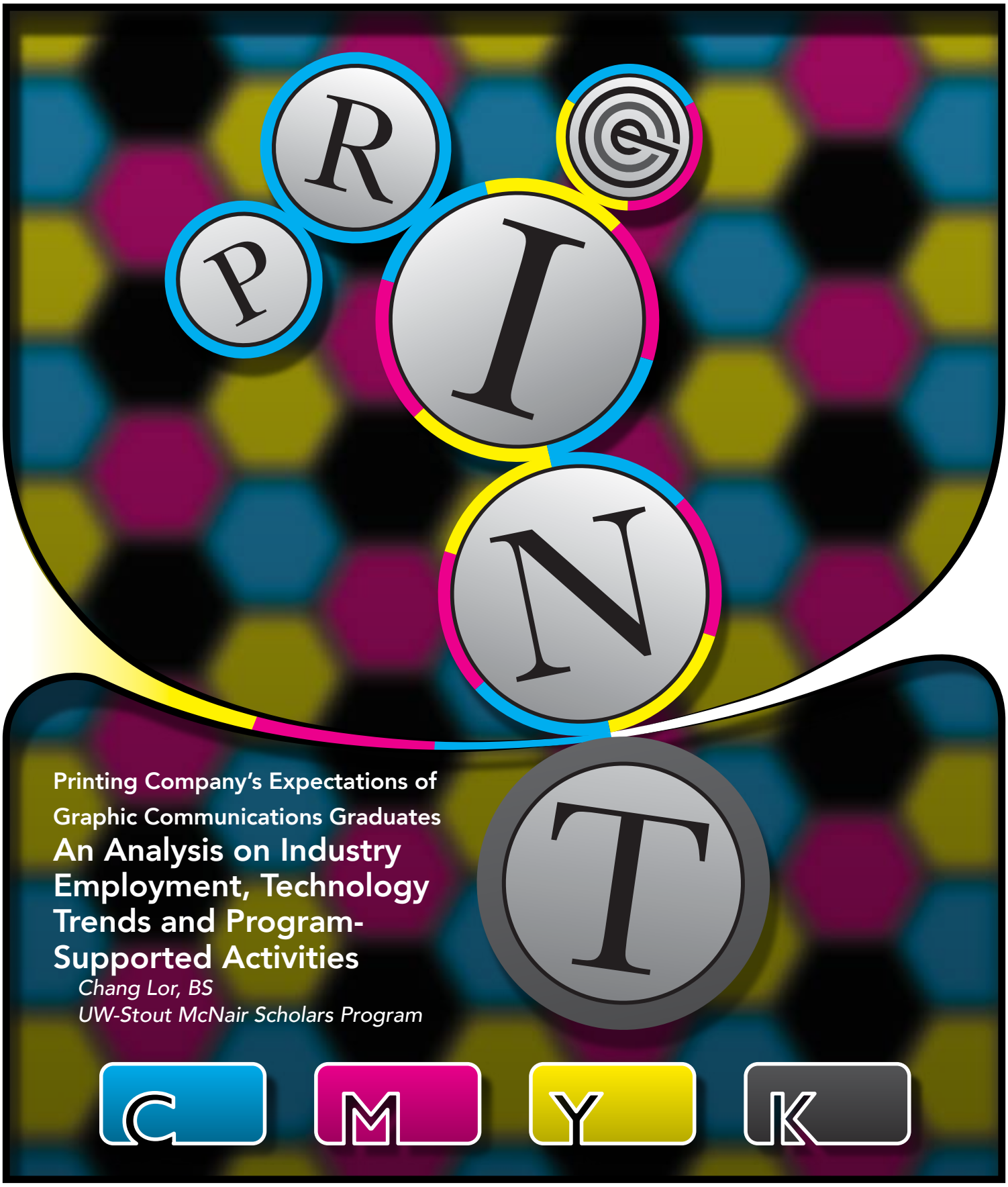

Printing Company's Expectations of Graphic Communications Graduates

An Analysis on Industry Employment, Technology Trends and Program-Supported Activities

Chang Lor, BS
UW-Stout McNair Scholars Program

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The Visual Communications Journal serves as the official journal of the Graphic Communications Education Association, and provides a professional communicative link for educators and industry personnel associated with design, presentation, management, and reproduction of graphic forms of communication. Manuscripts submitted for publication are subject to peer review. The views and opinions expressed herein are those of authors and do not necessarily reflect the policy or the views of the GCEA.

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Introduction

To comprehend the industry of graphic communications, one must understand its relationship to visuals, their compliments, and distribution through both individualized and social means. The industry includes printing, imaging, and the related processes of developing, producing, and/or disseminating products and services. There are approximately 166 colleges, technical schools, and universities offering some category of degree relating to graphic communications (Eckert, 2017). The printing industry, a collection of imaging manufacturing disciplines, is a major employer of graphic communications program graduates. Employment opportunities within the industry align with graduates' degrees, ranging from sales to management and logistics, to vendors and manufacturers. In 2017, there were approximately 28,761 print establishments in the United States and [print] is ranked as the second largest U.S. manufacturing industry by number establishments (Bureau of Labor Statistics, 2017).

The purpose of this research was to explore printing employer's expectations of graduates from graphic communications post-secondary programs. The aligning of graphic communications curricula with practical industry desires and needs is at the core of this research and addresses the following questions:

1. Do employment statistics within the print industry indicate a need for more workers?
2. Are printing companies expecting graphic communications students/graduates to be informed on print technology trends?
3. Are printing companies expecting graphic communications students/graduates to be involved in program-support activities, such as work experience, plant tours, and participation in graphic arts trade associations?

Print Employment

Overall employment in the *majority* of print sectors is slowing significantly. Print-centric *employment,* which includes lithography, gravure, screen printing, flexography, digital, and other commercial printing, has decreased by nearly half, which the U.S. Bureau of Labor Statistics (2017) anticipates this declining pattern to continue—as of 2000, 806,700 workers have dwindled to 437,500 workers (as of June 2017).

Longevity in the industry has created a legacy of traditions and practices, supporting traditional, loyal, and dependable employees. The printing industry has been witnessing a pattern of attrition. Ultimately, companies wait for employees to leave [or retire] and their position is not replaced. The print industry seems to be using attrition to its advantage. At the same time, technology applications in automation have reduced the demand for replacement employees. Many operations now require fewer workers.

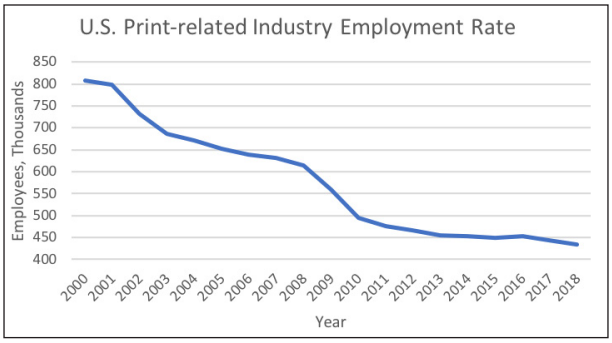

Figure 1: Printing and Related Support Activities Employment Data – Data Retrieved from Bureau of Labor Statistics

Employees with specific skills and experience are needed, but overall employment numbers are anticipated to continue diminishing. With a median age of 45, 30-50% of employees will be retiring from the print industry (Polanco, 2015) within the next five to ten years. The resultant declines in employed workers creates a demand for young talent. To minimize hiring unqualified workers who require retraining, a sound training strategy is needed in curricula and education. Therefore, staying skilled and current is key for graphic communications graduates.

Technology

The goal of print is to inform and communicate. However, a key to success within an organization is optimization and manufacturing improvements, thus increasing profitability and the value of business. A continual stream of innovations has mandated that companies, as well as educators and learners, stay up-to-date with technology trends. The high level of competition in the printing industry encourages businesses to engage efficiently with high performance in presses, equipment, and software. The constant shift in technology should be mirrored by training programs to generate valued skills. Graphic communications educators and learners need to adapt rapidly to the dynamic trends of the industry. For example, the progressive regression of newspaper publications between 1990 to 2014 demonstrated a 35% sales decline (Rooney, 2015). Newspapers, once a major contributor to printing and its workforce, have heavily contributed to declines in the overall printing industry.

On a positive side, print sales volume in dollars grew from $77 billion in 2011 to $83.5-$85.1 billion in 2017 (Paprozzi, 2016). Growth has relied on optimizing technologies. Print technologies have improved methods of producing print, increased efficiencies, and improved quality. These newer technologies demand workers to be more knowledgeable in current printing methods and technologies. Software programs, essential in the industry, require technical savvy. Technical literacy and adaptability is part of the essential skills suite required in today's workplace.

Education

Graphic communications post-secondary educational programs have traditionally prepared students with basic knowledge covering prepress, press, postpress, and business acumen. Curricula has been authored by career and technical professionals as well as trade organizations for both primary and secondary graphic communications programs. Both digital and conventional print technologies have created a new hybrid of skills ranging from traditional print and publishing skills to skills with high-tech information technology.

Academic institutions unable or unwilling to adapt and progress in their respective curriculum will ultimately perish. The list of factors impeding graphics programs includes diminishing instructor numbers, dissolving funding for maintenance and resources, and a lag in student enrollments. Graphic communications may be able meet these challenges with curricula that changes alongside the industry.

Students can pursue a graphic communications degree at many levels, typically ranging from an associate degree to a master's degree. Many associate degrees prepare students with hands-on training in printing practices, software programs, and common industry standards. A bachelor's degree typically prepares students with a basic foundation of academic and business knowledge. A master's degree in graphic communications extends that preparation into management and leadership skill sets. Many *print* learners benefit from an inherent level of hands-on learning complimented by critical thinking and problem-solving skills.

Educators may benefit from partnering with companies and trade associations to ensure learners are graduating as *career-ready.* Industry specialists have expectations of new hires, and students have expectations of their educational program, as well as employers who do the hiring. Industry and academic institutions have the

perfect juncture to deliver technological processes with technical skills and academic knowledge — if discussions and collaborative ideas are brought to the forefront.

Printing companies also bear responsibility for initiatives promoting interest across the industry. One example might have companies offering plant tours to help expose students to printing technologies and software outside the academic setting. Margie Dana, founder of Print Buyers International and Boston Print Buyers, describes plant tours as exposing students to the manufacturing side of printing by visually seeing and engaging with operations in production (2011). Touring may expose students to technologies that are significant, but taught marginally due to limitations in educational resources to get to the facilities. Companies could consider offering the tours, and offer transportation.

Another opportunity for building interest in graphic communications is through cooperatives (co-ops) or internships in industry. A study in 2015 concluded that co-op experiences increase student self-efficacy in academic competence and require minimal program advisory support after returning from the experience (Raelin, 2015). The study also found that students who have taken more co-op experience(s) perform better academically on assessments. Students in co-ops apply skills in an industry setting and return to the academic institution in a more experienced mindset. In some cases, a student's only option for attaining relevant work experience is through a co-op. A co-op allows students to see beyond their academics, applying theories and learning in a fresh setting. Numerous four-year universities offer cooperative experiences for students to gain real-life background prior to graduation. Co-ops or internships may add another dimension to student learning and expose students to technologies and experiences valuable for employment.

Many graphic arts trade associations have partnered with academic institutions to support learning and expand knowledge. The Print and Graphic Scholarship Foundation (PGSF) is one non-profit association awarding scholarships and fellowships to dedicated students pursing a graphic communications career. The PGSF, along with other trade associations, have a general goal of strengthening the graphic communications-related industry by awarding aspiring students with scholarships. One of the largest graphic arts trade associations, Printing Industries of America (PIA), also supports education in graphic communications. PIA is involved in enhancing process specifications within the printing industry as well as, education, research, and free resources.

Methodology

This research incorporated both qualitative inquiry with quantitative analysis derived through using a survey tool. The survey consisted of four sections investigating company information, general employer overview, technology changes, and education with technical skills. The participants in the survey were selected from U.S. printing companies in Printing Impressions' list of the Top 400 printing companies in North America based on annual sales and dwindled to a final target population of 375 companies (Michelson, 2016). Because the research focused solely on U.S. print companies, 15 companies were excluded, which resided in Canada and Puerto Rico, leaving the population to be the 375 printing companies. These renowned companies have typically been in printing for decades and typify the industry.

Results

A total of 21 of 375 companies, 5.6%, responded to the survey from various U.S. locations including AZ, CA, IL, MD, ME, MN, OH, OR, RI, WI. Survey questions were not mandatory to answer; therefore, some questions resulted in fewer respondents. The surveyed companies predominately employed workers aged 37 years and older. When averaging the data, the number of Baby Boomers/Generation X employees composed 77% of the population, while millennials made up 20%.

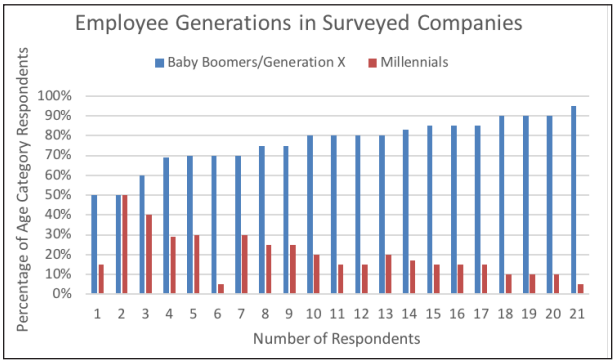

Table 1. Employee generations in surveyed companies. This table illustrates generation differences between baby boomers and baby boomers/generation x from respondents.

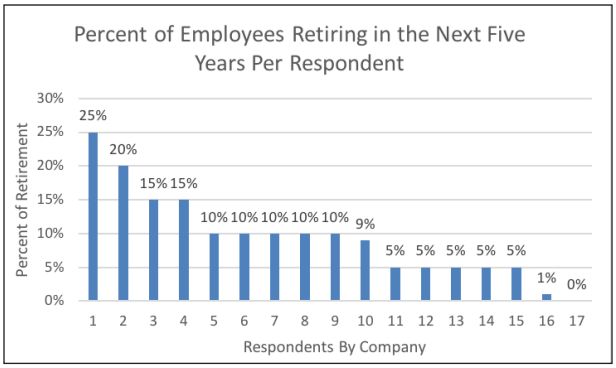

Table 2: Percent of employees retiring in the next five years. This table illustrtates retirement of print industry workers in the next five years.

Millennials have surpassed baby boomers as the largest generation in the U.S. as of 2015 (Fry, 2016).

The printing industry is composed of aging employees, with majority of employees having no degree correlating to graphic communications. Of these surveyed workers, an average of 7% will be retiring within the next five years. In 2017, the Bureau of Labor Statistics identified 437,500 workers employed in printing and related support sectors. Those numbers indicate a total of 30,590 workers out of 437,500, approximately 7%, of print-related workers retiring in the next five years, correlating with the data collected for this research from the 21 respondents.

Regarding technology, most respondents identified frequent revisions (yearly) to their businesses' technologies. These frequent revisions of technology illustrate the importance of change and adaptability. Surveyed companies clearly value the updates impacting their businesses. On the topic of students or graduates being informed on industry trends, 100% agreed with; "students should stay updated and informed". Surveyed companies tend to expect graphic communications students and graduates to stay up-to-date with technology trends. One respondent stated, graphic communications learners should "put forth the effort to learn the nuances of the print industry," alluding to the need to go beyond the "basics" and examine more than one component in this expansive industry.

The number of existing employees with degrees related to graphic communications, on average, was 12% of the surveyed workers. Some graphic communications graduates may not be drawn to employment in prepress, press, or postpress operations. One respondent stated, "we've never hired someone for the pressroom from a GC [graphic communications] program before." Another respondent commented,

> U.S. Print program students are not typically entering the job market into production type roles, unless it leads to a future supervisor or higher-level position. The vast majority of students [are] entering the industry as front office employees; customer service, pre-press, sales, etc… we have 4 – 5x that number of employees in production as compared to front office. Within the production department, the majority are low skilled and minimum or close to minimum wage workers. College graduates do not and should not want those positions.

Comments in the responses emphasized that, although prepress, press, and postpress are significant operations, graphic communications graduates normally enter positions in "the office", managerial, or technical jobs.

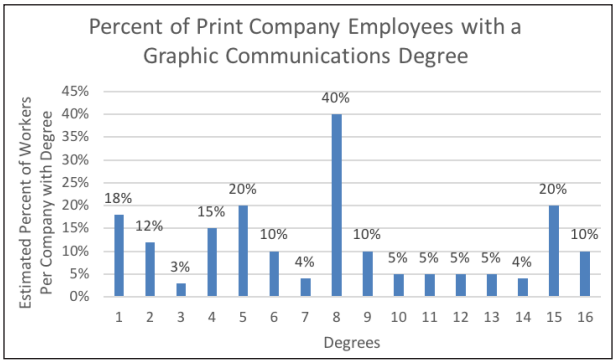

Table 3: Percent of print company employees with a graphic communications degree. This table illustrates the percentage of workers per company respondent holding a graphic communications degree.

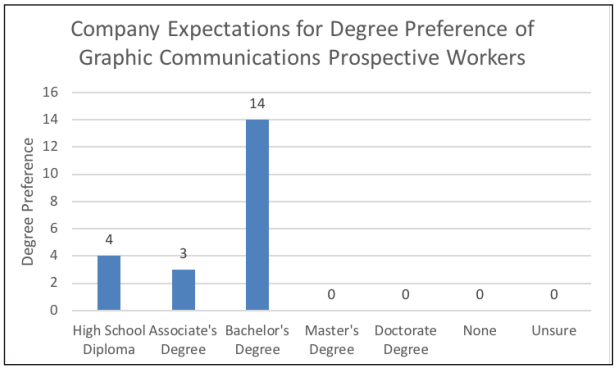

Table 4: Company expectations for degree preference of graphic communications prospective workers. This table illustrates the degree expectations company respondents have for employable candidates.

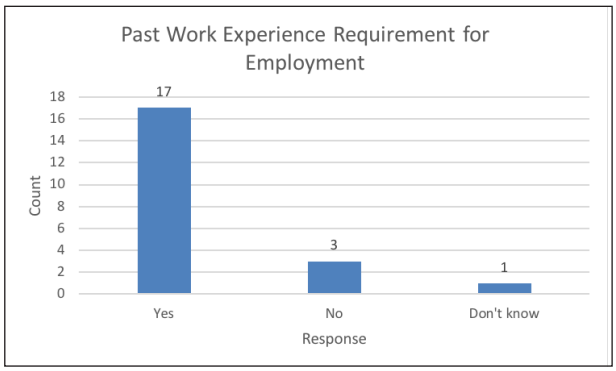

Table 5: Desired work experience in candidate. This table illustrates company respondents' expectations towards past work experience prior to hiring.

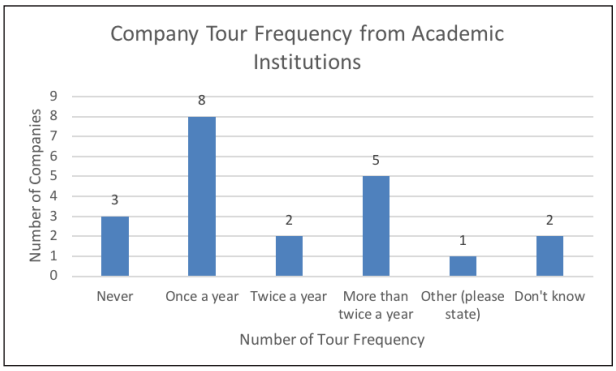

Table 6: Company tour frequency from academic institution. This table illustrates the frequency of tours given by company respondents.

Respondents to the survey expected prospective workers to have a high school diploma, associate degree, or bachelor's degree. Most, 67%, described a preference for prospective workers with a bachelor's degree.

Some form of work experience was identified as expected by 80% of respondents. The question did distinguish a preference for a co-op, internship, and/or part time job. This challenges students to attain some form of work experience prior to graduation. The majority of respondents believe work experience is essential for graduates to be a candidate at their company.

Awareness of graphic arts trade associations, and their significance, to students, employers, and the industry is crucial. All respondents indicated company involvement with one or more trade associations. They also identified these associations as beneficial in learning about graphic communications. Presumably, academic institutions do well in educating learners, but trade associations encourage degree completion by providing scholarships, guidance, seminars, and webinars on new and emerging technologies. Learners may not currently use new technologies; however, exposure provides a critical awareness prior to entering the workforce. The involvement of companies with trade associations demonstrates the weightiness of the role associations play with the industry, academic institutions, students, and employers.

Plant tours may be an important experience for graphic communications students. Companies responded with 86% offering plant tours through their facility. Graphic communications curriculum may not require a plant tour, but these kinds of experiences may be significant when viewed by potential employers. From the respondents, 20 of 21 stated that taking a physical plant tour exposes students to current print technologies, attesting advantageous for students who are not able to observe newer technologies in an academic setting. 21 respondents positively agreed that a physical company tour exposes students to industry technology.

Conclusion

A graphic communications post-secondary education can help prepare learners for a print-related career. Academic institutions, printing employers, and graphic arts trade associations are all significant in building knowledge about, and understanding of the industry. With increasingly innovative print technologies and the state of the industry continually evolving, respondents were favorable of work experience, plant tours, and graphic arts trade association participation. Graphic communications graduates should consider the importance of staying up-to-date with advancing industry trends and continual, life-long learning in respect to technology. Curriculum content can aid graduates in the industry. Research results illustrated advantages in aligning curricula with supporting activities outside the classroom.

This research documented the majority of companies as lacking both young employees and employees holding a graphic communications degree. The survey also uncovered the majority of companies as reaching out to graphic communications academic institutions in recruitment. Even though 90% of respondents were aware of graphic communications undergraduate programs, companies do not seem to be exclusively seeking graphic communications program graduates. Graduates entering the print industry will be faced with continuous, unfolding innovative technologies in equipment, machinery, programs, and software. The need to stay current in

chosen career sectors will be ongoing. Lifelong learning will be fundamental in understanding future transformations in the industry.

Future Research

This research was a preliminary approach towards narrow and specific topics and opportunities on the print industry's expectations from graduates. From the survey, respondents indicated they employ more Baby Boomers/Generation X workers than members of the Millennial population. The shift indicated by the survey is subjective. The practice of students staying updated with printing trends may be a topic for future studies interested in industry trends. Graphic communications programs may open doors to employment in distinctive and varied careers. Print opportunities are vast and not everyone will be intrigued by all aspects. Trade associations and plant tours may be beneficial in distinguishing students' goals and interests. Graphic communications engagement experiences with innovative technologies may not be included in academic institutions, but may be beneficial to potential employees seeking technology-centric jobs in the industry.

Students should appreciate print as a part of graphic communications' limitless possibilities across the industry. The researcher hopes future research will be implemented to ensure education for the print industry stays relevant to its graduates and the industry.

The companies who participated in the survey provided excellent results and insights and are sincerely thanked. They are individually acknowledged in the final research paper.

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Additionally, I would like to acknowledge the staff in the UW-Stout McNair Scholars program for their assistance with research guidelines, deadlines, and revisions: Sarah Wynn, McNair Coordinator; Jennifer Giesking, McNair Advisor; Jamie Vue, McNair Writing Specialist; Landon Kafka, McNair Writing Specialist. I have been in the McNair Scholars program for two years and have conducted two independent research (one being this paper). I can proudly say with confidence that they have made me a better researcher in preparation for higher education beyond an undergraduate degree.

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- Do not use hard returns inside the table ("enter" or "return").
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