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Cultivating Foresight Competencies in Design Education

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The increasing pace of industry necessitates that faculty critically consider the future of design in higher education. Fueling industry innovation, is an increasing demand for trend forecasting practices. So, how can design students be exposed to and participate in the future research practices of their industry, today? During Summer 2018, qualitative interviews were conducted with 13 expert Trend Forecasters across various sectors on the present and projected future of Trend Forecasting. These insights were used to rapidly innovate new pedagogical tools and approaches over Fall 2018 which were then tested across two trend forecasting courses during the Spring 2019 semester. Outcomes from this rapid test and learn approach show that interdisciplinary collaboration and strategic translation of trend insight is critical to set the stage for the breakthrough innovations of tomorrow. Going forward, all design students should attain competency in Trend Forecasting to lead the next design revolution.

Keywords: trend forecasting, rapid innovation, design pedagogy

1 Forecasting at a Crossroads

Design innovation is not optional. As our world continues to evolve, the need for design higher education to respond is urgent, especially in understanding the changing human condition, where deep intercultural knowledge and creating for an increasingly interconnected world is mandatory (Penprase, 2018). As pressingly, increased global disruption and uncertainty fuel a growing demand for designers who can create for a disrupted future, emergent consumer groups, or alternate future scenarios (Johansen & Euchner, 2013). This points toward a design revolution where connected, interdisciplinary, and agile innovations are critically necessary. As design educators, we are responsible for preparing our students for the future every day in our classrooms, which requires design education as a whole to adapt for the next design revolution.

Looking deeper at the practice of design innovation, in order to understand and fuel innovation, designers must be introduced to Trend Forecasting in the classroom. To specify, Trend Forecasting is defined as a strategic research practice that detects patterns or shifts in attitudes, mindsets or lifestyle options that run against current thinking or how people normally behave, live, dress, communicate or trade (Raymond, 2010).

Trend Forecasting has been traditionally used to inspire design novelty and advance aesthetic execution with a long history within the field of fashion design (Bloomsbury, Blaszcyk, R. L., & Wubs, B., 2018). As such, when considering the impact of trends, and the practice of Trend Forecasting, one must consider the history of the practice in design in tandem with its future evolution. Today, designers of all types use short-term trend forecasting to inform color, material, finish, function, and purpose decisions as well as macro-trends to connect future shifts with design strategy through forecasting approaches like scenario planning (Evans, 2004).

Despite an established connection to the design process, as a practice Trend Forecasting is often challenged as being "too fuzzy" or not easily translated to strategic product, service, or experience applications. While Trend Forecasting is often a part of in the inspiration phase in the Design Thinking process, too often this powerful methodology for futures thinking is underutilized. Specifically, Trend Forecasting is not consistently conducted prior to design development, nor utilized to provide future context for design development, and in some cases Trend Forecasting is absent entirely in industry innovation practices.

Once the sole purview of fashion designers, trends have become commonplace in every creative field (Tetlock & Gardner, 2015). This notion is also supported by preliminary analysis of further literature review and qualitative interviews with design innovation experts. Today, everyone with an internet connection can now feel capable of approximating the next "big" design movement or cultural trend. Li Edelkoort explains in the *Anti-Fashion Manifesto* that from shopper and retail trends to socio-cultural and technology trends - with a click of a mouse, industry professionals and design students are inundated with a landslide of facsimile reports on "what's next" (Edelkoort, 2015). Hence, the profession of Trend Forecasting needs to to evolve at pace with the next design revolution.

This puts the profession of Trend Forecasting at a crossroads - which creates an ideal opportunity for it to become a foundational industry practice and for design educators to integrate insights from industry evolution into their own pedagogical core.

The Myron E. Ullman Jr. School of Design at the University of Cincinnati has a vested interest in cultivating and educating design students in futures-based research. Our school also has a history in and continues to prioritize resources toward the development of new curricula within this area of study. Beyond our 35-yearlong pedagogical history, Trend Forecasting is in high demand with our university employer partners. With 150 years of integrating classroom theory and industry practice through our university's Co-Operative Education model, our industry partners seek our students for internships specifically for Trend Forecasting roles and many of our graduates pursue careers as professional Trend Forecasters.

To inform and align curricular improvements with the evolution of Trend Forecasting, data was gathered through interviews with industry experts and practicing program alumni on the present and projected future of Trend Forecasting. The opportunity to revise curricula, and implement revisions quickly, is rare. Given this reality, the approach to developing the research foundation, strategic recommendations, and pilot activities were structured, much like a trend forecast, by documenting how we intended to shift from our present curricular context into the future.

2 The Future of Trend Forecasting

Qualitative research was conducted through interviews with 13 international and domestic expert practitioners of Trend Forecasting. Interviews were semi-structured with a common question set, and all interviews were held in person or via phone. Topic areas included the practice of the Trend Forecasting methodology, its use, and application. Additionally, broader belief and value-based questioning explored how firms are using the methodology, as well as the participants' underlying feelings on the state of the Trend Forecasting profession. Interview participants represented domestic and international trend, strategy, and design firms, including one global corporation. Participants were selected based upon their educational background (alumni as well as non-alumni), years of experience, and job title (ranging from entry-level to senior management) to ensure a cross-section of interviews with day-to-day practitioners as well as company leadership. Data was transcripted into a master response matrix using a digital question-and-answer form developed by the interviewers to collect and uniformly catalog responses. Thematic analysis was used to code recurring themes and concepts once all data had been gathered, and then macro insights were extracted using displayed thinking methods.

Interviewees of all levels of experience reiterated the three critical insights on the future of Trend Forecasting: interdisciplinary teams, applied research, collaborative innovation practices.

These insights aligned with trends in the broader design industry, which indicated that recommended changes would be viable across all design disciplines. The aggregate insights were then used as a strategic framework for course content revision and student activities in the two studied trend forecasting courses *(See 3 Methodology for Curricular Improvement - Course A and Course B)*.

2.1 The Future of Trend Forecasting: Insight One

Stated across all interviews, innovation teams at firms are increasingly interdisciplinary, with practitioners of Trend Forecasting holding creative backgrounds beyond fashion design. The success of interdisciplinary teams, or group-based trend research approaches, is in line with Tetlock and Gardner's conclusions presented in *Super Forecasters* which supports this insight and gives good confidence that this insight is critical to consider in all forthcoming revisions.

Innovation teams use a variety of naming conventions for their practice units, however, most do not use the word "trend" in their unit name and instead use terms like "strategy," "insight", or "foresight". When probed on this, participants expressed a need to educate external clients and/or internal partners on the meaning of the term "trend" and that it extends beyond style and apparel to social movements, economic shifts, technological innovations, as well as political and environmental policy. The observation that language and articulation of trends plays a key role in successful understanding of research, and reasoning is critical when working with disciplines outside of design. This implicates that if the Trend Forecasting methodology were to be expanded across our school there should be a common language, or guide, that all participants and instructors align upon.

This leads to the first insight into changing the present Trend Forecasting curricula:

Trend Forecasting courses should be interdisciplinary and available to all design majors with a common methodological core and lexicon.

2.2 The Future of Trend Forecasting: Insight Two

Emerging from the thematic analysis, the role of the professional forecaster is expanding from predicting future trends, to active storytelling and integration into innovation efforts, since practices, terminology, team organization, and use of trend forecasts in industry have shifted. Even terminology used to express the role of Trend Forecasting in industry focused on active statements: “implicate”, “activate”, “translate”, “innovate”. In line with Raymond’s handbook, firms and participants still use Trend Forecasting and trend reporting to inspire, or stimulate, design ideation. However, all participants expressed frustration with the translation and application of trend data to design concepts. As mentioned above, many teams include design researchers. These individuals, in particular, are often required to lead design ideation sessions that intend to translate trends into the development of concepts, or to create suggested design applications for use in a subsequent design brief. The “gap” between articulation and translation was a recurring theme. The forecasters, who are subject matter experts, tend to “see” the impacts of the forecast to all aspects of a given category or landscape at a highly granular level. The amount of education and energy required in evangelizing those impacts to their audience was noted as extremely high in some cases. The gap between forecast and translation is a significant hurdle in the use of trend forecasts. In some environments, the sharing of a forecast with a design team is colloquially called “throwing it over the fence”, which underscores the divide between those who are researching the future and those who must do something with that knowledge. This suggests a solution would be to train all designers in trend forecasting so that translation is accurate and aligned with trend evolution.

This leads to the second insight in changing the present Trend Forecasting curricula:

Trend Forecasting no longer stops at the creation of a trend forecast. Trend Forecasting methodology must evolve to include phases devoted to active translation and design application of foresight.

2.3 The Future of Trend Forecasting: Insight Three

The interviews revealed that the method of applying trend forecasts is shifting as well. Teams were challenged to maintain integrity in trend translation and application by monodirectional trend presentations that did not use forecasts as a catalyst for collaboration. Across all interviews, industry stakeholders repeatedly acknowledged the role foresight plays in anticipating and acting for future scenarios as a team. The term foresight can be understood as insights from the future and was often a synonym for summarized trend reports, or used to qualify and validate trend forecasts. Foresight appears to be emerging as a more unified representation of the internalized knowledge gained through trend forecasting, which enabled trend forecasters and designers to more effectively collaborate on design applications. Deeper analysis of this particular shift in Trend Forecasting practice, outlines an interconnected relationship between trend forecasts, resulting foresight, and foresight translation. As illustrated by *Figure 1* below, foresight is the essence, or DNA, of a forecast that enables effective translation to design innovations by practitioners. This mirrors the adaptive, interconnected requirements of the next design revolution and could be

considered as a guide for structuring course activities.

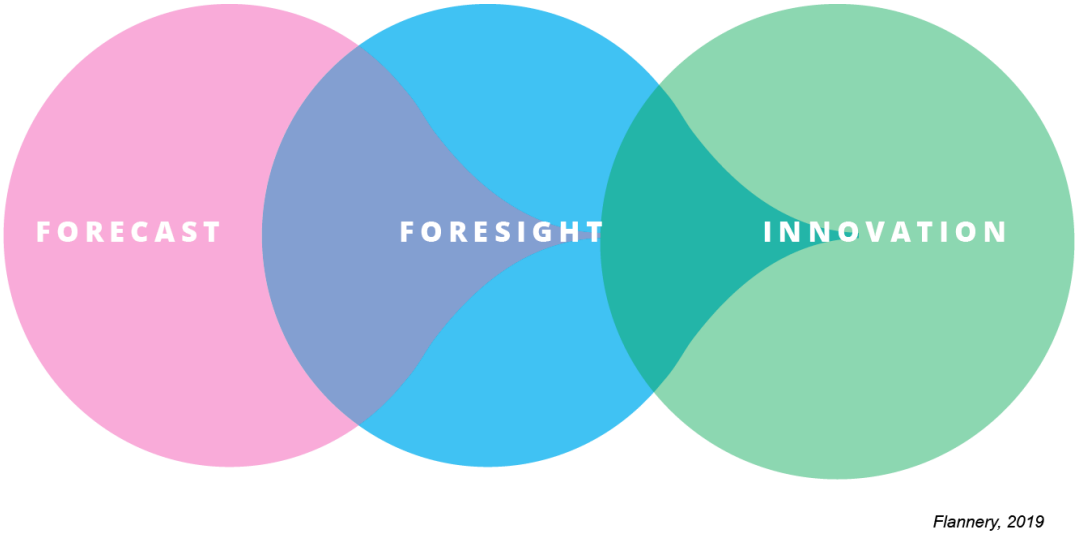

Figure 1

This leads to the third insight into changing the present Trend Forecasting curricula:

Trend Forecasting courses should be treated as design studios, as opposed to lectures, to better reflect the collaborative requirements of this practice in industry.

This research suggests in order to adequately prepare students for the future of Trend Forecasting, as design educators, we must adapt and focus on curricular interventions that are interdisciplinary, collaborative, and focused on trend translation. Directly following research and analysis, near and far-term interventions were mapped for a pilot that would integrate these insights and aim to prepare our students for futures in design innovation. Taking advantage of our current curricular map where two Trend Forecasting courses are taught during Spring semester 2019 - Trend Course A and Trend Course B - a pilot study was planned and implimented across both courses.

3 Methodology for Curricular Improvement

From the aggregate insights from our interviews, opportunities to actively develop new pedagogical tools were identified and approaches to test findings were mapped across both courses. Activities included revising the course guidebook, adding guided trend identification training, developing a forecast worksheet, bibliography worksheet, and trend articulation worksheet, as well as ideation modules. The guidebook was published across both courses for continuity and to serve as a common methodological framework. Furthermore, the additional video modules which covered general principles were created in order to free up class time for reflection and active learning exercises. The authors worked together across these courses to deploy the insights and iteratively developed tools through bi-monthly meetings to discuss feedback and adapt course content as needed.

Additional constants across both courses were that the syllabi were structured in the exact same way, utilizing a sprint-based approach that divided the semester into four four-week

modules that set the foundation of the revised methodology and guided students in the development of near term forecasts (year 2025), far term forecasts (year 2030), foresight implications, and forecast translations per *Figure 1* above. With attention to general best practices for active learning and flipped classroom methods (Gilboy, Heinerichs, & Pazzaglia, 2015), course content was updated to include a variety of multimedia content, such as aforementioned guided video lectures and in-class reflection, to enhance student attention to course content and retention of knowledge.

Details of Courses:

Duration/Schedule of Class:

- Course A - met twice a week for 1.3 hours
- Course B - met once a week for 3 hours

Age of students:

- Course A - students range from third year to fifth year (senior level)
- Course B - all third year students in the fashion design program

Major

- Course A - students were from majors across business, engineering and design, art, architecture and planning
- Course B - all students were from the fashion design program

Size of class

- Course A - 17 students
- Course B - 48 students

4 Pilot Outcomes

Relative to the three driving insights – interdisciplinary teams, applied research, collaborative innovation practices – the difference in the two courses studied were in their interdisciplinary enrollment. Both courses were adapted to focus on activities and course content that leveraged applied research and collaborative innovation practices, however, only Course A used interdisciplinary teams. Given the structure of the program, school, and college curricula, this variable was helpful to analyze to understand if going forward systemic enrollment practices and course offerings for Trend Forecasting courses should be considered for change to better align with industry practice. Overall in both courses students successfully completed all course objectives which included demonstration of understanding the Trend Forecasting methodology as currently practiced in industry, accuracy in practicing the methodology for development of near and far-term forecasts, and application of the methodology to an innovation-focused design challenge. In analyzing the results of this pilot at the close of the course, there were challenges unique to each course that need to be addressed in future semesters:

Course A:

- More course time needed to be devoted to teach and apply human-centered analysis to identify the relationship between a trend and impacts on future consumer behavior for the purposes of innovation-focused design challenge.

- Students needed more guidance and support during translation and ideation activities; the interdisciplinary nature of the students could be one of the attributing factors in that not all students enrolled had prior design thinking or design ideation related courses.
- Qualitatively, students rated this course as very interesting and engaging. They also stated they “wished they could enroll in this class earlier in their program” and that there were more Trend Forecasting courses available. This points to an opportunity to expand the offering of these courses and suggest a systematic change to the way this course is offered and enrollment is enabled.

Interdisciplinary groups were able to effectively interpret the impact Trend Forecasting has on their field of study. Their resulting trends were successfully expressed using a range of both quantitative and qualitative data sources. In their innovation-focused design challenge, the interdisciplinary teams appeared better able to ideate a wider range of product, service, and experience concepts and also considered intellectual-property-focused partnerships (e.g. company A should collaborate with company B to create a new-to-market offering based on the combined IP of both entities). Though, as noted above the resulting ideations could have benefitted from more time to analyze trend impacts to adjust concepts to be more future-consumer relevant. Additionally, with a smaller cohort, the instructor was able to develop and distribute a printed compilation of the student’s far-term forecast to use as a text for the final weeks of the course which were focused on trend application and ideation. This document establishes the foundation for self-sustained library of student generated futures-research for reference, which will become standard practice in future courses.

Course B:

- The large quantity of students (48) restricted the level of discussion the instructor could have with the students. This dialogue is a critical component in teaching this course since the methodology emphasizes frequent analysis and synthesis. Therefore, more time was needed for the development and articulation of the near and far term trends. This also indicates a suggested change to the systematic offering and enrollment of this course at the School and College level.
- Similar to Course A, more time was needed than initially allotted to emphasize human-centered analysis and identifying the relationship between a trend and impacts on future consumer behavior for the purposes of innovation-focused design challenge.

Successful adaptations given the challenges of this course included:

- Due to the large quantity of students in Course B, and the importance of analysis and synthesis, the faculty secured a graduate assistant (who had previous training in trend forecasting) to support class activities and discussion. Furthermore, the faculty proactively involved industry practitioners in the classroom to provide feedback to the students’ work.
- By dividing the students into 5 large cohorts (approximately 9 students in each), mimicking a professional practice approach, students proved to successfully self-manage and work effectively together.

- A part of the trend research process requires students to engage in qualitative research (observation / interviews). Though both courses could not be interdisciplinary, efforts were made to give students in Course B the opportunity to interact with other disciplines through an interview exercise with anthropology students.

5 Conclusions

This research yielded valuable insights into changes in the design industry specific to the future of the Trend Forecasting practices: a requisite for interdisciplinary teams, the increased requirements for applied research, a growing emphasis on collaborative innovation practices. Though focused for the purpose of this pilot, these insights can be extended to other design practices and researchers as well. Wherever possible, multiple points of view and expertise should be included in both research and innovation practices, research outcomes should be action-oriented, and opportunities for collaboration should be included throughout.

In this study, the research conducted with industry practitioners provided faculty with actionable insights to inform the design of the two upcoming trend courses. This afforded the opportunity to quickly implement insights into the curriculum through interdisciplinary collaboration, by focusing on multimedia activities around translation and application of trend forecasts, and also by teaching students to integrate trend foresight and innovation.

This approach allowed the program to quickly reflect current industry best practices in Trend Forecasting, enabling students to use the methodologies in class and in their upcoming work experiences. Our college is practice-based requiring mandatory work experience rotations, so this pilot was an exciting confirmation that connecting pedagogy and practice yields benefits not only to students practicing in industry, but in connecting industry insights into pedagogical improvements. Since language and articulation of trends plays a key role in successful understanding of research, faculty revised the course guidebook, and also developed common tools and materials to be utilized across the courses, with the aim of unifying pedagogical approaches in teaching Trend Forecasting. Language and articulation is presently a point of emphasis in our school's Trend Forecasting methodology, however, given the interdisciplinary nature of our school and the Trend Forecasting industry – and the need for a common language – further integration of this insight must be prioritized.

The revised Trend Forecasting curricula enhanced students' creative thinking skills, by teaching applied trend research practices so that they could communicate their research outcomes and the impact to their resulting design innovations, which better prepares them for practicing this methodology in industry. This model also enables students to apply their learning from the Trend Forecasting course to their other studios in a more industry relevant manner without allowing industry to overly drive curricular structure. Future research can be conducted to track how students use trend skills developed in subsequent courses and the impact this pilot had on attainment of Trend Forecasting roles in industry.

Outcomes of this research resulted in the creation of new competencies for the school: a new center and labs focused on strategic foresight, data visualization, and predictive analytics. This positions our school to expand Trend Forecasting beyond student engagement into faculty collaboration across the university, as well as industry partnerships.

Moving from the pilot to established curricula is fueled by the belief that all designers should attain competency in Trend Forecasting. Designers are often leaders of change and this methodology as a core to their process strengthens the contextual “why” behind their work. Trend forecasting equips all students with a broader understanding of future socio-cultural constructs and their impacts. Creating for the world of tomorrow, instead of the world of today, is the future of design education.

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