



Linkage Between Fashion and Textile Design Student and Industry: Interactive Platform for Practical Design

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Abstract. This article discusses a project aimed at creating an Interactive Platform for Practical Design (IPPD) for fashion and textile degree students and industries, with a focus on increasing students' ability of learning to learn and practical design. Students can continuously build their learning capacities and improve their practical design capabilities through theoretical coaching and practical project assignments based on the theory of learning to learn. The platform encourages university-enterprise collaboration by allowing for online and offline interactions between students and enterprises. In the study, two surveys were conducted to look into the platform's effects. The findings show that the IPPD may play an important role in developing practical textile and fashion design skills for the industry.

Keywords: Interactive platform · Practical design · Fashion and textile · Degree study

1 Theoretical Background

Education is a significant economic and social growth driver. "Learning to learn is the key direction of curriculum development," the Hong Kong Curriculum Development Council stated in 2001 [1]. In addition, the European Union designated learning how to learn as one of the eight key competencies to master in 2006 [2]. One of the primary objectives in the World Bank's document "2020 Education Strategy", released in 2011, was "to cultivate the ability of youth to lifelong learning" [3]. Learning approaches were also named as an important area by UNESCO (2013) [4]. It has been shown that improving students' learning abilities and helping them in learning how to learn are still two major goals of today's worldwide education system. According to the findings of The Hong Kong Polytechnic University's (PolyU) Freshman Experience Survey and Graduation Student Survey performed some students arrive at university with sentiments of academic inferiority and lack of desire. However, in today's fast-paced world, knowledge evolves at a rapid pace. Therefore, students must have the ability to learn and become lifelong learners in order to adapt to the new environment.

Learning to learn is a multifaceted talent that can be characterized as the ability of learners to intentionally engage in a continuous process to improve their motivation,

efficacy and adaptability of self-learning [5]. Knowing how to learn, according to Goleman, is one of the most fundamental skills [6]. Many academics agree with Goleman's viewpoint, seeing it as both a concept and an educational goal [7]. According to McKeachie, learners require five effective elements: (1) motivation to use learning abilities and skills; (2) organizational skills and analytical ability for basic knowledge to generate new knowledge; (3) skills for future learning; (4) learning skill optimization techniques; and (5) metacognitive strategies (planning and control first) [8]. Many scholars have offered learning-to-learn models, such as the Alberta Project, which proposed a taxonomy of abilities in learning to learn as the core of an adult education course. In this study, learning to learn has become one of the key categories for analysis [9]. The Gibbon's Cube study is the most comprehensive attempt to date to conceptualize learning to learn. The search for and development of meaning, which underpins all learning to learn activities [10], is the central premise of the argument. The University of Helsinki developed a framework of learning to learn based on an analysis of existing literature and the convergence of different research traditions and paradigms, emphasizing the importance of individuals developing self-reflection and awareness that is functional to their learning and life needs [11]. ELLI Project at the University of Bristol arose from the intersection of two study fields: learning motivation and evaluation for learning in a socio-culture and lifelong context [12]. Although these research works are guided by distinct epistemologies, there are some parallels between them. They are all inclusive of the concept of learning to learn, in that is they are not confined to learning methodologies or to simply cognitive or metacognitive characteristics, but also involve affective and motivational control. All models stress the necessity of a social context and learning to learn, both of which may be seen in interaction with others [13].

However, there are few reports on the incorporation of learning theory into textile and fashion design. Design is a problem-solving and creation process [14]. Because of the openness of the design, learning to learn theory can assist design students to overcome the dissatisfaction and uncertainty in the learning process, and motivate their learning potential. As a result, learning to learn may be useful and significant in design education.

2 Project Introduction

The project "Building an Interactive Platform for Practical Design Project between Students and Industries" is funded by the Teaching Development Grant of the Hong Kong Polytechnic University. The project's goals are to integrate and sustain enterprise resources while also providing a conducive IPPD for student-enterprise collaboration and to improve students' ability to learn independently. Enterprises and students can have additional online and offline opportunities to improve mutual understanding and active collaboration as a result of the platform. Students can also learn independently using the platform's information and expertise; teachers can include practical design knowledge and learning to learn knowledge into the classroom to encourage students to engage in continual self-questioning and reflection throughout the learning process. Based on the educational theory of learning to learn. Through theoretical supervision and practical design tasks, students will continue to build their own learning abilities throughout time. This paper introduces the practice and research of the IPPD through

two implementations, including students' practical design in class and the establishment of the practical design platform. To understand the students' learning status and their viewpoint on the project, we conducted two surveys: (1) before the class survey, and (2) after the class survey. A total of 118 undergraduate students, who attended the Textile Design study participated in the survey.

3 Implementations

3.1 Implementation 1: Practical Design Practice in Class

The pilot object was Textile Design (ITC4053D), which was an undergraduate subject in PolyU. The project's three components were integrated into the existing class, guiding students in the development of their ability to study, improving their practical design skills, and providing opportunities for students to collaborate with companies. Based on the project's objectives and subject synopsis, teaching contents of the subject Textile Design was divided into three parts: practical design education, design practices, and sessions for design sharing. Furthermore, great student design works were displayed in an online exhibition on the platform to promote the works (Fig. 1).

Dyeing, Melt-off, Chemical Burn-out, Digital Laser Engraving and Transfer Printing are the five modules taught in the subject of Textile Design. Students go to the workshop to learn textile artistry on their own while being guided by the instructor. Students

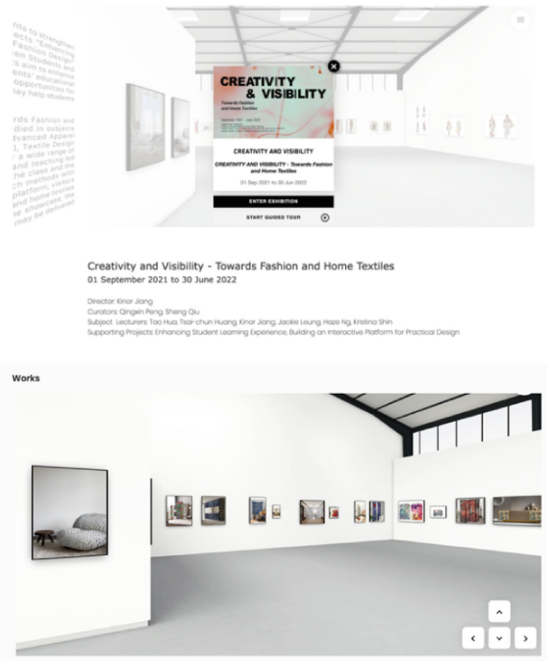


Fig. 1. The online exhibition of students' practical design work



Fig. 2. Poster for special online sharing session about apparel product design experience by Taiwan enterprises

in earlier classes just had to use acceptable techniques to create textile design samples or simple design good looks like scarves. Students should examine design applications after introducing our practical design project to the class, that is, present a comprehensive design work and show the relationship between textiles, fashion or home textiles. Additionally, the platform hosted a sharing session regarding the apparel product design experience during the course to help students to gain a better knowledge of practical design (Fig. 2).

Two questions from before class survey (“Have you considered the end use of your design project in the study?” “Have you used metacognitive strategies (related to learning to learn) in your design project before?”) and one question from after class survey (“Does the design project in the current subject help your creative thinking in a future design project?”) were selected to analyse because they can let us know more about how students know about learning to learn and reflect the impacts of IDDP on improving students’ practical design skills in class. According to the results of the pre-class questionnaire, 47% of the students have thought about the final design application in their studies, 46% thought about it only occasionally, and 7% had never thought about it (Fig. 3). For learning to learn, only 6% of students employ appropriate learning strategies and knowledge in design while learning, 22% rarely employed strategies in their previous design study and 72% never used it (Fig. 4). After completing the course, 99% of the students believe that the platform project fosters creative thinking and will aid in the completion of future design projects (Fig. 5).

3.2 Implementation 2: Building of Interactive Platform for Practical Design

We identified the key potential challenges in traditional university-enterprise cooperation after interviewing and analysing students, teachers and companies: (1) Unaffordability: Universities do not have a platform in place to integrate corporate resources. Students still have few opportunities to engage enterprises, and they lack the capacity to properly

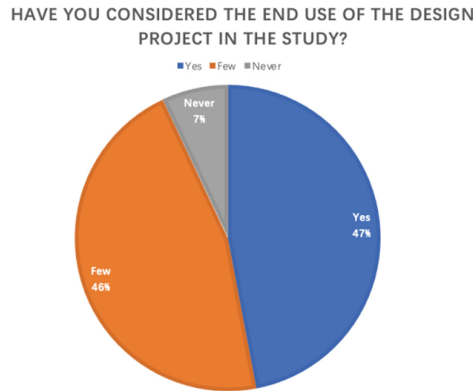


Fig. 3. Results of students considered the end use of the design project in the study.

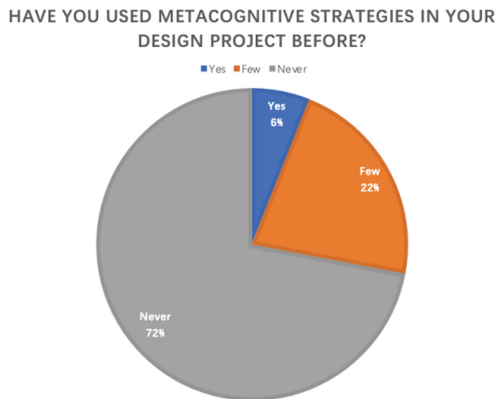


Fig. 4. Results of students used metacognitive strategies in the design study.

connect and collaborate with them. There is also a lack of a platform for companies to understand students and actively seek collaboration, which can lead to a lack of trust during collaboration; (2) No guidance: The environment, social contact and job, among other things, will alter when students enter the society for internships in enterprises. They may experience bewilderment and low self-esteem if they are unable to adapt as early as feasible. As a result, students require pertinent information and knowledge advice prior to their internship in order to boost their practice success and learning experience. However, many universities, on other hand, pay little attention to this element of students' study.

Hence, we established an online. Time and space-independent design platform that blends learning, interaction and evaluation (Website address: <https://qs1219397321.wixsite.com/edc-polyu>) (Fig. 6). The platform is composed of three sections: (1) Learning, or the process of learning to learn is separated into two parts: student self-learning resources and teacher's guidance resources. For students to understand how to gradually participate in the learning to learn process and know about the practical design, there are

DOES THE DESIGN PROJECT IN THE CURRENT SUBJECT
HELP YOUR CREATIVE THINKING IN A FUTURE DESIGN
PROJECT?

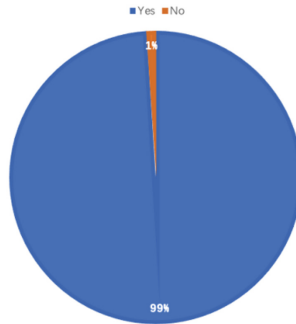


Fig. 5. Results of students' creative thinking in the future design project.

many valuable resources such as related articles, books, websites, videos, and interview resources. The purpose of the learning to learn section is to help students improve their self-planning, learning, thinking and practical design skills. There are certain resources for teachers to equip with teaching approaches of learning to learn in terms of teacher guiding resources. We seek to inspire the teacher to operate not only as a typical “knowledge teaching” role but also as a “study fostering” role, by encouraging students to engage in self-questioning and self-examination; (2) Interaction, i.e., students-companies interaction bringing through the online platform connects students and companies and serves as a repository, exhibition hall, learning area and communication tool for both students and companies. On the one hand, the platform allows companies to better understand students' talents by displaying course materials, interviews, catwalks showcasing students' work, and holding online exhibitions. The platform integrates companies resources and hows a company's overview on the website as well. Students not only have the means to contact and learn about the company, but it also helps to promote the company's image; (3) Evaluation, or the part when students assess the success of their learning, can aid students in identifying their learning strengths and shortcomings in learning. The operation of evaluation, according to Hargrove, contains the following elements: evaluating target achievement; judging accuracy and suitability of the results; evaluating the appropriateness of techniques utilized; rating obstacle handling and execution efficiency [15]. Based on the opinion of Hargrove, the platform's evaluation section is organized into two parts: evaluation methodologies and evaluation examples. On the platform, we have included some key resources that might assist students in self-evaluation. Simultaneously, the platform will provide some examples of class and self-assessment for students to reference.

Through the survey conducted before the class, students provided feedback on the use of this practical design platform. We asked students questions of “Do you have any design projects that have been applied in companies/industries?” and “Have you ever used an online design platform for design collaboration with companies/industries before?” before the class survey. Selected one question of “Do you think an online platform i.e. IPPD can help your know and further collaboration with design industries/companies?”

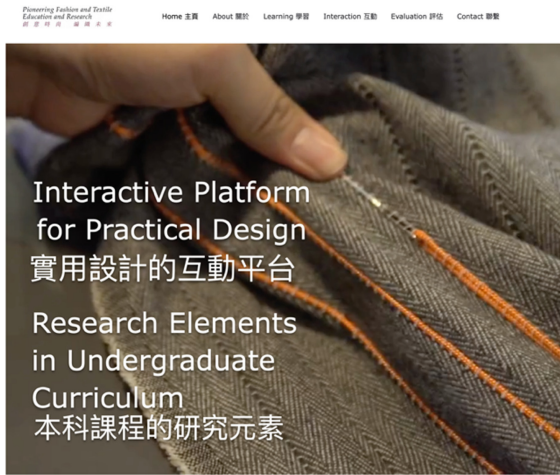


Fig. 6. The homepage of the online sustainable practical textile and fashion design platform.

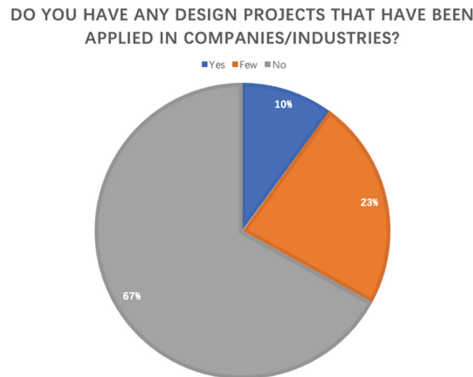


Fig. 7. Results of students' design project have been applied in companies.

in the after-class survey. According to the results of the before class questionnaire, 10% of students' design project have been applied in companies, 23% seldom cooperated with companies, 67% have never contacted and collaborated with companies (Fig. 7). For the online design platform, compared to 21% of students who have used the design platform, 79% of students have never used relevant practical design platforms (Fig. 8). It is worth noting that after using this platform, 90% of the students consider it is very beneficial in understanding the corporate culture and cooperating with the company, and promoting student-company engagement (Fig. 9).

HAVE YOU EVER USED AN ONLINE DESIGN PLATFORM FOR DESIGN COLLABORATION WITH COMPANIES/INDUSTRIES BEFORE?

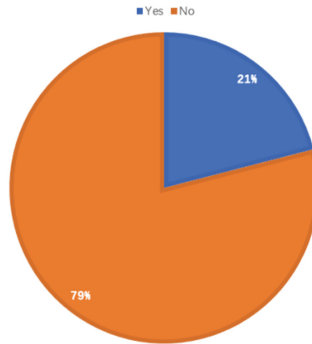


Fig. 8. Results of students use online design platform for design collaboration with companies.

DO YOU THINK AN ONLINE PLATFORM I.E. IPPD CAN HELP YOUR KNOW AND FURTHER COLLABORATION WITH DESIGN INDUSTRIES/COMPANIES?

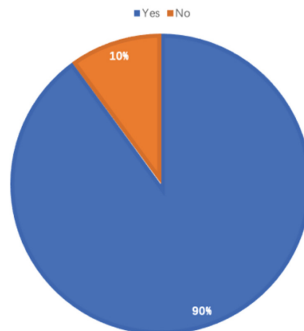


Fig. 9. Results of students think IPPD can help to know and further collaborate with companies.

4 The Significance of Learning to Learn Theories Summarized From the Project

This project highlights the necessity of mixing theory and practice, which developed based on the principle of learning to learn. The significance of learning to learn for this endeavor can be reflected in the following aspects:

4.1 Stress the Need for Lifelong Learning

Knowing how to learn is the most basic knowledge for learning to learn, which is a higher level of learning. Intelligence flexibility can be defined as the ability to learn to learn. Therefore, this project improves students' knowledge and learning by enhancing their study and reflection. Students' ability to learn to learn is enhanced in two ways:

through teachers' guidance in the classroom and the platform, which provides self-study materials.

4.2 Describe the Social Setting

Learning is also influenced by the social environment. The project builds a relationship between students and companies so that they can share resources, which can assist students to develop their practical design skills effectively. At the same time, students can only continue to synthesize and develop their ability to learn by practice, and society is the setting with individuals should spend the majority of their life, so it is very critical.

5 Conclusions

Lifelong learning is a skill that design students must master in order to adapt to changing social environments. Learning to learn is a skill with several facets. Design is a problem-solving and creation process. In design education, learning to learn is effective and crucial. The goal of building an interactive practical design platform project between students and industries is to create an interactive online platform that encourages students and enterprises to collaborate. Combined with an applicable understanding of learning to learn, students' practical design capabilities and lifelong learning ability can be improved continually. Through two concrete implementations, the practical design in class and the interactive practical design platform, the article introduces the practice and research status of the project. The findings show that this long-term practical design platform project can assist students to strengthen their practical design skills and provide opportunities for students to collaborate with companies. Students believe that engaging in the learning to learn process has increased their creative thinking and problem-solving skills, and that it has also aided their self-learning. It proves that the platform is effective and strategic in developing the compound practical design talents that society requires.

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References

1. The Hong Kong Curriculum Development Council, Lifelong learning, human development: Hong Kong education system reform proposals, 2000.
2. European Communities. Recommendation of the European Parliament and of the Council of 18 December 2006 on Key Competences for Lifelong Learning. Official Journal of the European Union, 2006.
3. World Bank. Learning for All: Investing in People's Knowledge and Skills to Promote Development. Washington, DC: World Bank, 2011.
4. UNESCO. Toward Universal Learning: What Every Child should Learn. 2013.
5. P. Candy, 'How people learn to learn', in R.M. Smith and Associates (Eds.) Learning to learn across the lifespan, San Francisco, CA: Jossey-Bass, 1990, pp. 30–73.

6. D. Goleman, *Intelligenza emotiva [Emotional intelligence]*, Milano: Rizzoli-Bur, 1999.
7. A. Tuijnman, M. Van Der Kamp, *Learning across the lifespan: Theories, research, policies*, Oxford: Pergamon Press, 1992.
8. W. J. McKeachie, *Helping students learn how to learn*. Opinion Paper, 2000.
9. D. Collett, 'Learning to learn needs for adult basic education', in R.M. Smith and Associates (Eds.) *Learning to learn across the lifespan*. San Francisco, CA: Jossey-Bass, 1990, pp. 247–266.
10. M. Gibbons, 'A working model of the Learning-How-to-Learn process', in R.M. Smith and Associates (Eds.) *Learning to learn across the lifespan*. San Francisco, CA: Jossey-Bass, 1990, pp. 63–97.
11. J. Hautamäki, S. Kupiainen, *The Finnish Learning-to-Learn Assessment Project – A concise report with key results*. Helsinki: Centre for Educational Assessment, 2002.
12. M. Carr, G. Claxton, 'Tracking the development of learning dispositions', *Assessment in Education*, 2002, 9(1), pp. 9–37.
13. D.C. Ruth, *Learning to learn: international perspectives from theory and practice*. Abingdon, Oxon: Routledge, 2014.
14. R.A. Hargrove, *Creating creativity in the design studio: Assessing the impact of metacognitive skill development on creative abilities*, North Carolina State University, 2007.

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