Transforming Design Education with Three-Way Multilateral Collaboration - A Case Study of Innovative Participatory Curriculum Design in the Fashion Media Design Programme

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ABSTRACT

This study examines the transformation of design education in Hong Kong under the industry 5.0 and the fast-changing digital world, specifically in the context of vocational and professional education, and the benefits of the adaptation of Innovative Participatory Design (IPD) methodology with the use of social media and digital tools. The study investigated the pedagogical interactions between students, teachers, and industry partners through three case studies implemented from 2019 to 2024. It emphasizes the value of students' active learning through industry live projects (ILP) to attain deep learning and articulation (Dara & Kesavan 2024).

The primary objective of this study is to make a valuable contribution to the field by proposing an IPD methodology that utilizes a three-way multilateral collaborative approach. Through the analysis of case studies, the study explores the application and effectiveness of a project-driven curriculum in design education. The findings of this study offer insights and strategies that can be adopted by design educators operating in similar educational environments.

The IPD methodology also recognizes the need to leverage new technologies and unique knowledge exchange platforms to foster engagement between education and industry to prepare students for the changing job market driven by rapid advancements in technology, AI, business diversity and sustainability. Furthermore, it suggests the repurposing of core industry values and focuses in response to these changing demands. Consequently, traditional teaching and learning models must rapidly response to cater to the diversifying industry and the changing roles of stakeholders. Educators themselves must also continuously upskill to effectively convey new knowledge to students.

The research outcomes justify the benefits of a multidisciplinary, participatory collaborative attitude among all stakeholders. The core objective is to develop a

gravitational pull within the design education-industry community, fostering a dynamic interplay of roles, responsibilities, and relationships.

Keywords: Multilateral Collaboration, Innovative Participatory Design, Technology, Future Readiness

INTRODUCTION

This paper draws inspiration from empirical observations of Innovative Participatory Design (IPD) learning and teaching activities at a tertiary design institution operating within the vocational and professional education training (VPET) system. The observations shed light on a three-way collaboration between students, teachers, and industry, which serves as a valuable reference for curriculum enhancement decisions and assessing the impact of this collaboration on students' learning outcomes. Furthermore, it highlights the prominent role of education-industry collaboration in fostering the understanding of advanced technology, creation of new knowledge and business ideas.

The evolving creative industry, largely driven by technological advancements like Artificial Intelligence (AI) and the prominent role of social media platforms, necessitates leveraging advanced technologies and developments within the IPD methodology in design education. This facilitates active student participation and collaboration with teachers and industry partners, creating a dynamic learning environment that enhances students' skills and knowledge in their respective practices (Onesi-Ozigagun et al., 2024). These pedagogical advancements contribute to the constant updating of the instructional framework to optimise students' learning experiences.

In this study, the researchers aim to explore the benefits of integrating ILP with digital application into the teaching of the Higher Diploma Programme in Fashion Media Design at the Hong Kong Design Institute. The study compares the impact of ILP with digital and non-digital learning and teaching activities on students' learning outcomes. By incorporating digital tools such as AI in the projects, students gain hands-on experience in utilizing advanced technology for producing innovative and visually captivating design content. Moreover, integrating social media platforms with ILPs empowers students to effectively leverage these platforms for content creation, curation, and marketing. Through this integration, students develop skills in audience engagement, analysing metrics, and adapting strategies to social media's ever-changing landscape. The study also focuses on the contribution of recent advancements in Generative AI technology to students' learning in the context of moving images and visual content. Guerra (2023) highlights the advantages that students with advanced technological skills and knowledge possess in an increasingly technology-driven future. As the fashion industry embraces these technological

advancements, it becomes pivotal to review and restructure the instructional framework for equipping learners with new skills and knowledge.

The researchers examined the value and effectiveness of involving students in ILP. By co-developing project briefs with industry partners, students gain practical experience and apply their digital skills and social media knowledge to real-world scenarios. In addition to enhancing their skills and knowledge, involvement in ILP fosters important attributes like teamwork, communication, and project management, which are vital for students' readiness to enter the dynamic and diverse fashion industry after graduation. Additionally, the triangulation partnership among students, teachers, and industry professionals contributes to a comprehensive and well-rounded learning experience. Industry professionals bring real-world expertise, providing valuable industry perspectives and up-to-date knowledge. Teachers play a guiding and facilitating role in this partnership, bridging the gap between theory and practice. Collaborative interactions among these stakeholders foster mentorship, professional networking opportunities, and industry exposure for students.

By exploring the literature on digital tools, AI, social media, ILP, and their integration into fashion education, this study aims to understand the current practices, challenges, and potential benefits associated with this approach. The findings will contribute to the existing body of knowledge and provide valuable insights for educators, curriculum developers, and industry stakeholders, ensuring the educational experience and professional preparation of students align with the demands of the rapidly evolving fashion industry.

LITERATURE REVIEW

Previous discussions have emphasised the importance of adopting best practices to ensure successful academic-industry collaborations from various perspectives (Cyert and Goodman, 1997; Prigge, 2005; Greitzer et al., 2010). From the perspective of academics, there are several key factors that contribute to the success of collaborations with industry. Developing long-term strategic partnerships with flexibility and establishing a shared vision and strategy are crucial elements. Additionally, academics with industry backgrounds provide an advantage as they are generally more willing to explore beyond their specific area of expertise and collaborate across boundaries. To effectively adapt, academics need to redefine their mission and consider collaboration with industry as an integral part of the educational role (Awasthy et al., 2020). On the other hand, facilitating technology transfer with a focus on the market needs and ensuring objectivity and balance in supporting programmes related to the academic's mission are important considerations (Kamal et al., 2024; O'Dwyer et al., 2024).

The literature on the changing landscape of the fashion industry underscores the

importance of educational institutions updating their curricula to meet the demands of the digital era. Digital technology has proven to be a powerful tool in various industries, and its application in fashion is growing rapidly. For instance, AI-powered image recognition and recommendation systems enable personalised shopping experiences, while AI-generated fashion outputs challenge traditional design processes (Liu et al., 2020; Ervik, 2023). Therefore, it is essential to equip students with practical digital skills that align with industry requirements (Bajohr, 2023; Sharma et al., 2023). While social media platforms have become integral to the fashion industry, revolutionising how brands showcase their collections, engage with consumers, and develop a brand identity, students in fashion-related disciplines must understand the mechanisms of social media platforms and harness their capabilities to create compelling fashion content. Leveraging social media as a knowledge exchange platform empowers students to stay updated on industry trends, connect with professionals, and build their personal brand.

Student-Centred Approach

Active student engagement is a crucial element in effective learning, and placing students at the centre of their own learning experience is of paramount importance. When updating or redesigning the instructional teaching framework, the foundation lies in the selection of appropriate teaching methods and strategies. A student-centered teaching method, aligned with the constructivist theory of learning, is an exemplary approach. According to Hussain & Sultan (2010), the constructivist approach encompasses various activities such as cooperative learning, experiential learning, experimentation learning, project-based learning, and inquiry-based learning. These activities enable students to construct knowledge through active observation, interaction, reflection, and experimentation within a supportive learning environment, utilizing the resources of their peers, teachers, and technologies (Dhindsa & Emran, 2006).

Integrating ILP into the curriculum enhances students' experiential learning and bridges the gap between academia and industry. These projects prompt students to apply their acquired knowledge and skills to practical situations, fostering critical skills such as teamwork, communication, and project management. Collaborating with industry partners enhances students' industry readiness, ensuring they emerge from their education with the necessary practical skills and connections (Evenddy et al. 2023).

VPET Education's Role in the Three-Way Multilateral Collaboration

One of the VPET goals in Hong Kong's education system is to ensure the learning needs of its young people are met through equitable access to future work skills to become 'master of each trade', offering a pathway for those who demand for early vocational pursuits (PWC 2021). Collaborating with industry provided a broader perspective of the process, value and resources of a real-live scenario; at the same

time, teachers benefit from the knowledge, ideas and practices of working outside the academy. Collaboration is therefore widely recognized as a key driver for innovation (Ludberg & Oberg, 2021). VPET education institutions serve as a platform to facilitate the testing and implementation of market-driven driven ideas and innovations. While the history and heritage of an academic institute could be a burden for the teaching staff for the industry updates and the network build-up (social capital) for reasons of the implicit and explicit rules and regulations in the organization, the involvement of teachers in the multilateral collaboration helps overcome the limitations. By actively participating in industry collaborations, teachers gain valuable insights into the latest practices, trends, and advancements, allowing them to stay updated and bridge the gap between academia and industry. This involvement enhances their professional development and empowers them to deliver more relevant and practical knowledge to students. Moreover, teachers can establish valuable connections within the industry, expanding their network and creating opportunities for future partnerships, internships, and guest lectures. Ultimately, the teacher's engagement in multilateral collaborations benefits not only their own growth but also enriches the educational experience for students, fostering a more comprehensive and responsive learning environment (Lam 2022).

Case Studies

These studies were conducted at the Department of Fashion and Image Design (FID) of the Hong Kong Design Institute (HKDI). The student population included in this study was enrolled in the 2-year Higher Diploma in Fashion Image Design Programme. The main objective was to evaluate the learning outcome of three participatory learning and teaching (PLT) cases with or without digital learning support between 2019 to 2024. These studies focus on integrating ILP into students' final year projects, and each case study explores the incorporation of key elements of ILP, such as project co-creation, mentorship, authentic learning, communication, teamwork, problem-solving skills, and commercialization skills and its influence on the processes of ideation and design development (Ma, 2023). The ILP methods applied in the case studies are summarised as below:

1. Co-creation of project brief (align market needs)
2. Lecture and discussion (students' involvement in decision making)
3. Field work and feedback from industry partners (ideas exchange)
4. Presentation and judging (authentic assessment)
5. Project showcase (networking and industry endorsement)

Case Study 1 – Non-Digital ILP on the Development of a Sportswear Collection for a Marathon Event with a Focus on Student Engagement

Industry Collaborative Partner (Brand A) – Globally Famous Sports Brand

Student engagement plays a crucial role in promoting positive learning outcomes in Vocational and Professional Training (VPET). It is a complex concept that has been examined and conceptualized from various perspectives by scholars. Zepke (2018) defines student engagement as a pedagogical framework that encompasses the actions, thoughts, and emotions of students during the learning process, along with strategies that teachers can employ to enhance these aspects in instructional settings.

In this case study, a total of 22 students participated in a sportswear design project for a marathon event organised by Brand A in 2019 (Figure 1). Additionally, 10 students took part in a marathon training programme offered by the sports brand. This training aimed to develop their physical and mental endurance, providing a meaningful learning journey for their personal growth and development. Moreover, their participation provided an authentic user experience that contributed to the design of the sportswear collection.

The project, co-created with a globally recognised sports brand, involved designing a running team sportswear collection (T-shirts, sport jackets, and pants) for the Fashion Media Design programme running team participating in the Hong Kong Marathon 2020. The project began in October 2019 and aimed to culminate at the marathon event scheduled for February 2020 (Figure 2). Over a four-month period, students engaged in designing the sportswear collection during the daytime and participating in marathon training in the evenings. The training consisted of three sessions per week for approximately three months, gradually increasing from 3km to 10km. Most students had limited or no previous experience in running, making it a significant challenge and opportunity for them. Throughout the training process, students faced physical limitations, stress, pain, and fatigue. The training fostered essential skills such as time management and self-discipline. It also enhanced resilience, problem-solving ability, and a growth mindset, which can aid in overcoming academic challenges. The marathon training process also fostered a sense of belonging when students formed small training groups, supporting and motivating each other and fostering strong friendships during the training.

The implementation of the marathon training successfully engaged students' interest and yielded remarkable results. Students provided feedback indicating a significant increase in confidence, determination and demonstrated the ability to set and achieve goals. They also displayed skills in self-management and collaboration with their peers.

Fig. 1 Sportswear designed for a marathon event in 2019

Fig. 2 Ten students joined the Hong Kong Marathon 2020

Case Study 2 – Non-Digital ILP on the Development of Bucket Hats for Cancer Patients with a Focus on Inclusivity

Industry Collaborative Partner (Brand B) - Globally Famous Fashion Brand

In line with the fashion industry's growing commitment to sustainable practices and social impact, fashion brands have actively embraced eco-friendly actions to coexist harmoniously with the bustling environment. Embracing the global green vision, teachers and more than 50 students collaborated with globally renowned fashion brand - Brand B, to co-create a charitable interdisciplinary ILP titled "Dream Tomorrow" in 2022. This collaboration involved partnering with the Cancerinformation.com.hk Charity Foundation and Maggie's Cancer Caring Centre.

Over a 4-month period, 30 students from Fashion Design and 22 students from the Fashion Media Design programmes had the opportunity to interact with cancer

patients, gaining insight into their challenges and needs. The Fashion Design students designed bucket hats for the patients using off-season stocks and materials. On the other hand, the Fashion Media Design students were tasked with creating a social media campaign in the format of short and engaging videos (IG Reels). These videos documented the design journey and development, such as concept developments and discussions, hands-on workshops and interviews, highlighting experiential learning through reflection and the integration of knowledge in the digital age. It focuses on leveraging technology to enhance opportunities and foster collaboration among students. As a result, the ILP equipped students with the skills and knowledge to develop a comprehensive social media strategy for the fashion brand. The project required students to integrate all elements learned throughout the module, enabling them to navigate the dynamic intersection of fashion and social media.

Fig. 3 Students designed bucket hats and message cards for cancer patients

Fig. 4 Recording the design journey as social media-friendly content

Fig. 5 Cancer patients with tailor-made bucket hats

Case Study 3 –- AI Supported ILP on the Development of a Fashion Film Series

Industry Collaborative Partner (Brand C) – Globally Famous Jewlery Brand

This ILP was adopted as a graduation project in 2023, which has involved a globally famous jewelry brand with a rich history of 128 years in luxury and innovation. The

brand provided design direction to 20 students studying HD in Fashion Media Design programme, who were tasked to create a fashion film, fashion styling and photography, and a social media campaign to showcase the brand's exquisite products in a contemporary context. To ensure a professional approach to visual storytelling, a fashion film director from a high-end fashion magazine was invited to provide additional tutorials. The project followed a real-world operational scenario, including client briefings, pre-production, production, and post-production stages. A panel of professional judges, including social media content creators, fashion film directors, fashion magazine editors, and academics, assessed the students' outcomes and provided feedback.

During the production process, students had access to advanced digital tools, including generative AI technologies for image refinement, sound design, extended background, content filling, color grading, and editing (Figure 6). This approach facilitated a comprehensive learning experience in digital production.

Fig. 6 The visual outcome in styling and photography incorporates with AI technology

The researcher conducted pilot experimental tests to incorporate AI in the learning process, aiming to validate hypotheses regarding users' capability in using text prompts to generate appropriate outcomes, students' motivation in learning AI technologies, the capability in using computer devices and applications, and the academic policy on AI applications. The pilot test introduced AI text-to-image generation and tools, the process of writing suitable prompts and uploading images for blending. It provided an opportunity to observe students' engagement, challenges faced and gather direct feedback on their experience. Additionally, students were asked to produce a video using green screen footage for ultra-keying effect and experimented with generative AI tools incorporated in video editing (Figure 7).

Fig. 7 Students' experimentation on AI technologies

In the experimental test, students used generative AI techniques to create generative images for storyboarding their fashion video project (Fig.8). While all participants completed the task, some encountered difficulties in generating visuals that matched the desired scenes, indicating opportunities for improvement, such as generating variations with permutation prompts.
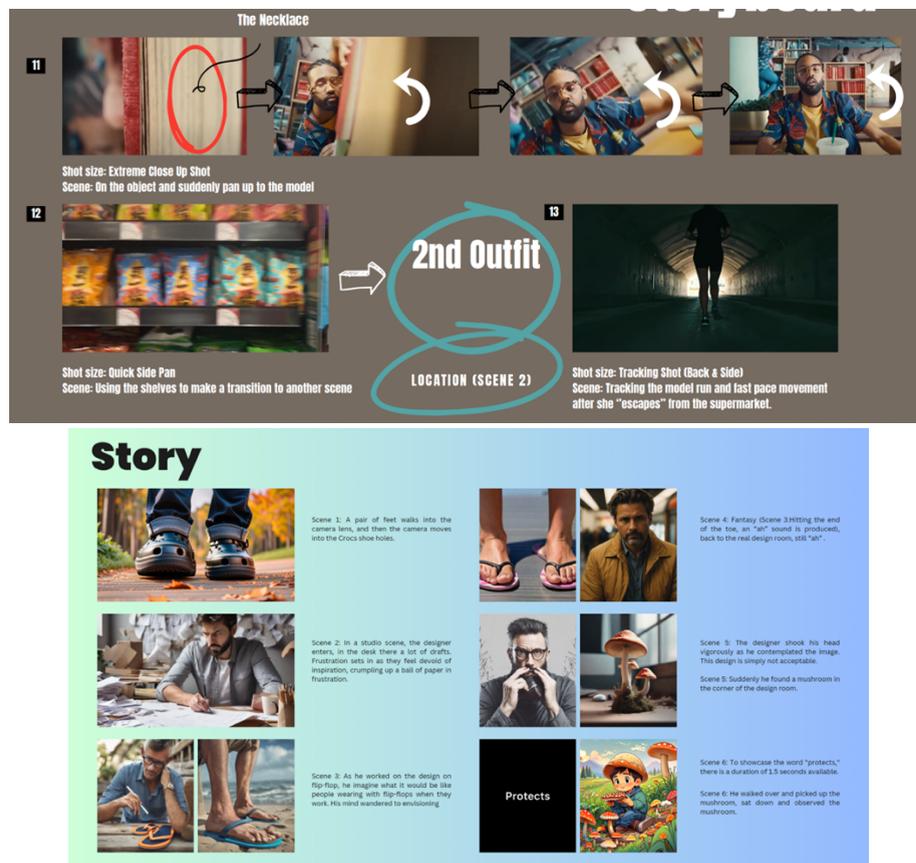

Fig. 8 Generative AI visuals for storyboarding

In the post-production stage, students used generative AI - Artistic style transfer to experiment with various style effects based on their video footage (Figure 9). The

outcomes were generally satisfactory, providing an opportunity to apply effects that were challenging to achieve previously. However, participants expressed concerns about the limitations in testing different variations due to the cost of rendering footage on a per-second basis for exporting high-resolution videos.
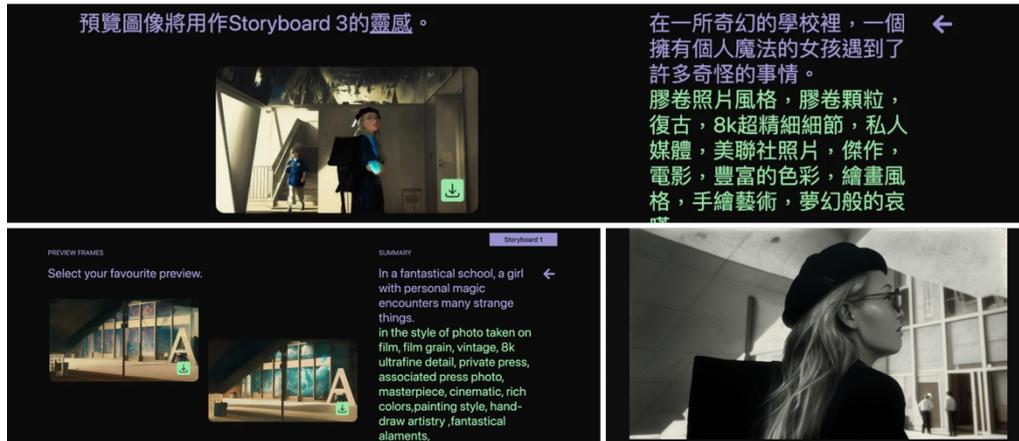

Fig. 9 Video generative AI – Artistic style transfer effect

The experimental teaching framework included training workshops on AI algorithms, generative AI techniques, artistic style transfer, and other relevant concepts. These workshops incorporated hands-on exercises to build practical experience and confidence in AI technology applications. Inviting industry professionals to co-teach and share samples helped students tackle challenges encountered during their experiments. The collaborative project involving AI technologies also fostered a supportive learning environment, promoting peer learning and assessment.

To stay up to date with the latest advancements in AI technology relevant to fashion video production, continuous learning was emphasised within this study. By encouraging students to remain curious and keep learning, they can enhance their ability to utilise AI technologies in fashion film production, ultimately meeting the demands of the fashion industry.

RESULT AND DISCUSSION

The case studies presented above highlight the effectiveness of the Industry Live Project (ILP) learning approach, which incorporates the adaptation of the Innovative Participatory Design (IPD) methodology. By closely examining the three case studies and their respective outcomes, we can discuss the effectiveness of ILP learning and the application of IPD methodology within this context.

ILP learning offers students the opportunity to engage with real-world industry partners, building connections and gaining practical experience in their chosen field. The case studies demonstrate the positive impact of industry collaborations on

students' learning outcomes, as they are exposed to authentic and meaningful experiences. In the first case study, students collaborated with a famous sports brand, participating in a marathon training programme while designing a sportswear collection. This experiential learning approach not only enhanced their design skills but also fostered personal growth, resilience, and collaboration. The second case study focused on inclusivity, with students partnering with a globally famous fashion brand and charity organisations to design bucket hats for cancer patients. Through direct interaction with the patients, students gained a deeper understanding of their needs, demonstrating empathy and incorporating sustainable practices. The third case study integrated AI technologies into fashion film production, exposing students to advanced digital tools and real-world client expectations. This immersive learning experience allowed students to hone their skills and adapt to industry demands.

The adoption of IPD methodology in these case studies further enhances the ILP learning approach. IPD emphasises co-creation, mentorship, authentic learning, communication, teamwork, problem-solving, and commercialisation skills. These elements are crucial for preparing students to tackle real-world challenges and succeed in their careers. In the first case study, co-creation was achieved through the collaborative design process with the sports brand. Students were actively involved in decision-making, which empowered them and increased their engagement. The second case study emphasised inclusivity, with students understanding the challenges faced by cancer patients through direct interaction. This approach allowed them to empathise with the target audience and tailor their designs accordingly. In the third case study, the incorporation of AI technologies enabled students to explore innovative solutions in fashion film production. They were exposed to state-of-the-art tools and received mentorship from industry professionals, facilitating their understanding and application of AI technology.

The application of IPD methodology in these case studies showcases the effectiveness of ILP learning. Students were not only able to develop technical skills but also demonstrated personal and professional growth. The ILP approach provided a platform for students to apply their knowledge in real-world settings, fostering creativity, critical thinking, and problem-solving abilities. Moreover, through industry partnerships, students gained exposure to industry practices, built professional networks, and received feedback and guidance from industry experts.

However, it is important to acknowledge that there may also be challenges and areas for improvement in ILP learning. These can include managing time constraints, balancing academic and industry expectations, and ensuring equal opportunities for all students to participate in ILP projects. Additionally, the integration of AI technologies, as seen in the third case study, may require continuous training and updates to keep up with the rapidly evolving field.

CONCLUSION

In conclusion, the case studies presented demonstrate the effectiveness of ILP learning and the application of IPD methodology in enhancing students' learning outcomes and preparing them for future careers. The collaborative nature of ILP learning, combined with the integration of industry practices and the adoption of innovative methodologies, results in a comprehensive and dynamic learning experience. ILP learning not only enables students to develop technical skills but also fosters personal growth, resilience, and the ability to adapt to industry demands. By incorporating ILP with IPD methodology, educational institutions can better equip students for the challenges and opportunities they will face in their professional lives. By examining the students' learning outcomes, level of engagement, and industry readiness, we aim to provide valuable insights to educators, curriculum developers, and industry stakeholders seeking to enhance the educational experience and professional preparation of students.

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