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Fostering Motivation in Design Education: Learner-Centred Pedagogy in a Digitally Mediated Era

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Contents

Fostering Motivation in Design Education: Learner-Centred Pedagogy in a Digitally Mediated Era

Descriptor

This research, comprising two longitudinal interrelated studies, is situated within the evolving landscape of design education in the digital age. Conducted over three years, each study was supported by distinct project funding from The Hong Kong Polytechnic University and the University Grants Committee (UGC). The growing prevalence of digital technologies in educational contexts—accelerated by the global COVID-19 pandemic—has not only introduced new tools and delivery modes but has also begun to reshape how students engage with learning. In response to these shifts, there is a pressing need to reimagine pedagogical approaches that align with the affordances and challenges of digitally mediated education.

Guided by learner-centred pedagogy and self-determination theory, this research investigates how digital technologies can be meaningfully integrated into design education to enhance student motivation and sustain engagement. The research journey began with a pilot study, which explored the use of social media in project-based learning and offered initial insights into the relationship between online platforms and intrinsic motivation. These early findings informed the design of two subsequent studies, which both employed an action research methodology and were situated within distinct but complementary contexts: peer teaching in flipped classrooms and the use of open educational resources (OERs).

The research was disseminated through academic publications, conceptual frameworks, reusable learning objects and a university-wide competition. The findings suggest that, when used intentionally, digital technologies—such as peer teaching platforms and curated OERs—can effectively advance learner-centred design education by fostering student autonomy, strengthening peer relationships and enhancing perceptions of competence, in alignment with the core tenets of self-determination theory.

Personal Profile: Dr. Jae-Eun Oh, Associate Professor

Dr. Jae-Eun Oh's research centres on two principal domains: animation and (media) design education. Within the latter, her work is particularly concerned with advancing pedagogical approaches that support learner-centred practices. She emphasises the importance of scaffolding student autonomy, nurturing intrinsic motivation and cultivating the capacity for self-directed learning within design education contexts.

She served as the Principal Investigator (PI) of the Strategic Plan Initiatives through the Use of Interactive Pedagogy and Virtual Teaching and Learning for Institutional Initiatives, funded by the University Grants Committee (UGC) in Hong Kong. In this role, she led research initiatives aimed at advancing innovative pedagogical practices in design education.

A tenured research faculty member, Dr. Oh was honoured with the School of Design Teaching Award by The Hong Kong Polytechnic University in 2021 in recognition of her excellence in teaching and educational leadership.

Research Questions

1. **How might social media be integrated into project-based learning to enhance student motivation within the context of design education?**
    - In what ways does the integration of social media influence students' learning experiences?
    - How does the integration of social media affect students' engagement during the learning process?
2. **How might scaffolding peer teaching contribute to students' learning experiences in studio-based learning in design education?**
    - In what ways does peer teaching influence students' attitudes towards learning in the studio environment?
    - How does peer teaching affect students' engagement and motivation during the learning process?
3. **How might open OER be integrated into studio-based learning in the context of design education?**
    - In what ways does the integration of OERs influence students' learning experiences learning in the studio environment?
    - How does the use of OERs impact students' learning habits and approaches to self-directed study?

Research Outputs

- **Academic papers**

  - Chan, Y. K., Oh, J. E., & Ma, C. F. H. (2023). Using open educational resources in studio-based flipped classrooms: action research in video production learning. Smart Learning Environment, 10(54). https://doi.org/10.1186/s40561-023-00275-5

  - Oh, J. E., Chan, Y. K., Kong, A., & Ma, H. (2022). Animation Students' Engagement and Motivation through Peer Teaching: Online Flipped Classroom Approach. Archives of Design Research, 35(1), 7-23.

  - Oh, J. E., Chan, Y. K & Kim, K. V (2020). Social media and e-portfolios: Impacting design students' motivation through project-based learning, IAFOR Journal of Education: Undergraduate Education, 8(3), 41-58. https://doi.org/10.22492/ije.8.3.03.

Research Outputs

- **Framework and Model**
  - Motivational Indicators: A set of motivational indicators for students engaged in project-based learning (PBL) programmes using social media, 2020
  - Motivational Barometers: A conceptual framework outlining motivational barometers for peer teaching in an online flipped classroom, 2022
  - Peer teaching with a flipped classroom model: A model is proposed that illustrates a cyclical momentum in learning when peer teaching is incorporated within the context of a flipped classroom, 2022
- **Designs**
  - Peerus: A website hosting both student-created and curated open educational resources, serving as a reusable learning object in support of design education, 2020-23
- **Visual Materials**
  - Unfold Guru: A YouTube channel showcasing student entries from the peer-teaching video tutorial competition, 2022–23

Research Field & Key References

- **Field 1: Studies in design education explore pedagogical strategies, curricular model, and educational policies, with the aim of enriching learning experiences and outcomes across design-related disciplines.**
    - From Cross: Design education frequently adopts an apprenticeship model, wherein tacit knowledge is transmitted through ongoing, practice-based engagement rather than formalised instruction.
- **One apprenticeship model in design education forms the central focus of investigation in this MCO.**
    - From Brocato: Studio-based learning is framed as an inquiry-driven approach aligned with problem-based learning. It fosters a deeply person-centred mode of education through iterative cycles of proposing, critiquing and refining ideas.

Research in this MCO explores how digital technologies can be used to scaffold studio-based learning within design education.

Research Field & Key References

- **Field 2: Research applying self-determination theory to education seeks to understand students' innate tendencies to engage with learning in educational settings.**
- **Four ideas from this body of study serve as the foundation of this MOC.**
    - From Ryan & Deci: Self-determination theory (SDT) is a psychological framework that examines how social and contextual factors influence human development by supporting—or undermining—the fulfilment of three basic psychological needs: competence, relatedness and autonomy.
    - From Ryan & Deci: Self-determination theory places emphasis on different types of motivation along the autonomy–control continuum. Intrinsically motivated behaviours, which are inherently autonomous, are undertaken out of genuine interest and are driven by the enjoyment and personal fulfilment they provide.
    - From Ryan & Deci: Intrinsic motivation can be nurtured through environments that support both competence and autonomy.
    - From Ryan & Deci: In educational contexts, strategies that foster these conditions have been shown to lead to higher-quality engagement, enhanced performance and more meaningful and positive learning experiences.

Research in this MCO draws on these ideas to explore how the incorporation of digital technologies into design education can support students' intrinsic motivation.

Research Field & Key References

- **Field 3: Studies on learner-centred pedagogy focus on developing frameworks and teaching practices that place both learning and the learner at the heart of the educational process, granting students greater agency over the content, pace and methods of their learning.**
- **Three ideas of learner-centred pedagogy form the foundation for this MOC:**
    - From Weimer: Learner-centred pedagogy calls for a reimagining of the teacher's role—from that of a sole authority figure to a more facilitative and supportive presence. This shift may be fostered through approaches, such as peer-assisted learning, that emphasise collaboration and shared responsibility in the learning process.

    The research in this MCO builds upon this perspective by exploring the impact of integrating peer teaching within the context of design education, positioning students simultaneously as learners and as instructors.

    - From Bremner: Autonomy is a central component of learner-centred pedagogy. It emphasises students' ability to work independently and take responsibility for their own learning, including the development of self-regulation skills.

    The research in this MCO builds on this idea by exploring how digital technologies might support student autonomy within design education, particularly in relation to self-directed learning.

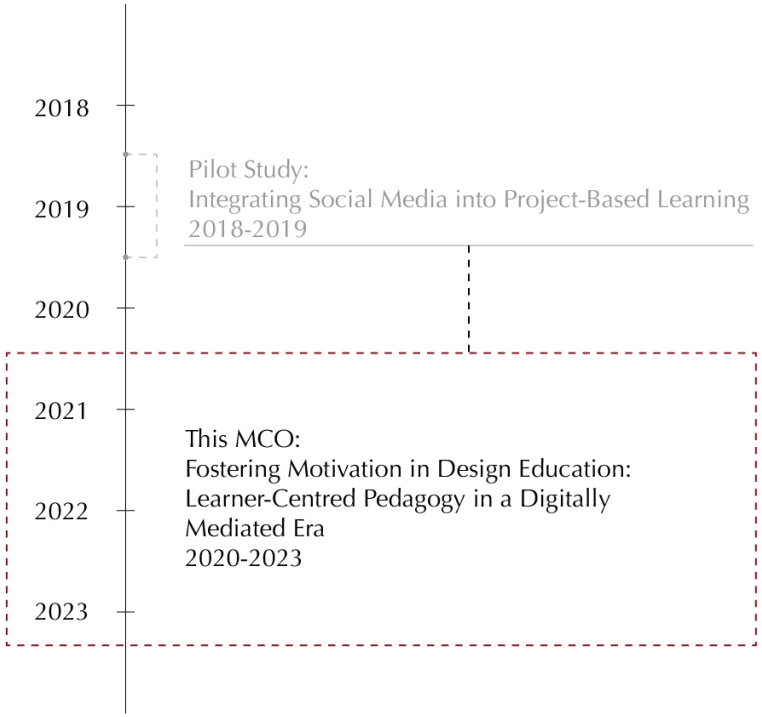
    - From Schweisfurth: Intrinsic motivation is central to learner-centred pedagogy, which not only assumes its presence but is also deliberately structured to cultivate and sustain it.

    The research in this MCO builds on this idea by examining how digital technologies can be used to foster intrinsic motivation within the context of learner-centred pedagogy.

Research Methods, Prototypes & Materials: Pilot Study

Overview

- The research journey began with a pilot study that explored the use of social media in project-based learning, offering initial insights into the relationship between online platforms and intrinsic motivation.
- These early findings helped shape the design of the two subsequent studies (Studies 1 and 2), which form the main body of this MCO.



A visual representation of the timeline.

Research Methods, Prototypes & Materials: Pilot Study

Pilot Study: Integrating Social Media into Project-Based Learning, 2018–2019

- This pilot study was supported by the University's Departmental Start-up Fund Project (2018–2019).
- It served as an initial investigation underpinning the broader research of this MCO.
- The aim of the pilot study was to explore the intersection between online platforms and design education.
- Informed by learner-centred pedagogy, the study was specifically designed to examine the influence of online platforms on students' intrinsic motivation.

Research Methods, Prototypes & Materials: Pilot Study

Pilot Study: Integrating Social Media into Project-Based Learning, 2018–2019

- The study adopted an action research methodology and was conducted over two academic semesters.
- It involved 60 undergraduate students enrolled in the Digital Media Design programme at The Hong Kong Polytechnic University.
- All participants were in their third year of a four-year degree programme.
- The course in which the students participated, and which formed the basis of this study, followed a project-based learning approach. It engaged students in sustained inquiry into authentic and complex problems, with the aim of maintaining motivation while fostering deep learning and the development of essential skills.
- This pilot study began with a systematic literature review to identify which online platforms warranted examination, ultimately focusing on social media—particularly Facebook—as the primary area of inquiry.
- Thus, ultimately, this study explored the incorporation of social media and its impact on students' intrinsic motivation within the context of project-based learning in design education.

Research Methods, Prototypes & Materials: Pilot Study

Pilot Study: Integrating Social Media into Project-Based Learning, 2018–2019

- Over the course of the two semesters, students were asked to create individual e-portfolios using Facebook, through which they documented and showcased their work processes on a weekly basis.
- In addition, Facebook was employed as a learning tool for students to present both their assignments and final projects.

Example of students' e-portfolios.

Research Methods, Prototypes & Materials: Pilot Study

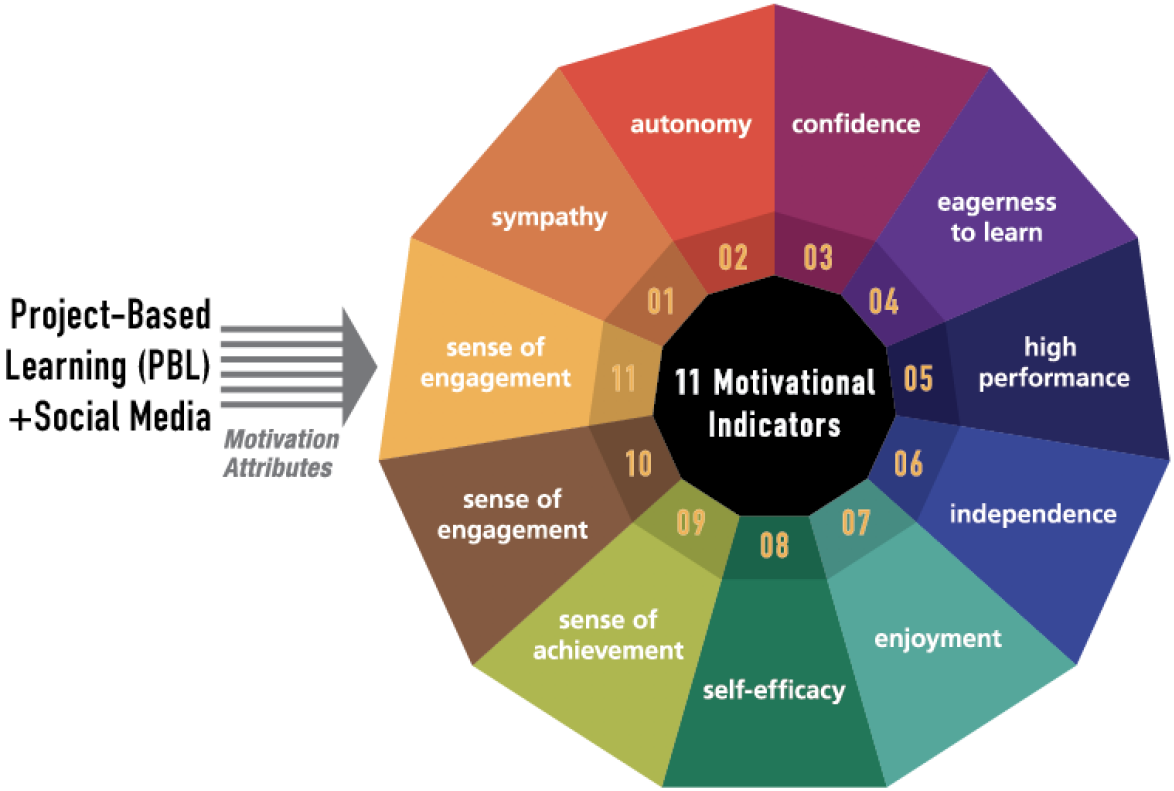
Pilot Study: Integrating Social Media into Project-Based Learning, 2018–2019

- The data for this study were drawn from two primary sources:
    - First, students were invited to maintain individual self-reflective journals, in which they documented what they had done, what they had learned, what they might change if given another opportunity and their reflections on using social media as part of their project work. These journals were collected at the end of each semester.
    - Second, the research team conducted four group interviews with all participating students at the end of each semester. These interviews were guided by a conceptual framework of motivational indicators for project-based learning involving social media, developed by the research team.
- All data were analysed using thematic analysis.

	Motivational attributes of PBL (Blumenfeld et al., 1991)	Possible motivational indicators for PBL when using social media
Competence: - Learners feel effective in their interactions with the social environment - Learners experience opportunities to exercise and express their capabilities	Perceived and achieved competence: - Sufficient knowledge - Skill with tools - Problem-solving skills - Understanding of the role of errors Interest and value: - Various novel projects - Challenging projects - Authentic problems	Knowledge and understanding: - Students know how to use domain-specific knowledge through interactions with teachers and peers - Students use different social media platforms to learn various skills - Students communicate through social media, increasing competence and understanding
Autonomy: - Choice - Acknowledgment of personal feelings - Opportunities for self-direction - Sense that learners' actions are self-determined or self-authored	Interest and value: - Freedom over project performance Task focus: - Classroom setting - Role of educators - Encouragement from teachers - Supportive learning environment	Independence and control: - Students feel empowered to make their own choices when it comes to selecting preferred online learning platforms - Students use social media platforms for their own self-directed learning - Students gain confidence by having control over their PBL subject through active interaction with teachers on social media
Relatedness: - Learners become caring and cared for by others - Sense of belonging, both with other individuals and within the community of learners	Interest and value: - Opportunities for collaboration	Interconnectedness: - Students share their understanding each other and learn from each other - Students feel a connection to each other in cyberspace - Students improve this connection by receiving feedback and sharing opinions - Improvement of student-student and student-teacher relations - Students feel a sense of belonging to their social media groups and learning community

The conceptual framework developed by the research team to guide the interviews.

Research Outcomes, Findings & Further Research: Pilot Study



B

Pilot Study Outcomes

The results of Pilot Study include:

A. A peer-reviewed journal article.

B. A set of motivational indicators for students engaged in project-based learning (PBL) programmes using social media. These indicators illustrate how the combined use of PBL and social media supports student motivation, identifying eleven key dimensions that emerge when students are meaningfully engaged.

Illustration depicting the motivational indicators identified among students participating in project-based learning (PBL) programmes that incorporate social media.

Research Outcomes, Findings & Further Research: Pilot Study

Pilot Study: Integrating Social Media into Project-Based Learning, 2018–2019

- RQ1: How might social media be integrated into project-based learning to enhance student motivation within the context of design education?
- The study finds that social media positively influences student motivation in project-based learning by supporting the internalisation of extrinsic motivation into intrinsic forms. Four key motivational factors emerged: competence, autonomy, relatedness and interest. Social media enhances students' confidence, fosters a sense of ownership, strengthens connections with peers and teachers and increases engagement through personally relevant content—all of which contribute to greater creativity and deeper learning.
- The study confirms that social media can enhance intrinsic motivation, particularly among design students, by offering greater autonomy in the learning process. However, its effectiveness depends largely on students' capacity for self-regulation. While active learners may thrive with such freedom, passive learners may feel overwhelmed and require more structured, extrinsic motivation.
- Additionally, when social media use is made compulsory—such as for e-portfolio assessment—it can diminish motivation by blurring the line between personal and academic spaces, potentially stifling creativity. These findings highlight the need to weigh both the benefits and limitations of integrating social media into design education.

Research Outcomes, Findings & Further Research: Pilot Study

Further Research: Transition to Study 1

- The pilot study offered valuable insights into the complex relationship between online platforms—particularly social media—and students' intrinsic motivation within project-based learning.
- As discussed earlier, one notable observation was that the use of existing platforms risked blurring the boundaries between students' personal and professional spheres.
- Additionally, within the pilot study, teachers largely retained an authoritative role, directing students' engagement with the platform rather than fostering learner autonomy.
- Significantly, the conclusion of the pilot study coincided with the onset of the COVID-19 global pandemic—a period marked by significant and rapid shifts in teaching and learning practices.
- These factors collectively informed the design of Study 1, which shifted focus in three key ways:
    - repositioning the teacher as a facilitative and supportive presence;
    - developing a dedicated digital platform tailored to the needs of the learning context;
    - and examining how such a platform could support learner-centred pedagogy in response to the shifting educational landscape shaped by the pandemic.

Research Methods, Prototypes & Materials: Study 1

Study 1: Scaffolding Peer Teaching in the Online Flipped Classroom, 2020–2021

- The study was funded by the Learning and Teaching Committee's Funding for Strategic Plan Initiatives to Improve Student Learning Experience through Interactive Pedagogies (2020–2021).
- Informed by a student-centred pedagogical approach, the study focused in particular on the practice of peer teaching. This method sought to reframe the teacher's role, positioning them less as transmitters of knowledge and more as a facilitative and supportive presences within the learning process.
- It was conducted during the COVID-19 pandemic; as such, it was situated within an online flipped learning environment. This format combined asynchronous video lectures and practice-based exercises, completed independently as homework, with synchronous, group-based problem-solving activities during scheduled class sessions.
- Ultimately, the study explored students' learning experiences with a peer-teaching model embedded within a flipped classroom approach situated in a studio-based learning environment and framed within the context of design education.

Research Methods, Prototypes & Materials: Study 1

Study 1: Scaffolding Peer Teaching in the Online Flipped Classroom, 2020–2021

- The study adopted an action research methodology and was carried out over the course of a four-month period, corresponding to a single academic semester.
- It involved 33 undergraduate students enrolled in the Digital Media Design programme at The Hong Kong Polytechnic University.
- The programme centred on studio-based learning that integrates theoretical understanding with practical application.
- All participants were in their third year of a four-year degree programme.
- Throughout the semester, they worked in groups, with each group responsible for producing and sharing tutorial videos on selected animation techniques or software tools. These videos were uploaded to a customised online platform named *Peerus*.
- Each week, students were asked to view the tutorial videos created by their peers as part of their independent study.
- During scheduled class sessions, the group that had produced the tutorial video for that particular week assumed the role of instructors, leading class discussions and facilitating hands-on learning activities.
- In this context, students navigated dual roles, shifting between that of teacher and learner, while the role of the teacher became increasingly facilitative and supportive.
- Students' engagement with the learning process unfolded as follows:

Research Methods, Prototypes & Materials: Study 1

Study 1: Scaffolding Peer Teaching in the Online Flipped Classroom, 2020–2021

- The data for this study were drawn from three primary sources:
    - First, throughout the semester, the research team conducted classroom observations and took detailed field notes on students' learning and teaching activities during each session.
    - Second, students were invited to maintain individual self-reflective journals, in which they documented their learning experiences and personal reflections over the course of the semester.
    - Finally, the research team conducted individual interviews with each student to gain deeper insights into their perspectives and experiences.
- All data were analysed using thematic analysis.

Research Outcomes, Findings & Further Research

Classroom engagement (Fredricks et al., 2004)	Self Determination Theory (Deci & Ryan, 1985, 2002; Oh et al., 2020)	Motivational barometers of peer teaching in the flipped classroom
Behavioral engagement: • Positive conduct, involvement in learning and academic tasks with effort, persistence, concentration, attention, and asking questions. • Positive academic achievement–related outcomes that prevent one from dropping out.	Competence: • Learners feel effective in their interactions with the academic and social environment. • Learners experience opportunities to exercise and express their capabilities.	Confidence and belief in their learning: • Peer–teacher students feel confident with their domain–specific knowledge by preparing the teaching materials for their peers. • Peer–learner students feel more attentive and comfortable asking questions to their peer–teachers. • Both peer teachers and learners communicate freely, and they experience more opportunities in expressing their needs and capabilities. • Students believe that they have positive academic progress.
Emotional engagement: • Affective positive and negative reactions in the classroom, such as interest, happiness, boredom, sadness, and anxiety. • Absence of negative emotion.	Relatedness: • Learners become caring and are cared for by others. • A sense of belonging, both with other individuals and within the community of learners.	Collaboration and reciprocation: • Students feel much easier and more comfortable collaborating than in teacher–led classrooms. • Students interact with each other, become more engaged, and have an enhanced sense of belonging. • Students take the lead as active participants in learning and sharing to pursue their academic goals together.
Cognitive engagement: • Investment in learning, e.g., self–regulation, being strategic, desire to go beyond the requirement, and preference for challenge. • Prevent students from	Autonomy: • Choice • Acknowledgment of personal feelings • Opportunities for self–direction • A sense that learners'	Active and independent learners: • Students know how to elaborate their learning instead of just passively listening to teachers. • All learners experience a certain degree of freedom when asking questions in a peer–led classroom. • Classroom becomes more active, discursive, and curious.

B

Study 1

The results of Study 1 include:

A. A peer-reviewed journal article.

B. A conceptual framework—referred to as *motivational barometers*—designed to articulate how peer teaching within a flipped classroom can support both engagement and motivation. By aligning the dimensions of engagement with the core psychological needs identified in self-determination theory (SDT), the framework seeks to capture the dynamic and reciprocal nature of student motivation, particularly within design-based learning environments.

Research Outcomes, Findings & Further Research

A

Study 1

The results of Study 1 include:

C. A model that proposes a cyclical momentum in learning: engagement through peer interaction serves to deepen students' knowledge, thereby enhancing their sense of competence. When this is coupled with feelings of autonomy and relatedness, intrinsic motivation is strengthened. In turn, this heightened motivation encourages more active participation and a sustained desire to acquire further knowledge—not only for individual learning, but also to support and enrich future peer teaching practices.

D. A collection of student-created tutorial videos on selected animation techniques or software tools.

Study 1

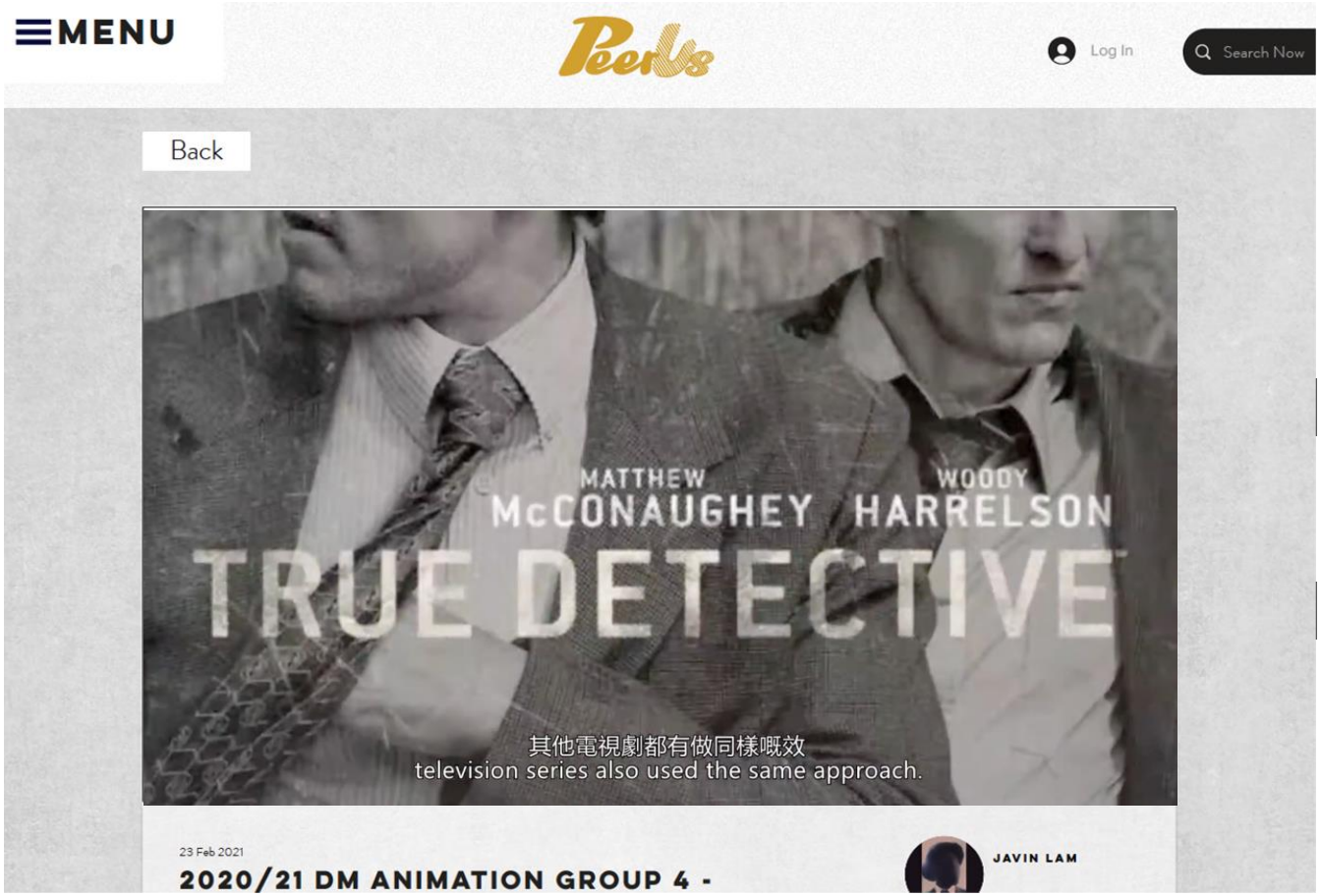
The results of Study 1 include:

a collection of student-created tutorial videos on selected animation techniques or software tools.

A student-produced tutorial video from 2021. **Click on the image to play and view the full tutorial.**

If it does not play, please click the link below:
https://ira.lib.polyu.edu.hk/video.jsp?id= 115346a

Research Outcomes, Findings & Further Research



Study 1

The results of Study 1 include:

E. Peerus, a dedicated website hosting student-created tutorial videos, has been established as a reusable learning object and has remained in active use in design education since 2020.

Research Outcomes, Findings & Further Research

Study 1

The results of Study 1 include:

F. A university-wide "Unfold Your Hidden Talent" peer teaching video competition held in 2022–23, funded by the Learning and Teaching Committee or its sub-committees.

- Informed by the findings of Study 1, the objectives of this competition were to encourage students to take a more active role in their learning, to foster a sense of connection and belonging within the university community and to build greater confidence through the preparation of teaching materials and the delivery of their presentations.

Research Outcomes, Findings & Further Research

Study 1

The results of Study 1 include:

- The competition was also motivated by the aim of creating an online platform through which students could exchange resources and share technical skills with one another.

Promotional poster for the student tutorial video competition.

Research Outcomes, Findings & Further Research

A

Study 1

The results of Study 1 include:

G. A university-wide 'Unfold Your Hidden Talent' peer teaching video competition held in 2022–23, funded by the Learning and Teaching Committee or its subcommittees.

- A series of workshops was organised to equip students with foundational knowledge and techniques in animation, motion graphics and video production.
- The competition attracted the participation of 20 student teams, each of whom submitted a tutorial video on a topic of their choice.

Research Outcomes, Findings & Further Research

Study 1

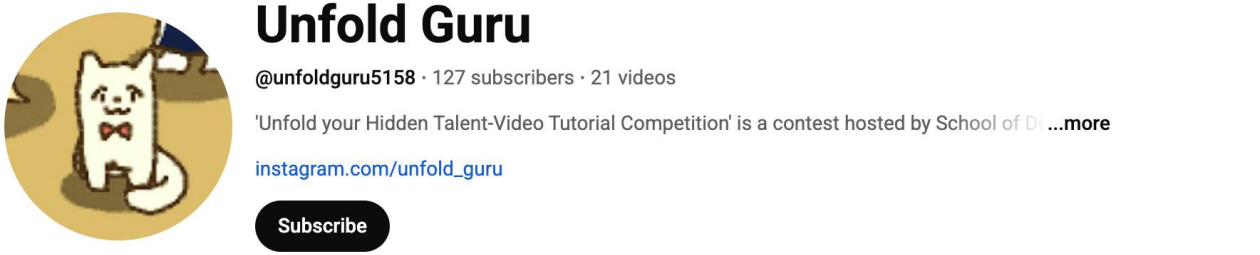
The results of Study 1 include:

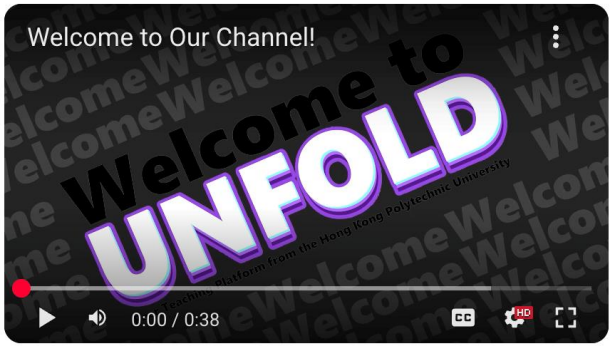
- Following two rounds of voting, five winning teams were selected, along with two additional awards: *Most Fun Video* and *Most Useful Video*.

Promotional materials for the student-created tutorial video competition

A

Research Outcomes, Findings & Further Research





Welcome to Our Channel!

100 views • 2 years ago

Welcome to our channel!

Homepage of the YouTube channel *Unfold Guru*.

Study 1

The results of Study 1 include:

H. A university-wide 'Unfold Your Hidden Talent' peer-teaching video competition held in 2022–23, funded by the Learning and Teaching Committee or its subcommittees.

- All submitted videos were showcased on the YouTube channel *Unfold Guru*.

Research Outcomes, Findings & Further Research: Study 1

Study 1: Scaffolding Peer Teaching in the Online Flipped Classroom, 2020–2021

- RQ 2: How might scaffolding peer teaching contribute to students' learning experiences within the context of design education?
- The findings offer valuable insights into students' learning experiences in peer-teaching settings, particularly when interpreted through the lens of self-determination theory.
- This study found that peer teaching, combined with flipped classroom pedagogy, helped students become more behaviourally engaged, demonstrate greater persistence and develop stronger skills compared to traditional teacher-led instruction. The act of teaching peers reinforced their understanding, boosted their confidence and enhanced their sense of competence.
- In the study, it was observed that students who were typically introverted and unaccustomed to collaboration became more communicative and engaged when involved in peer teaching. Working towards shared goals in teams fostered communication, mutual inspiratio, and problem-solving. This collaborative environment increased students' sense of relatedness and belonging.
- Furthermore, the process nurtured essential soft skills such as communication and collaboration—forms of tacit knowledge that are best gained through experience. Overall, peer teaching within a flipped classroom created a positive learning cycle: Engagement led to enriched knowledge, which boosted competence and, together with autonomy and relatedness, strengthened motivation and deepened learning.
- Peer teaching supported the development of intrinsic motivation and created an environment that was conducive to nurturing creativity.

Research Outcomes, Findings & Further Research: Study 1

Further Research: Transition to Study 2

- This study led to the development of the *Peerus* website as a reusable learning object—an independent, self-contained unit of learning content intended for repeated use across a range of instructional contexts.
- Building on this foundation, the research team shifted focus to explore the platform's potential for scaffolding learning within the context of studio-based design education.
- The next stage of the study was specifically directed towards the OER movement, which has transformed the internet into a global repository of lecture materials and high-quality learning resources that are freely accessible to all.

Research Methods, Prototypes & Materials: Study 2

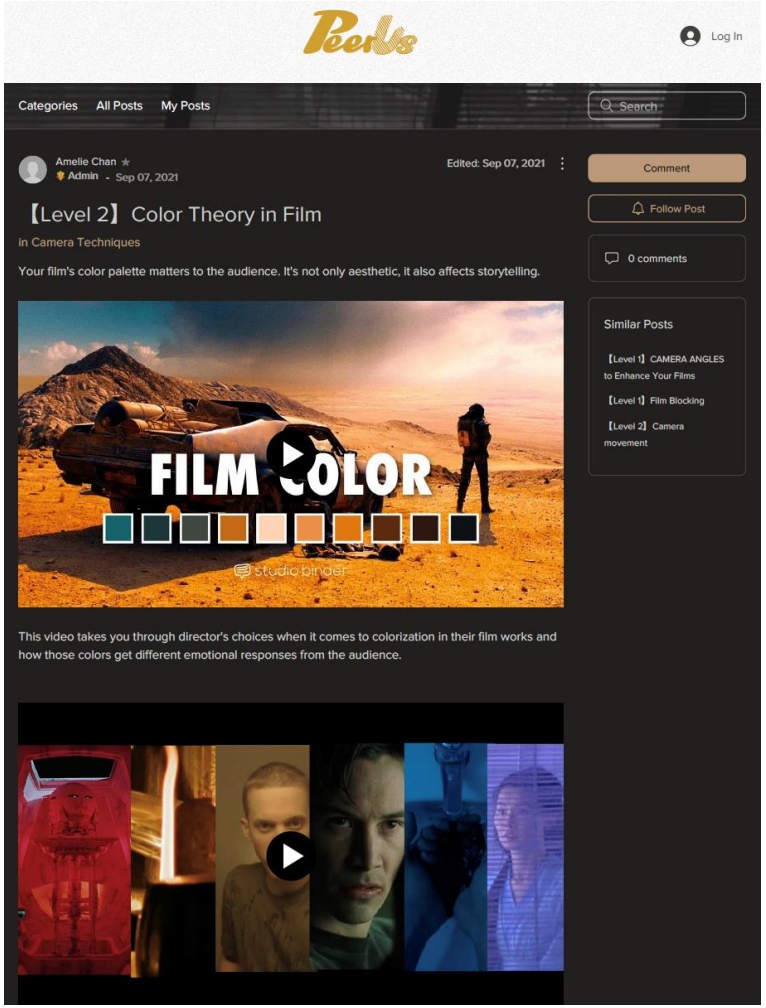
Study 2: Integrating Open Educational Resources into Design Education, 2022–2023

- The study was funded by the Learning and Teaching Committee's Funding for Strategic Plan Initiatives to Improve Student Learning Experience through Interactive Pedagogies (2020–2021).
- This study was conducted at the tail end of the COVID-19 global pandemic, a period during which a significant proportion of face-to-face teaching activities had been reduced or replaced by online instruction.
- In response to these shifts, OERs emerged as a promising means of supporting continued learning.
- The integration of OERs aligns closely with the principles of learner-centred pedagogy, as it encourages students to take greater responsibility for their own learning and affords them increased autonomy in selecting what and how they wish to learn.
- Thus, this study was dedicated to exploring the role of OERs in shaping students' learning experiences within a studio-based environment situated in the broader context of design education.

Research Methods, Prototypes & Materials: Study 2

Study 2: Integrating Open Educational Resources into Design Education, 2022–2023

- The study commenced with the research team curating a collection of online videos about a range of topics related to video production, guided by a set of criteria that included language, duration and relevance to the subject matter. For each topic, materials were selected across three levels of difficulty: basic, intermediate and advanced.

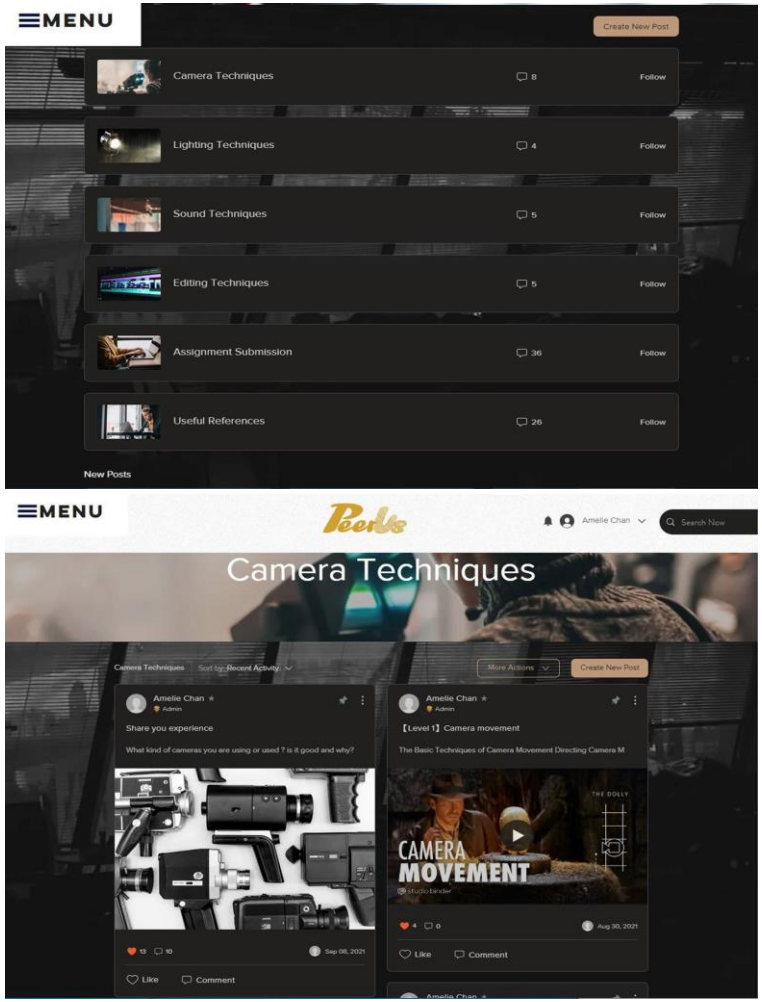


Example of a basic-level OER on colour grading.

Research Methods, Prototypes & Materials: Study 2

Study 2: Integrating Open Educational Resources into Design Education, 2022–2023

- The curated content was made available on the *Peerus* website and organised in alignment with the course outline and teaching schedule, thereby supporting students' learning in a structured and progressive manner over the course of the semester.



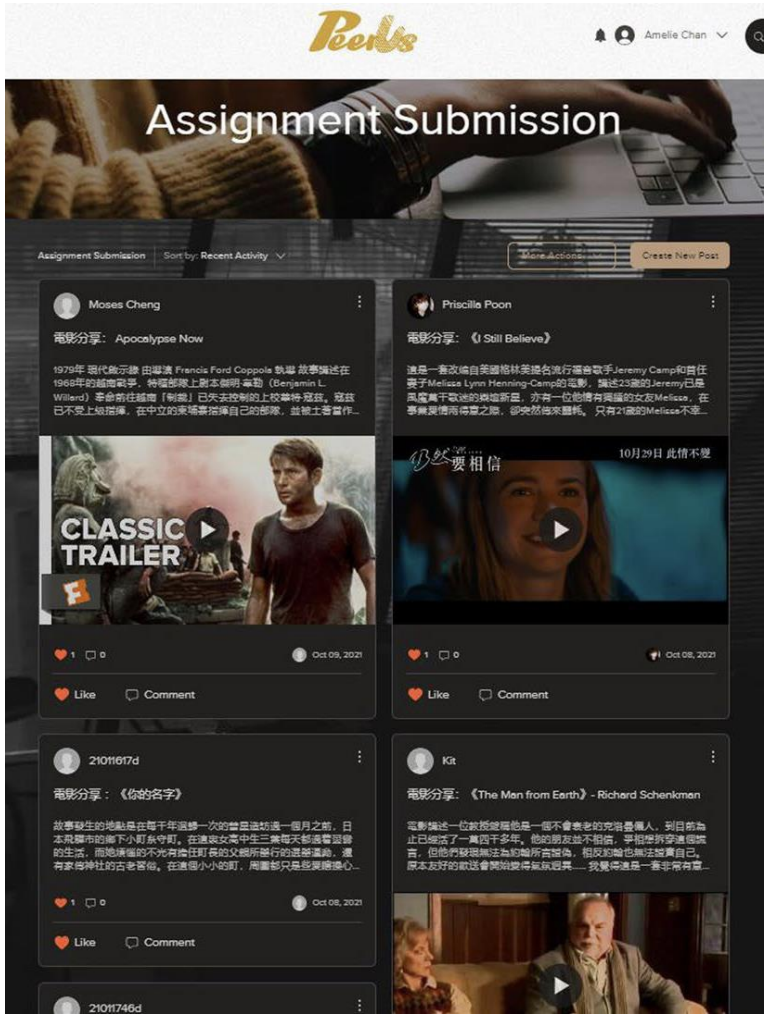
Top: Curated OERs organised in alignment with the course outline and teaching schedule.

Bottom: Curated OERs grouped under a specific topic.

Research Methods, Prototypes & Materials: Study 2

Study 2: Integrating Open Educational Resources into Design Education, 2022–2023

- Each week—or every two weeks, depending on the topic—students were expected to engage with selected resources during their self-study hours in preparation for the corresponding hands-on practical sessions. They were given the freedom to decide when to access the OER content and which materials to explore first, allowing for a degree of personal choice and flexibility in their learning process.
- To encourage students' engagement with the website, they were invited to create a personal profile and share examples of their own work on the platform. As part of their assignments, students were also asked to contribute their reflections on a designated topic each week.



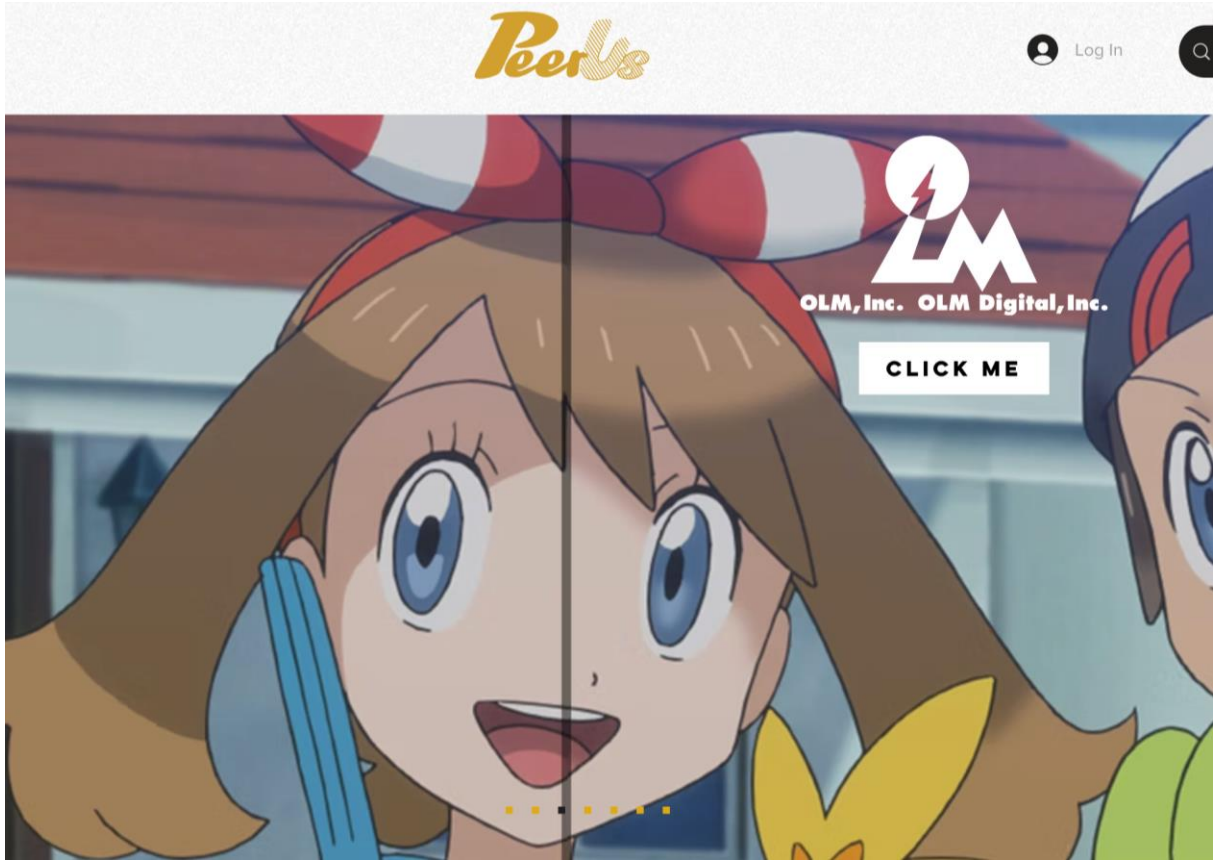
The Assignment Submission page.

Research Methods, Prototypes & Materials: Study 2

Study 2: Integrating Open Educational Resources into Design Education, 2022–2023

- The data for this study were drawn from four primary sources:
    - First, throughout the semester, the research team carried out classroom observations, focusing on students' behaviours while engaging with OERs.
    - Second, students were invited to keep individual self-reflective journals to document their learning experiences.
    - Third, students provided feedback regarding their perceptions and experiences of using OERs.
    - Finally, the research team conducted semi-structured individual interviews with each student, exploring topics such as their experiences with online OERs, reflections on OER-based learning and views on the advantages and limitations of integrating OERs into the study of video production.
- All data were analysed using thematic analysis.

Research Outcomes, Findings & Further Research: Study 2



Study 2 Outcomes

The results of Study 2 include:

A. A peer-reviewed journal article.

B. A collection of curated OER videos for the Digital Video Production course was developed, featuring resources on key topics with varying levels of difficulty.

C. The OER videos were subsequently organised and presented on the *Peerus* website as a reusable teaching tool, which continues to be used in instruction.

Screenshot of the *Peerus* platform

Research Outcomes, Findings & Further Research: Study 2

Study 2: Integrating Open Educational Resources into Design Education, 2022–2023

- RQ 3: How might OERs be integrated into studio-based learning within the context of design education?
- The findings emphasise the need for reliable, well-made resources and user-friendly platforms suited to students' habits.
- While the custom website supported peer interaction, its unfamiliarity posed access challenges, suggesting that more widely used platforms such as YouTube may be preferable in the future.
- While OERs are still seldom integrated into formal teaching, their inclusion within a flipped classroom model has shown clear benefits: enhancing topic understanding, promoting independent learning and extending the learning process beyond the classroom. This approach fosters students' autonomy, creativity and time management, positioning them as active initiators of their own learning.
- Drawing on self-determination theory (Deci & Ryan), the findings suggest that OERs can help satisfy students' psychological needs for competence, autonomy and relatedness. Students gained confidence in their technical skills, appreciated the freedom to manage their learning at their own pace and benefited from increased peer interaction beyond the classroom. This approach not only enhanced their engagement but also cultivated habits of self-directed learning, curiosity, critical thinking and creative problem-solving—fostering a deeper, more autonomous learning experience.

Research Outcomes, Findings & Further Research: Study 2

Further Research

- The findings of this study are limited by the purposive sampling of a specific group of Media Design students, with particular attention given to the effects of incorporating OERs on students' learning experiences and habits.
- Future research could extend this work by
    - examining the impact of OER use on self-directed learning behaviours,
    - developing effective frameworks to support educators in the implementation of OERs,
    - and considering the role of OERs in fostering students' creative capacities within media design.
- In addition, studies exploring the integration of OERs across a broader range of disciplines would offer a more comprehensive understanding of general learning practices and learner preferences.

Research Dissemination

- The IAFOR Journal of Education: Undergraduate Education article presents the process and findings of Study 1, proposing a set of motivators and motivational indicators emerging from project-based learning and the use of social media.
- The Archives of Design Research journal article presents the process and findings of Study 2, proposing a conceptual framework of motivational barometers for peer teaching in flipped classrooms, as well as a model of peer teaching within this learning context.
- The Smart Learning Environments journal article presents the process and findings of Study 2, presents the process and findings of Study 1, highlighting its implications for design education.