

MOOCS AND SCAFFOLDED DESIGN: ENHANCING CREATIVE COMMUNICATION COMPETENCE AND LOCAL STORYTELLING IN THAI HIGHER EDUCATION

**Napat Ruangnapakul^{1*}, Bhadpiroon Watcharasresomroeng², Siritas Kettanurak³,
Napapa Suwannarong⁴, Radee Thanarak⁵**

¹Faculty of Information and Communication, Maejo University, Thailand. ORCID: 0000-0002-6780-4244

²Faculty of Engineering and Architecture, Rajamangala University of Technology Suvarnabhumi, Thailand.
ORCID: 0000-0001-9739-3274

³Faculty of Humanities and Social Sciences, Burapha University, Thailand. ORCID: 0009-0006-4284-6524

⁴School of Business Management and Communication Arts, University of Phayao, Thailand.

⁵Faculty of Management Science, Uttaradit Rajabhat University,
Thailand.

napat_r@mju.ac.th¹

bhadpiroon.s@rmutsb.ac.th²

siritas.ke@go.buu.ac.th³

napapa.su@up.ac.th⁴

radeetfms@uru.ac.th⁵

* Corresponding author, E-mail address: napat_r@mju.ac.th

Abstract

This study focused on the integration of MOOC-based learning and Marketing Content Design (MCD) Board as a hybrid pedagogical model to improve the creative communication and local storytelling among the students in Thai higher education. Applying a mixed-methods research design to 268 undergraduates, high learning achievement ($M = 3.97-4.19$) and strong correlations ($r = 0.701-0.865$) were found with the MCD Board being the strongest predictor of workshop quality ($b = 0.475$, $p < 0.001$). Qualitative themes included creative assurance, collaboration, and community effect. The model was able to bridge online theory and practical creativity effectively, to promote self-regulated learning, cultural identity, and sustainable community engagement.

Keywords: Blended learning, MOOCs, Creative communication competence, Scaffolding, storytelling, Education for sustainable development, Higher education, Thailand

1. Introduction

Digital transformation has changed the way creativity and communication are taught radically. Universities are using Massive Open Online Courses (MOOCs) and open digital platforms to increase access to learning, foster learner autonomy, and increase 21st century skills. Although MOOCs can democratize education, researchers still point out the challenges of manageable outcomes, usual involvement, restricted contextualization, and restricted backing of giving contextual connections between concept and application (Lim, 2024). As a result, blended learning models (a combination of online teaching and experiential and collaborative learning opportunities) have emerged (Vijayakumar Bharathi & Pande, 2025). Recent research has emphasized the importance of scaffolding support in the form of carefully orchestrated guidance of learners in highly complex tasks in sustaining motivation and understanding in the digital world (Rosa et al., 2025). These results suggest that strategic scaffolding can be a strong enabler of MOOCs' potential future by engaging learners and knowledge transfer.

The learning of abstract concepts is made concrete, information is systematized, and creative skills, considered imperative in the work of communication professionals, are developed where learning is embedded in scaffolded design environments. Altan et al., (2025) proved that

creative reasoning does improve in multimedia design tasks with adaptive scaffolds on both transfer of concepts and creative reasoning. Scholars in communication education focus on the importance of creative communication competence, a competence that combines analytical, expressive and cultural skills (Wang et al., 2024). However, in Southeast Asia there are few empirical models of how digital tools may promote such a creative competence, while sustaining local identity and sustainability values. Nguyen et al. (2025) found that intercultural storytelling projects support empathy and self-awareness pertaining to higher education contexts, however, intra-cultural storytelling (through the telling of one's own community) still hasn't been well explored.

This study examines an integrated learning model which combines the theoretical learning using MOOC with the Marketing Content Design Board (MCD Board) scaffold. The MCD Board helps students to work through creative processes such as identifying pain points, coming up with hooks, storylines, and calls to action to translate the communication knowledge into community narratives. This integration is based on the constructivist theory of learning (Warden et al., 2024) and is in line with frameworks for ESD that focus on contextual learning (Araneo, 2024). Given there is evidence of no impact on the creative and storytelling skills in Thai higher education pertaining to digital-experiential integration, the current study aimed to: (1) assess the impact of MOOC-based learning on creative communication; (2) examine the value of the MCD Board as it relates to storytelling for the community; and (3) analyze the effect of the synergy between digital and experiential learning on satisfaction and cultural engagement. The study is a piece of the research about the process of scaffolded hybrid learning, providing a model for how blended learning can empower students as creative communicators in the creative economy in Thailand.

2. Literature Review

2.1 Creative Communication Competence and Constructivism

Creative communication competence refers to cognitive, emotional and cultural skills that can enable people to produce messages in an innovative way, in different media contexts. In the framework of constructivism, learning is viewed as an active process of meaning-making and is affected by prior knowledge and social interaction. Aldahdouh, et al. (2023) confirmed the results that technology-enhanced constructivist environments support metacognitive regulation of students by providing digital scaffolds. There is empirical evidence that scaffolding can be used to turn abstract communication theory into creative practice. Lim (2024) showed that online environments are positively affected using real-time scaffolding on learners' engagement, and Guo et al. (2025) showed that scaffolding also increases creative reasoning in digital design activities. These results highlight the importance of providing learning tools such as the MCD Board that instruct students in the ideation, audience mapping, and narrative composition. Zhao et al. (2024) demonstrated the role of emerging technologies as a source of divergent thinking in design-based learning situations. The literature supports the finding that creative communication competence is developed effectively when instruction incorporates scaffolds, technologies and reflective practice.

2.2 Digital Learning, MOOCs and Blended Experiences

Massive Open Online Courses have shifted from simple platforms with single functions for delivering content to the complex ecosystem for professional and higher education learning. Williams, (2024) emphasized the criticality of highlighting the importance of cognitive presence

with social and teaching presence in assisting sustainable digital competencies among educators when studying MOOCs, and how peer feedback and mentoring will support educators' development. Adera (2025) confirmed that blended learning models (using a mixture of MOOCs and face-to-face learning) improve 21st century skills while improving academic performance. This is in line with the learning-design framework proposed, which calls for striking a balance between learner autonomy asynchrony and synchronous learner collaboration. The MCD Board is a "bridging device," converting the understanding in MOOC into practical application. Lin (2025) graced the topic and discussed that the design of authentic learning supports more engagement and knowledge retention. These insights support the idea of hybrid models between the combination of theoretical input from the MOOC and collaborative creative workshops.

2.3 Scaffolding and Cognitive Support in the Digital Document

The concept of scaffolding is well established in the research of digital pedagogy as a way to keep the learner engaged and to control the cognitive load. Lin and Puntambekar (2025) performed a meta-study which furthermore validated that digital graphs and structured control remarkably better learning performance as well as task transfer of learning. Likewise, Lim (2024) showed that adaptive scaffolding and personalized instructional scaffolding in relation to learner progress encourages learners' persistence while studying a self-paced course. Altogether, these results are consistent with the incorporation of explicit scaffolding tools such as the MCD Board in communication design courses. In particular, the Board's structure (identifying a pain point, developing a hook, and writing a call to action) works as instructional cues that elicit metacognitive thinking, creative thinking, and audience consciousness. The scaffold takes difficult content creation processes and splits them into manageable components to help learners as they progressively develop their competence.

2.4 Cultural Identity, Sustainability and Local Storytelling.

Storytelling with local culture supports both the development of communicative competence and the civic involvement. Nguyen et al. (2025) provided evidence that intercultural narrative projects are effective in building empathy in students because the stories are creatively constructed from cultivating self-reflection. Williams (2025) believe that communication curricula should include attitudes, knowledge and skills in order to address challenges in society. In the Thai context, the MCD Board's use of local storytelling can be used to improve communication skills whilst reinforcing social connections. This approach is in line with the Education for Sustainable Development goals as defined by the UN Agency for Education, where culture preservation is a part of learning design. Evidence from Indonesia suggests that digital storytelling assignments help students to improve their narrative skills and communication competence. These findings stress the importance of the use of culturally relevant approaches in Southeast Asian higher education. Not only do storytelling programs improve communication skills, they also help to create cultural sustainability, which is an excellent example of how culture is a living curriculum.

2.5 Research Gaps and Conceptual Framework

In spite of the growing body of literature about MOOCs, blended learning and storytelling, substantial gaps still exist. Firstly, there is lack of integration between MOOCs and design scaffolds in empirical research with few studies on the interaction between online theoretical learning and creative practice tools. Secondly, the field of creative communication pedagogy in

Southeast Asia is understudied because most of the research related to blended learning and digital creativity, for example, is from the Western world and there is a lack of evidence in Thai contexts. Thirdly, there is a need for more emphasis on local storytelling and ESD outcomes in higher education. Although the exploration of intercultural competence has been investigated (Nguyen et al., 2025), the application of intra-cultural storytelling as a strategy to ensure the sustainability of communities is a new approach. Lastly, methodological gaps are observed as, previous work requires mixed methods validation to combine quantitative patterns and qualitative learner insights. Our study is concerned with the issues related to digital pedagogy, designed based learning and cultural sustainability in terms of conceptual model (Figure 1), where MOOC based learning is theoretical foundation, MCD Board workshop is practical environment and this leads to better creative communication, local storytelling skills, and positive learning outcomes. Our research design was informed by this model.

3. Methodology

3.1 Research Design

We adopted the mixed methodological research approach to determine the effect of MOOC based learning along with the MCD Board on creative communication skills and local storytelling of the students. Using convergent parallel mixed-methods design (Creswell & Plano Clark, 2023), we collected both quantitative and qualitative data at the same time, analyzed them separately, and then combined them for the purpose of interpretation. This approach allowed for both generalizability in a statistical sense, as well as a deep understanding of the impact of digital and experiential learning on the creativity development of students. The quantitative part analysed correlations between MOOC learning, MCD Board usage and workshop quality, whereas the qualitative part explored the learners' experiences via focus groups. Figure 1 represents the research model, which is the contribution of MOOC engagement to students' theoretical knowledge base. Thereafter, the MCD Board workshop helps students to use the knowledge in order to facilitate creative communication competence and local narrative content. These processes were hypothesized to influence workshop quality and satisfaction of learning.

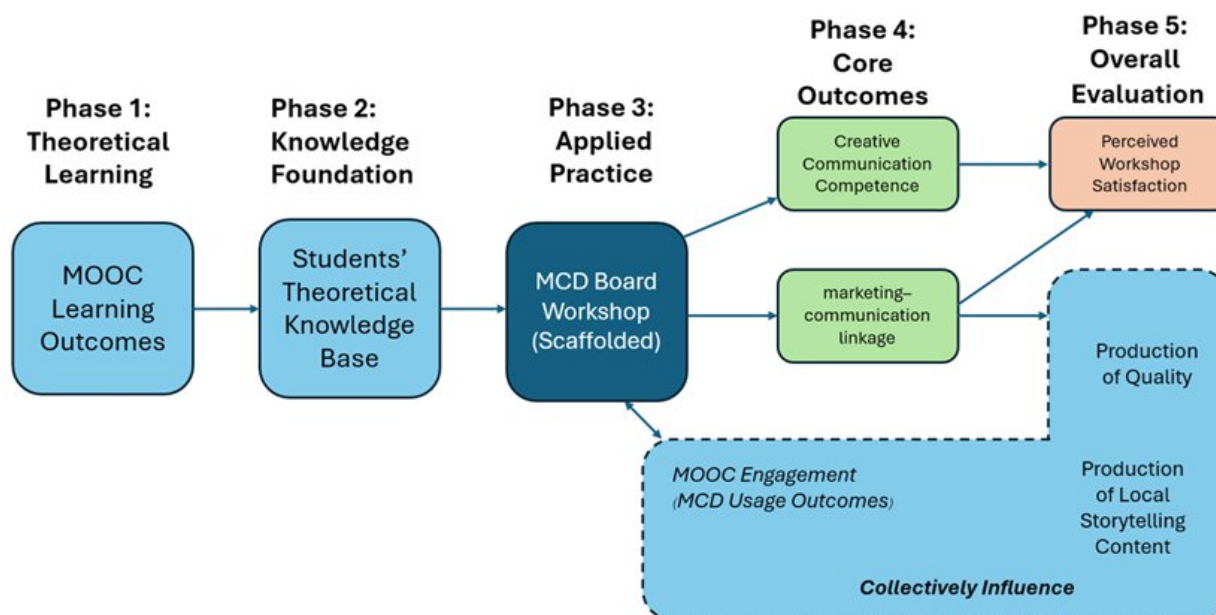


Figure 1. Conceptual Research Framework

3.2 Research Objectives and Questions

The study was directed by the following research objectives (RO) and their corresponding research questions (RQ):

- **RO1:** Evaluate the effects of MOOC-based learning on students' creative communication competence.
- **RO2:** Examine how the Marketing Content Design Board supports students in designing and communicating local stories.
- **RO3:** Identify factors influencing perceived workshop quality and learning satisfaction across different universities.
- **RO4:** Explore students' experiences, challenges, and insights regarding the integration of MOOC learning with the MCD Board workshop.

3.3 Participants and Sampling

The quantitative sample was comprised of $N = 268$ undergraduate students from communication programs at four Thai universities: Maejo University ($n = 59$), University of Phayao ($n = 100$), Uttaradit Rajabhat University ($n = 58$) and Rajamangala University of Technology Suvarnabhumi ($n = 51$). Participants were selected using stratified purposive sampling in order to ensure academic and regional diversity. All the students had taken an online course on the MJU MOOC platform in topics such as Digital Literacy, Entrepreneurship, Design Thinking, Storytelling, or English for Creative Economy, which was followed by a workshop with the use of the MCD Board. Of the respondents, 50.7% were female, 37.3% were male and 10.4% were gender-diverse, of which 60.8% were between the age of 21-25 years and 63.4% were studying communication-related fields. For the qualitative phase, 12 students (3 from each university) took part in a focus group discussion after the workshop. They were selected on their engagement in the workshop and their range of content projects in order to ensure a range of perspectives but an effective group size.

3.4 Instruments

3.4.1 Quantitative Measures: We designed a structured questionnaire (survey) to capture key variables, with its content validity confirmed by three experts in communication education and digital pedagogy. The questionnaire consisted of five sections:

- **Demographics:** Participant background information (gender, age, academic major, university, prior media experience).
- **Course Learning Outcomes (10 items, $\alpha = 0.92$):** Perceived improvement in skills and knowledge from the MOOC course – e.g., content planning, target audience analysis, cultural awareness, and storytelling ability.
- **MCD Board Learning Outcomes (6 items, $\alpha = 0.91$):** Perceived ability to structure content using the MCD Board framework (from *Pain Point* → *Hook* → *Story* → *Call to Action*) and to connect local identity elements to brand or campaign communication.
- **MOOC-Based Self-Learning (5 items, $\alpha = 0.88$):** Evaluation of the MOOC learning experience, including flexibility, self-regulation, and engagement levels in the online course.

- **Workshop Quality (5 items, $\alpha = 0.90$):** Assessment of the two-day workshop, covering clarity of instruction, interactivity, support from facilitators, and overall satisfaction.

All items were rated on a 5-point Likert scale (1 = *Strongly Disagree*, 5 = *Strongly Agree*). A high overall reliability for the survey (Cronbach's $\alpha = 0.94$) indicated excellent internal consistency across the scales.

3.4.2 Qualitative Measures: We developed a semi-structured focus group protocol to obtain in-depth reflections on learning experience of students. The key questions were: How did the hybridization of the MOOC with the MCD Board workshop affect your creative communication skills? What obstacles did you find to be designing locally related storytelling content? What other support/support resources would have supplemented your learning experience? Each focus group was about 90 minutes long. The interviews took place in Thai, as much as possible, using some English technical terms where appropriate, were audio-taped with consent, and then transcribed verbatim for analysis.

3.5 Procedure

Data Collection: The study was conducted between May and August 2024 in three stages (Figure 2):

- **Stage 1: MOOC Completion** – Participants first took a relevant communication, storytelling or entrepreneurship designated course in the MOOC platform of MJU. Learning analytics were applied to confirm the completion of individual courses and some basic engagement measures (e.g., modules completed) by every student.
- **Stage 2: MCD Board Workshop** –The participants were on a two-day intensive workshop at their institutions. During the workshop, students learned how to use the MCD Board to produce short-form digital content (similar to TikTok or YouTube short films to tell a story about local culture). Students were mentored in design and production of the content by the academic staff and industry professionals at CQU. Students were put into teams and had to find a story in their home community, devise a content strategy, and create a prototype piece of work.
- **Stage 3: Post-Workshop Evaluation and Focus Groups** – After the workshop the participants were asked to fill out an online questionnaire (Google Forms). A focus group discussion was then implemented with 12 selected representatives (3 from each campus). Informed consent was obtained from all participants for their voluntary participation. The study complied with university ethics and confidentiality and right of withdrawal.

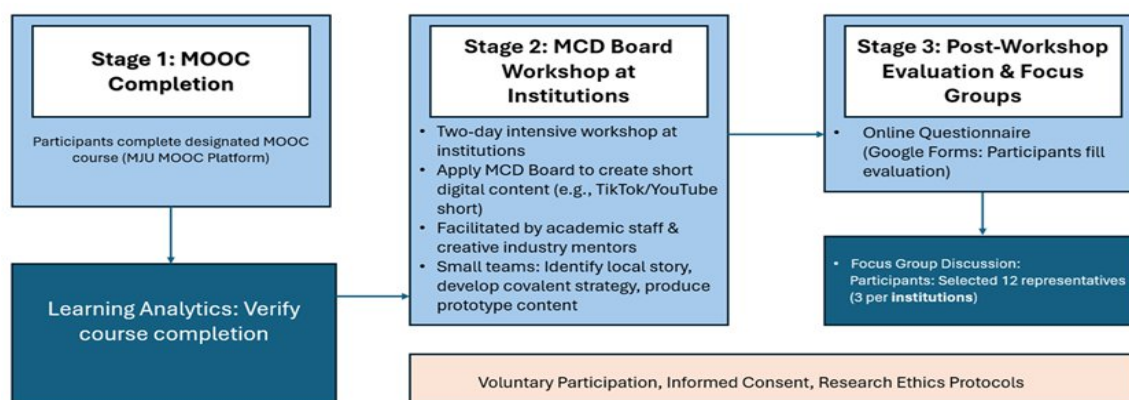


Figure 2. Data collection

Data Analysis: Quantitative data were analyzed by using Data Analysis Software-SPSS version 28. We calculated descriptive statistics, performed Pearson correlations between key constructs, performed ANOVAs to investigate differences between universities, and performed multiple regression analyses to look for predictors of workshop quality. The level of significance was $p < 0.05$. Qualitative data, namely, the transcripts of the focus groups, were analyzed by means of thematic analysis (Amado et al., 2022). This process included getting to know the data, creating codes that related to creativity, communication, and local connection, grouping these into themes, and reviewing it with a second coder. Disagreements were resolved through discussion, and the final themes were reviewed by an external expert for credibility.

Validity and Reliability: We took measures to ensure rigour of the study. Content validity was established based on expert review and construct validity was established based on factor analysis, item loadings >0.60 . Reliability analyses were performed and high internal consistency across all scales was found. For the qualitative component, credibility was increased by triangulation, where more than one source of data was compared, peer debriefing, in which external academics reviewed the themes, and member checking, where participants verified that interpretations were accurate.

Ethical Considerations: Ethical approval for this study was granted by Maejo University Institutional Review Board (approval no. MJU-EDU-2567/IRB-029). All of the students provided their written informed consent. In an effort to protect privacy, each participant was given a code (e.g., P1, P2, etc.) in transcripts and data files, as opposed to their real names. The data, including the answers to the survey and the transcripts, were kept in a secure, password-protected server only accessible by the research team.

3.6 Data Integration

We combined quantitative and qualitative data to obtain a complete picture of the findings. Triad analyses of convergence and divergence between streams of data were undertaken: quantitative patterns yielded evidence of connections between variables whilst qualitative information clarified mechanism and context for those patterns. Once statistical results indicated that MCD Board outcomes were linked to workshop satisfaction, we sought to look to focus group narratives for explanations of how the Board was used to produce learning. This triangulation provided further internal validity to the study and further enriched the discussion of findings.

4. Results

This section shows the results of quantitative and qualitative analyses related to the impact of learning using MOOC-based learning, and the Marketing Content Design Board (MCD Board) on creative communication competence and local storytelling of students. Quantitative results are presented first (descriptive statistics, correlations, ANOVA, and regression), followed by the qualitative results that are obtained from the focus group discussions. The integrated summary at the end indicates the convergence of the two data sets.

4.1 Quantitative Results

4.1.1 Descriptive Statistics

To meet Research Objective 1 (RO1) that sought to assess the impact of MOOC-based learning on students' creative communication competence, this study used students' perceived learning outcomes from the course as the outcome. Table 1 shows the mean, standard deviation, and interpretation of each of the items measuring creative communication competence developed through the MOOC-integrated course.

Table 1. Mean, Standard Deviation, and Interpretation of Learning Outcome Evaluation from the Course (N = 268)

Items	Mean	SD	Interpretation
I can plan and organize content systematically.	3.98	0.781	High
I can analyze target audiences and select appropriate media channels.	4.02	0.812	High
I understand the process of developing content based on creative thinking.	4.11	0.785	High
I can identify outstanding features of content that can be extended into further communication materials.	4.06	0.825	High
I feel confident in designing content that reflects local identity.	3.96	0.858	High
I can apply local cultural elements to create engaging storytelling.	3.96	0.862	High
I can design structure and create an effective “hook” to capture attention at the beginning of content.	3.86	0.903	High
I can present content through digital media clearly and concisely.	4.02	0.828	High
I feel confident presenting stories through content I designed myself.	3.97	0.845	High
I can connect content design to products or services in the local area.	4.08	0.840	High
I have gained awareness that content creation can be used as a tool for marketing or sales promotion.	4.15	0.832	High

Items	Mean	SD	Interpretation
I feel that the skills I have learned can help me generate income or future career opportunities.	4.21	0.826	Very High
Overall Learning Outcome Score from the Course	4.03	0.669	High

As presented in Table 1, learning outcomes evaluation of 268 participants resulted in a mean score of 4.03 (SD = 0.669) which was achieved with high achievement. This indicates that participants learnt a lot and had substantial benefits from the course. Analysis of the top-five rated items shows that participants reported the most improvement in their perception that skills learned would lead to employment (M = 4.21, SD = 0.826, very high). The 2nd highest item revealed that participants developed understanding of the concept that content creation may be a marketing or sales promotion tool (M = 4.15, SD = 0.832, high). The third-ranked item reflected participants understanding of the content creation process -- from conceptualization to dissemination (M = 4.11, SD = 0.785, high).

The fourth item demonstrated that participants understood the content was linked to local products or services (M = 4.08, SD = 0.840, high) while the fifth item demonstrated that they appreciated the local content that can be developed into communication materials (M = 4.06, SD = 0.825, high). These findings show that the course increased the creativity of students communication competence, especially on the aspects of linking theoretical understanding and practical and community-based applications. To explore Research Objective 4 (RO4) which emphasized students learning experiences and self-directed engagement through MOOC based learning, this study analyzed their perception towards learning autonomy and flexibility gained through the MJU MOOC.

Table 2. reports the descriptive results and interpretation of self-directed learning behaviors supported by the platform

Items	Mean	SD	Interpretation
I feel that learning through MJU MOOC provides greater flexibility than classroom learning.	3.98	0.874	High
I can review content and reinforce my understanding when learning through MJU MOOC.	3.96	0.890	High
Learning activities through MJU MOOC help me manage my study time more effectively and balance it with daily life.	3.94	0.887	High
I feel that learning through MJU MOOC helps me take greater responsibility for my own learning.	3.92	0.891	High
I receive a learning experience through MJU MOOC that is equal to or of better quality than classroom learning.	4.04	0.860	High

Items	Mean	SD	Interpretation
Overall Mean Score of Self-Directed Learning through MJU MOOC	3.97	0.761	High

As seen in Table 2, the mean score assessment of self-directed learning by the MJU MOOC of 268 participants was 3.97 (SD = 0.761), which was considered to be high. This result indicates that the learners are satisfied and have a high capacity of learning without guidance through the MOOC platform. The first item was rated highest, which was "I receive a learning experience through MJU MOOC which is equal to or of better quality than the learning experience through a classroom" (M = 4.04, SD = 0.860). The second highest item was "I believe that learning through MJU MOOC is more flexible than learning in a classroom" (M = 3.98, SD = 0.874). The third most important thing was "I can acquire knowledge by reviewing and reinforcing my understanding when learning through MJU MOOC" (M = 3.96, SD = 0.890), and all of them were at high levels.

These findings indicate that the MJU MOOC platform successfully facilitates learner autonomy, flexible learning, and reflective understanding and can be a good aid to self-directed learning in higher education. For Research Objective 2 (RO2) - To analyze how the Marketing Content Design Board (MCD Board) facilitates students' design and communication of local stories, the analysis concentrated on students' views about what they learned from using the MCD Board. Table 3 summarizes the results, which indicate the tool's effectiveness in supporting students to develop their systematic thinking abilities, strategic content planning, and storytelling ability.

Table 3. Mean, Standard Deviation, and Interpretation of Learning Outcome Evaluation on the Use of the Marketing Content Design Board (N = 268)

Items	Mean	SD	Interpretation
I can analyze target audiences more systematically using the Marketing Content Design Board.	3.99	0.793	High
I can structure content systematically, starting from Pain Point, Hook, and ending with Call to Action.	3.88	0.828	High
I have a better understanding of connecting local content with brand or designed content.	3.94	0.821	High
The Marketing Content Design Board helps me see the overall framework of marketing strategy components such as target persona, communication channels, and content direction.	4.08	0.847	High
I feel that the Marketing Content Design Board helps reduce confusion and enables me to apply knowledge effectively in practice.	4.05	0.824	High
The Marketing Content Design Board helps me understand the connection between content creation, marketing, and creative	4.08	0.812	High

Items	Mean	SD	Interpretation
economy.			
The use of the Marketing Content Design Board provides a guideline for developing my own creative content.	4.15	0.795	Very High
The process of using the Marketing Content Design Board helps enhance my ability to design creative content that can be extended into professional practice.	4.15	0.814	Very High
Overall Learning Outcome Score from the Use of the Marketing Content Design Board	4.04	0.674	High

As shown in Table 3, the evaluation of learning outcomes for the Marketing Content Design Board based on the mean score of 268 participants was 4.04 with SD 0.674 and it is classified as a high effectiveness. The best two rated were "I can use the Marketing Content Design Board as a guideline for developing future content independently" ($M = 4.15$, $SD = 0.795$) and "The workshop helped me realize that content design is a skill applicable to professional and community contexts" ($M = 4.15$, $SD = 0.814$). Furthermore, participants rated the board's effectiveness in demonstrating strategic elements of content ($M = 4.08$, $SD = 0.847$), improving comprehension of content marketing ($M = 4.08$, $SD = 0.812$), and decreasing confusion in the minds of the practical application ($M = 4.05$, $SD = 0.824$) highly.

Overall, these results indicated that the Marketing Content Design Board was effective in helping learners to develop systematic thinking, strategic content design skills, and awareness of linkage between creativity, marketing and community value. To answer Research Objective 3 (RO3) which analyses factors that affect perception of workshop quality in different universities; thus, the evaluation of workshop and instructional quality was carried out among participants from 4- institutions. Table 4 shows the descriptive statistics as to the students' satisfaction of instructional design, effectiveness of teaching and participative learning atmosphere.

Table 4. Mean, Standard Deviation, and Interpretation of the Evaluation of Workshop and Teaching Quality (N = 268)

Items	Mean	SD	Interpretation
The instructor explained the concept of the Marketing Content Design Board clearly and comprehensibly.	4.26	0.773	Very High
The examples and case studies used in the workshop helped me better understand how to apply to the Marketing Content Design Board.	4.16	0.795	High
The workshop was organized in a way that stimulated creative and critical thinking effectively.	4.20	0.761	High
The workshop provided opportunities for participants to engage in hands-on activities and receive feedback during the process.	4.20	0.791	High
The learning atmosphere encouraged participation	4.13	0.817	High

and made me feel more confident in expressing my ideas.			
Overall Mean Score of Workshop and Teaching Quality	4.19	0.685	High

As illustrated in Table 4, a survey of 268 participants on the rating of quality of workshop and teaching showed a mean score of 4.19 (SD = 0.685) that shows high satisfaction on the quality of teaching and learning management. The best rated item was "The instructor explained clearly and comprehensively the concept of the Marketing Content Design Board" (M = 4.26, SD = 0.773). The second item ranked was "The workshop was arranged in such a way that it stimulated creative thinking and critical thinking effectively" (M = 4.20, SD = 0.761), followed by the third item "The workshop gave opportunities to the participants to do the hands-on activities and receive feedback" (M = 4.20, SD = 0.791). The results indicate that the MCD Board workshop effectively encouraged the learner interaction, interactive learning, and creative thinking.

Correlation analysis was used to explore relationships between key learning elements by measuring correlation between course learning outcomes, MCD Board outcomes, MOOC learning and perceived quality of workshop. Table 5 showing correlations confirms relationships in the framework of the research. Pearson correlation coefficients were high and positive between all variables ($p < 0.05$). The biggest correlation was between course learning outcomes and MCD Board outcomes ($r = 0.865$), which indicates course learning supported design-thinking processes through the Board. Course outcomes were found to be correlated with workshop quality ($r = 0.754$) and MCD Board outcomes were strongly correlated with workshop quality ($r = 0.798$). These findings present a system of interconnected relationships in which theoretical learning, practical design activity and perceived quality mutually support each other.

Table 5. Correlation between Learning Outcomes and Workshop Quality (N = 268)

Variables	Course Learning Outcomes	Marketing Outcomes	MJU MOOC Outcomes	Workshop Quality
Course Learning Outcomes	1	0.865*	0.744*	0.754*
Marketing Outcomes	0.865*	1	0.788*	0.807*
MJU MOOC Outcomes	0.744*	0.788*	1	0.718*
Workshop Quality	0.754*	0.807*	0.718*	1

*Note: $p < 0.05$ indicates statistical significance.

As indicated in Table 5, results of correlation analysis on learning outcomes and workshop quality of 268 participants showed that there are significant positive relationships among all variables ($p < 0.05$). Course Learning Outcomes showed a positive correlation with Marketing Content Design Board Outcomes ($r = 0.865$, $p < 0.05$), MJU MOOC Outcomes ($r = 0.744$, $p < 0.05$) and Workshop Quality ($r = 0.754$, $p < 0.05$). These outcomes indicate that the learners with high levels of achievement in the course were able to perform well in the application of the Marketing Content Design Board (MCD Board) and in self-directed learning through MJU MOOC, resulting in a higher quality perceived in the workshop. The Marketing Content Design Board Outcomes correlated highly with MJU MOOC Outcomes ($r = 0.788$, $p < 0.05$) and

Workshop Quality ($r = 0.807$, $p < 0.05$) suggesting that learners engagement with the MCD Board was closely associated with learners engagement in self-directed online learning and perceived quality of instruction.

Correlation analysis results indicated the MJU MOOC Outcomes were found significant correlation with Workshop Quality ($r = 0.718$, $p < 0.05$), showing that self-paced learning approach via MOOC improved the workshop learning experience of the learners. These results show that MOOC-based learning, the application of MCD board, and the quality of workshops are mutually related elements that improve the creative communication competence and learning satisfaction of students. The strong mean scores in terms of learning dimensions and significant correlations between variables empirically support the conceptual framework of the study. The results demonstrate that a merging of the digital learning of theoretical knowledge and design practice is a learning ecosystem that extends communication competence while fostering sustainable community engagement.

4.2 Qualitative Results

The qualitative phase enabled us to refine in a deeper level the understanding of how students experienced the integration of the MOOC learning and the Marketing Content Design (MCD) Board in practice. Thematic analysis of the hold group discussions identified 5 key themes which reflected the learning experiences, challenges and reflection of participants: Learning by Doing, Building creative confidence, Connecting with local identity, Challenges and Collaboration, Community Impact and Sustainability. The first theme, Learning by Doing, emphasized that students liked hands-on engagement in applying theories they had learned from the MOOC. The MCD Board helped them visualize and organize ideas better than just lectured and helped to adopt abstract principles of communication and make them concrete and actionable projects. As one participant expressed "We used to think a content creation was just filming and editing". But the Board opened our eyes to the fact that it was a process - from purpose to creating emotion in the story.

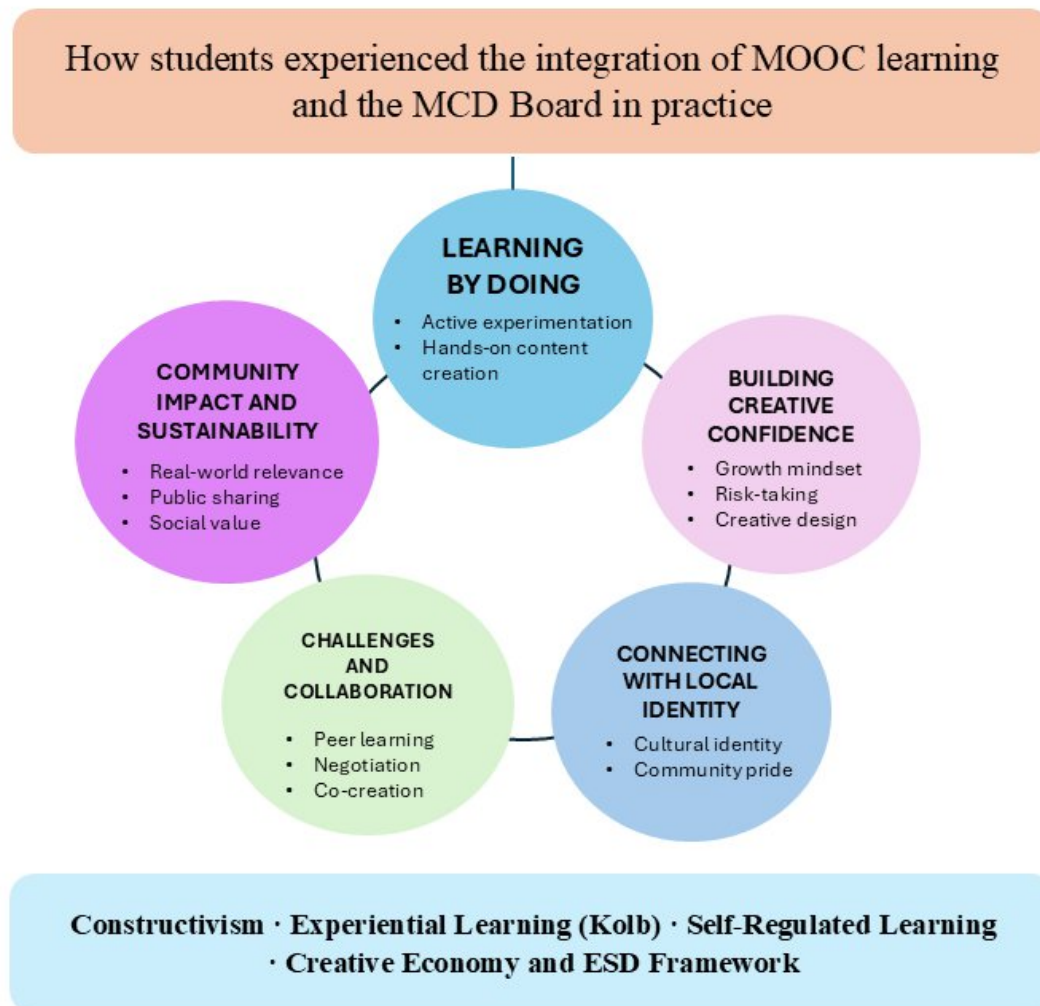


Figure 3. Thematic Framework of Focus Group Findings

The second theme, Building Creative Confidence, demonstrated that the integrated model improved self-efficacy of the students in creative ideation. With the help of the MCD Board and feedback, students became more confident by linking emotions and marketing concepts with storytelling. The third theme, Connecting with Local Identity, showed how the exploration of local culture made the students feel more of a sense of belonging. One student commented that one of the things they learned from filming a local market was that "here, the stories are powerful if done properly." This is consistent with the vision of education for sustainable development through culture put forward by the United Nations Educational, Scientific, Cultural and Sport Organization, UNESCO-2022 (Baena-Morales et al., 2024). The fourth theme, Challenges and Collaboration, touched on challenges such as time and teamwork, which students had to see as chances to grow adaptability skills and management skills. The last theme, Community Impact and Sustainability, was students acknowledging the value of their creative work socially, as their crafts encouraged the use of local product and cultural awareness. The five themes demonstrate that the integration of MOOCs and MCD Board allows for experiential, reflective, and culturally based learning that

builds on the ability to communicate creatively in ways that can be applied in the community (Figure 3).

4.3 Integration of Quantitative and Qualitative Results

The integration of the quantitative and qualitative findings reveal how the MOOC learning, the MCD Board and workshops affected the students' development of creative communication and local storytelling ability. Quantitative outcomes showed efficacy in terms of significant mean scores whereas qualitative themes shed light on mechanisms of action. The results of the quantitative analysis in Tables 2 to 6 indicated all core learning dimensions, course learning outcomes ($M = 4.03$, $SD = 0.669$), MCD Board learning outcomes ($M = 4.04$, $SD = 0.674$), MOOC-based self-directed learning ($M = 3.97$, $SD = 0.761$), and workshop quality ($M = 4.19$, $SD = 0.685$) received high ratings. These results support the findings that the integrated instructional design improved conceptual and applied competencies. The correlation analysis showed high and significant relationships between components with course learning outcomes giving the highest correlation coefficient with MCD Board outcomes ($r = 0.865$, $p < 0.05$), followed by MCD Board outcomes and workshop quality ($r = 0.807$, $p < 0.05$). This means that students who performed well in theoretical and online learning also had higher creative performance in practical workshops.

The qualitative findings added to this understanding by shedding light on how these outcomes were brought about. The first theme we called Learning by Doing described how the actual application of the MCD Board took the abstract knowledge from the MOOC and turned it into tangible steps that could be applied immediately. The statistical finding was that the outcomes of the MCD Board were highly correlated with course learning as well as workshop quality, and this was complemented by the experiential dimension. The second theme, Building Creative Confidence, correlated with the high mean scores of both course and workshop outcomes, showing that the design-thinking approach increased the students' self-efficacy in creating content. The third theme, Connecting with Local Identity, offered some qualitative support for RO2, proving that students used storytelling to convey local cultural value, which is consistent with the quantitative evidence of improved strategic communication and local content design.

In regard to their working relationships, the fourth theme, Challenges and Collaboration, contextualized the MOOC and workshop outcomes correlation ($r = 0.718$) with teamwork and adaptability mediating the transfer of learning online. The fifth theme, Community Impact and Sustainability, showed how creative communication skills were implemented in communities to support the quantitative findings. The synthesis of the results shows that the MOOC learning, the MCD Board, and the workshop produced a sustainable learning ecosystem. From a scaffolded learning perspective, results of the quantitative data indicated that there were significant correlations between MOOC-based learning, Marketing Content Design Board usage, and workshop quality towards the creative communication competence construction. The qualitative results gave context as to how these experiences encouraged reflection, collaboration and storytelling. Figure 4 integrated framework of the contribution of MOOC engagement, creative workshop participation and self-directed application to learning environments to creative communication development.

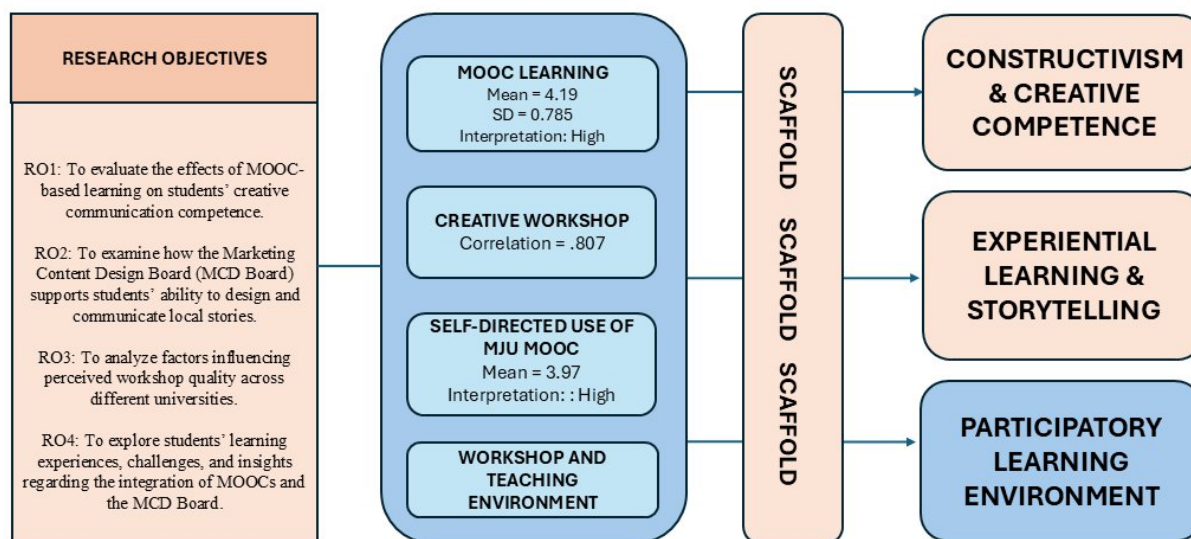


Figure 4. Integration of Quantitative and Qualitative Findings

5. Discussion

The integration of MOOC-based learning with the Marketing Content Design Board (MCD Board) produced both statistically and experientially significant improvements in the creative communication competence and the local story telling ability of these students. High mean scores for all constructs ($M = 3.97-4.19$), strong correlations between variables ($r = 0.718-0.865$) and a regression model that accounts for 69.8 percent of the variance in workshop quality are all indicators of the effectiveness of the model. The following discussion discusses the interpretation of these results in terms of four theoretical perspectives: constructivist scaffolding and cognitive engagement, experiential and blended learning, lifelong and self-regulated learning, and education for sustainable development and the creative economy.

5.1 Constructivism, Scaffolding, and Cognitive Engagement

The findings support constructivist assumptions that learning is an active process which involves participation, reflection and contextualized problem solving. The metacognitive regulation is enhanced through the externalization of higher order concepts in the form of digital scaffolds embedded within technology enriched constructivist environments. In this study, the MCD Board served in this disciplinary way; it translated abstract concepts provided in the MOOC into specific design choices. Quantitatively, the high r -value between course learning outcomes and MCD Board outcomes ($r = 0.865$), reflects the utility of scaffolded stages of design (i.e., identifying pain points, audience personas, and write up calls to action) in helping students proclaim theory, using them in creative practices.

Lim et al., (2024) Roleplaying and Game Design: Automatically Detecting Competencies and Strategies for Personalized Scaffolding. Consistent with these studies, participants in the present research framed the MCD Board as a "map for creativity" that led to idea generation and minimized confusion ($M = 4.05$, $SD = 0.824$). In so doing, the tool was at once a cognitive scaffold and a motivational framework between theoretical knowledge that was acquired throughout the MOOC and actual creative practice.

5.2 Experiential and Blended Learning Environments

Learning principles of Experiential learning could be seen through the results. The high mean of 4.19 with SD = 0.685 of the workshop good quality, and quality themes of Learning by Doing and Collaboration and Challenges indicate that the through-practice-based-learning activities gave students' knowledge the ground they were intended to have in the real world. Blended learning models of online plus face-to-face learning increase both creative thinking and intellectual performance; Whereas asynchronous autonomous study mixed with synchronous collaborative learning is the design framework. The current findings support both views: at the MOOCs, students firstly internalized theoretical concepts, while at the workshops, they were able to apply them with the support of feedback from the instructor and their fellow students.

Authentic tasks make the connection between academic learning and real-life communication which promotes engagement and knowledge transfer (Yusupalieva, 2024). In fact, the high correlation ($r = 0.807$) between workshop quality and MCD Board outcomes gives direct support to that view. The experiential cycle of Kolb, concrete experience, reflective observation, conceptualization, and active experimentation was demonstrated in how students' reflections showed that, via iterative practice, digital teaching evolved into physical creative products.

5.3 Lifelong and Self-Regulated Learning in Digital Contexts

The MOOC component was deemed to have had a positive effect on stimulating autonomous and lifelong learning behaviors; through the high mean score for self-directed learning ($M = 3.97$, $SD = 0.761$) and qualitative accounts of returning to modules to consolidate understanding. Bozkurt et al. (2023) revealed that MOOCs lead to metacognitive monitoring in the context of structuring learning goals clearly in order to meet. The present findings confirm this mechanism: learners reported the use of flexibility of MOOCs to manage the time of study and to reflect on progress, which are behaviors that are compatible with Lim's (2024) finding that adaptive scaffolds improve persistence in self-paced learning.

Life wide learning as a continuum between formal, informal and community contexts. The blending of MOOCs with the local storytelling workshops is an example of this continuum as it facilitates the sharing of knowledge from the digital environments to the creative production process in the community. Having the students apply the conceptual frameworks of online learning to local stories marks a step toward self-regulated and lifelong learning skills, as the key competencies of modern day digital-literacy agendas.

5.4 Cultural Identity, Storytelling, and Education for Sustainable Development

Qualitative data of Connecting with Local Identity and Community Impact and Sustainability themes indicated that students' perception is that storytelling is not only creative expression but also a form of social contribution (Porto, 2025). Intercultural story-telling projects foster empathy and identity formation and this was embodied in the intra-cultural Thai case-study in which the learners reinterpreted the community heritage through digital story-telling that combined tradition with innovation (Figure 5).

Competency-based education has to connect creative communication with civic responsibility. The results here lend credence to that argument: scores for variables of importance affirmed by participants were high ratings of the applicability of learnt skills towards income

generation and proffering benefits to the community ($M = 4.21$, $SD = 0.826$). This convergence of personal growth and common purpose is also reflected through the contribution that UNESCO makes in Education for Sustainable Development goal 4.7, whereby it focuses on reflective citizenship and cultural sustainability. When students' creative work was shared through the hashtag #BrainpowerThailandLocalSpark on TikTok to gain 1.4 million views on this year, they enjoyed the genuine social impact that affirmed motivation as a result.

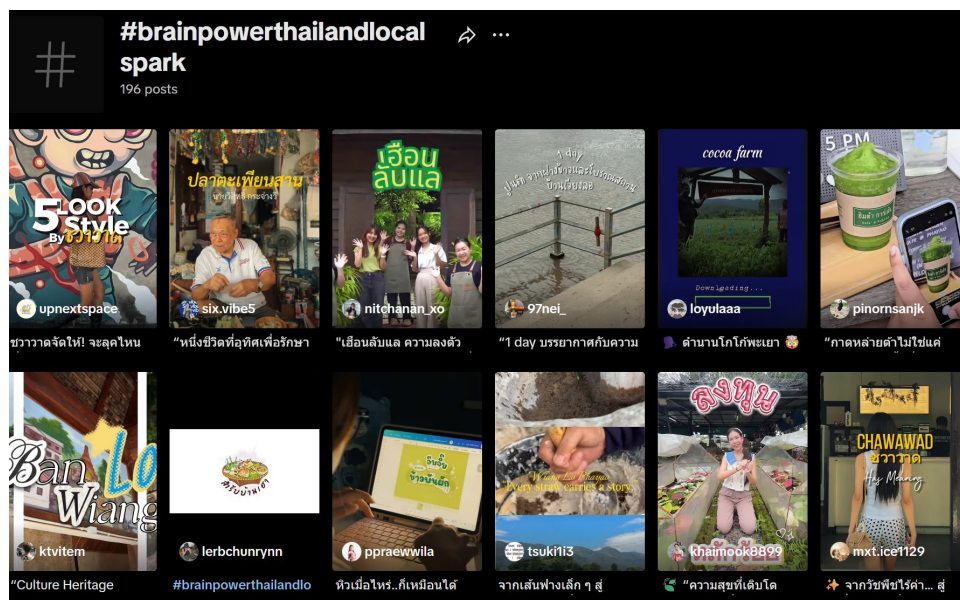


Figure 5. Students' creative outputs were disseminated via the hashtag #BrainpowerThailandLocalSpark on TikTok

5.5 Integration of Quantitative and Qualitative Dimensions

Triangulation among the quantitative and qualitative led to enhanced interpretive validity. Statistical evidence indicated that MCD Board had the strongest predictive effect over the quality of the workshop ($b = 0.443$, $p < .001$), while the narrative offered by its qualitative form explained why: visual and procedural scaffolding provided by MCD Board allowed for an iterative experimenting and reflecting as a team. Besides, the practice of students' study of MOOCs to local collaborative story help to determine this continuity (Al-Mekhlafi et al., 2025). The high correlations between the data for the different constructs suggest the digital and experiential phases were not dichotomous but mutually supportive to build cumulative creative competence.

5.6 Implications, Limitations and Future Research

Educators should learn from scaffolded frameworks of design within a blended curriculum approach to help bridge the gap between conceptual and creative application of knowledge. Workshops can be easily applied to allow applied experimentation and peer learning, whereas MOOCs can assure theoretical grounding. Based on significant variation in the learning quality across institutions ($p = .011$), universities should invest in the digital-experiential infrastructure and mentoring programs to ensure equal quality learning. The research is an extension of constructivist and experiential-learning theories where structured scaffolds are used to mediate between digital autonomy and contextual authenticity and create a Scaffolded Creative

Communication Model for operationalizing principles of Creative Economy into the framework of Higher Education

The sample in this study is limited to Thai university students and it is not good for generalization. This would be replicated across regions more broadly, to confirm culture and institutional issues. The use of self-reporting may introduce the perceptual bias - future studies would benefit from external performance assessments and digital interaction analytics. Considering the onslaught of AIs in creative instruction, future research should investigate how generative tools can scaffold and support the design cognition. By confirming the interaction between MOOC-based learning and scaffolded design practice, this research contributes to the knowledge of the ways in which hybrid digital-experiential learning environments foster creative, culturally-based communicators. Combining constructivist scaffolding, authentic experiential learning, self-regulated digital learning, and sustainability storytelling, it is evident that if cognitive and cultural scaffolds overlap, students not only increase communication competence and contribute to creative economy but also community development.

6. Conclusion

This study investigated the effect of integrating MOOC-based learning with a structured model of communicating design, which was the Marketing Content Design (MCD) Board, to improve the creative communication competence and local storytelling of students in Thai higher education. A mixed method approach involving 268 undergraduates showed high attainment of learning ($M = 3.97-4.19$), significant inter-variable correlation ($r = 0.718-.0865$), and results of MCD Board were found to be best predictor of workshop quality ($b = 0.443$, $p < .001$). Qualitative analysis identified five experiential themes - Learning by Doing, Creative Confidence, Local Connection, Collaboration and Challenges and Community Impact that demonstrated how students put theory learned in and through the MOOCs into real, community-based stories. Whilst the study confirms a Scaffolded Creative Communication Model and connects digital theory with applied creativity, the findings explicitly reveal how structured scaffolding facilitates the relationship. The MCD Board's purpose was to be a cognitive guide, to put concepts into meaningful applied work. Cultural storytelling associated learning with community identity and blended MOOC-workshop learning encouraged self-directed learning and collaboration. Universities should engage in design-thinking scaffold like the MCD Board is part of university curricula and involve investment in digital systems that connect learning in the classroom with innovation. The research helps to extend learning theories by explaining how hybrid models foster the development of creative competence. Future research should also test this framework as well as the investigation of AI-assisted scaffolding. This is a hybrid pedagogy that leads to the creation of reflective communicators contributing to cultural sustainability.

References

- Adera, N. (2025). Innovative learning spaces and blended learning: Quest for 21st century competency teaching and learning approaches. *Creating Dynamic Space in Higher Education: Modern Shifts in Policy, Competencies, and Governance*, 139-174.
- Aldahdoh, T. Z., Holubek, V., Korhonen, V., Abou-dagga, S., & Al-Masri, N. (2023). Preparing university teachers for times of uncertainty: the role of a transnational pedagogical-development training in Palestinian higher education. *Journal of Applied Research in Higher Education*, 15(4), 1011-1028.

- Altan, E. B., Coşkun, T. K., Öztürk, N., & Hacıoğlu, Y. (2025). Science teachers' mentoring support experiences when integrating technology in design-based learning STEM activities. *PLoS One*, 20(9), e0332047.
- Al-Mekhlafi, A. G., Zaneldin, E., Ahmed, W., Kazim, H. Y., & Jadhav, M. D. (2025). The effectiveness of using blended learning in higher education: students' perception. *Cogent Education*, 12(1), 2455228.
- Amado, C., Dorotea, N., Pedro, A., & Piedade, J. (2022). MOOCs design: A conceptual framework for continuous teacher training in Portugal. *Education Sciences*, 12(5), 308.
- Araneo, P. (2024). Exploring education for sustainable development (ESD) course content in higher education; a multiple case study including what students say they like. *Environmental Education Research*, 30(4), 631-660.
- Baena-Morales, S., Prieto-Ayuso, A., Merma-Molina, G., & González-Víllora, S. (2024). Exploring physical education teachers' perceptions of sustainable development goals and education for sustainable development. *Sport, Education and Society*, 29(2), 162-179.
- Bozkurt, A., Koseoglu, S., & Singh, L. (2023). An analysis of peer-reviewed research on MOOCs: Towards a sustainable future. *Journal of Learning for Development*, 10(1), 15-28.
- Creswell, J. W., & Plano Clark, V. L. (2023). Revisiting mixed methods research designs twenty years later. *Handbook of mixed methods research designs*, 1(1), 21-36.
- Guo, K., Zhong, Y., Qin, J., & Chu, S. K. W. (2025). Investigating EFL teachers' lesson planning for chatbot-assisted learning of argumentative writing: a TPACK perspective. *Interactive Learning Environments*, 33(2), 1520-1541.
- Lim, L., Bannert, M., van der Graaf, J., Fan, Y., Rakovic, M., Singh, S., ... & Gašević, D. (2024). How do students learn with real-time personalized scaffolds?. *British Journal of Educational Technology*, 55(4), 1309-1327.
- Lin, S. (2025). Assessment of digital skills of university MOOC instructors: a systematic quantitative study of multidimensional indicators. *Interactive Learning Environments*, 33(5), 3425-3445.
- Lin, F., & Puntambekar, S. (2025). Epistemic scaffolding: understanding and designing the support for epistemic growth in science. *International Journal of Science Education*, 47(6), 769-793.
- Nguyen, H., Tharapos, M., O'Connell, B., Lee Yap, T., & Chu, T. (2025). Developing cross-cultural capabilities in foreign accounting educators: the role of cultural intelligence. *Accounting Education*, 1-27.
- Porto, M. (2025). How Can Language Education Contribute to Securing a Livable Planet?. *TESOL Quarterly*, 59(2), 585-618.
- Rosa, A. T. R., Purba, J., Napitupulu, M., & Wiyanti, D. (2025). Innovative Teaching in the Digital Age; Applying the TPACK Model to Foster Learning Motivation among Primary School Students. *Journal of Educational Management Research*, 4(2), 487-498.
- Yusupalieva, S. (2024). Developing Students Communicative Competence using Authentic Materials with Information Technologies. *International Journal of Industrial Engineering, Technology & Operations Management*, 2(2), 59-62.
- Vijayakumar Bharathi, S., & Pande, M. B. (2025). Does constructivism learning approach lead to developing creative thinking skills? The mediating role of online collaborative learning environments. *Journal of Computers in Education*, 12(2), 551-587.

- Wang, W., Alli, H., & Saion, I. (2024). Integrating Chinese ink painting into visual communication education: Fostering creativity, aesthetic sensibilities, and visual communication skills among students. *Educational Administration: Theory and Practice*, 30(3), 105-132.
- Warden, C. A., Chen, J. F., & Stanworth, J. O. (2024). The role of social networks in digital learning gamification: Learner communication preferences and performance effects. *Learning and Instruction*, 92, 101911.
- Williams, R. T. (2024). An overview of MOOCs and blended learning: integrating MOOC technologies into traditional classes. *IETE Journal of Education*, 65(2), 84-91.
- Zhao, Y., Zhao, M., & Shi, F. (2024). Integrating moral education and educational information technology: A strategic approach to enhance rural teacher training in universities. *Journal of the Knowledge Economy*, 15(3), 15053-15093.