

Co-Creating the Future of Media Content: AI Training, Higher-Order Thinking, and Reliance in Higher Education

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Abstract—This study examines the impact of AI training on 327 media and communication students in Taiwan, focusing on AI literacy, self-efficacy, creativity, and behavioral reliance. Findings indicate that AI literacy boosts task-based self-efficacy (assistance) but not emotional comfort. Additionally, critical thinking and creative self-efficacy positively predict AI literacy, whereas problem-solving and creative identity do not. Crucially, functional confidence—not just knowledge or affect—drives AI reliance. These nuanced results advocate for a co-creativity pedagogical model, informing curriculum design for ethical, reflective AI use in the creative industries.

Keywords—Co-creative; media and communication; AI literacy; AI reliance; Higher-order thinking.

I. INTRODUCTION

As artificial intelligence (AI) integrates into higher education, a significant gap exists in understanding how AI functions within specific, high-stakes creative fields such as film and TV production. Even more, its role in creative disciplines has evolved from a tool to a co-creative partner [1]. Rapid AI adoption has transformed higher education, especially in media fields facing low-birth rate challenge in Taiwan [2]. While prior research focuses on ChatGPT in general education [3] [4], discipline-specific studies in film/TV production remain limited [5] [6]. Consequently, the primary aim of this paper is to explore how Generative AI (GenAI) can be leveraged to support creative practitioners in high-stakes fields. To achieve this, the study investigates the associations between AI-relevant training and students' GenAI literacy, self-efficacy, higher-order thinking, creativity, and reliance in media and communication students in Taiwan. Hence this study proposes the research question “How does AI training shape students’ GenAI literacy, thinking skills, creativity, and reliance when creating media content?”

II. AI ADOPTION IN MEDIA AND COMMUNICATION

GenAI literacy encompasses awareness, usage, evaluation, and ethics, reinforced by prompt engineering [7] [8]. Discipline-specific competencies in film and television, including screenwriting, cinematography, and post-production, are increasingly being augmented by specialized AI technologies [5] [9]. The co-creative role of AI hence emerges. While general competencies are rooted in higher-order thinking skills (HOTS) like problem-solving and critical analysis, specialized skills are more closely tied to

creative output and the student’s evolving sense of professional identity. These abilities are further shaped by students’ AI literacy, self-efficacy, and patterns of reliance on AI tools. AI self-efficacy includes assistance (task utility) and comfort (emotional ease) [10]. Higher-order thinking focuses on critical thinking and problem-solving [11], while creativity is measured via self-efficacy and personal identity [12]. AI reliance reflects behavioral dependence emphasizing appropriate use [13]. Hypotheses posited: GenAI literacy enhances self-efficacy (H1); higher-order thinking and creativity predict literacy (H2, H3); assistance, comfort, and literacy drive reliance (H4, H5).

III. METHODS

Purposive sampling via universities and online platforms yielded 327 valid responses from media/communication majors with AI training in film/TV production, scriptwriting, image generation, and post-production. AI training refers to media and communication students who have experience in subjects incorporated with AI tools in their curriculum. To ensure methodological transparency, all measurement scales were originally in English and back-translated into Mandarin. Higher-order thinking [14] comprises two sub-constructs: critical thinking (5 items evaluating systematic planning, e.g., “I am good at preparing regular plans...”) and problem-solving (6 reverse-coded items assessing barrier navigation and sequential strategy application). Although related, creativity is treated as a distinct construct, adapted from [12] into creative self-efficacy (6 items) and creative personal identity (5 items).

Regarding the AI-specific variables, AI self-efficacy [10] is divided into perceived assistance (7 items) and comfort with AI (6 items). AI literacy was measured using a 13-item scale adapted from Pinski and Benlian [15]. Finally, AI reliance was assessed using 13 items adopted from Stojanov et al. [16].

Partial least squares structural equation modelling (PLS-SEM) is employed to examine the hypotheses. This study employs indicators namely average variance extracted (AVE) being higher than 0.50 as well as composite reliabilities (CR) and Cronbach's α values being greater than 0.70 to verify reliability and validity [17]. All constructs meet the requirement.

IV. FINDINGS AND DISCUSSIONS

Results show GenAI literacy is strongly associated with task-based self-efficacy (perceived assistance) but not

emotional comfort. Critical thinking and creative self-efficacy positively predict literacy, while problem-solving and creative identity do not. Crucially, only perceived assistance, not literacy or comfort, drives AI reliance, highlighting that functional confidence, rather than knowledge or affect alone, powers AI use in creative workflows. These findings underscore AI's significance in content creation and advocate a "co-creativity pedagogy" that treats AI as a collaborative partner [18].

V. CONCLUSION AND FUTURE WORK

Based on the results, the implications show that critical thinking and creative self-efficacy prove vital for GenAI literacy in open-ended content creation tasks, while traditional problem-solving is less relevant in interpretive media work [19]. Literacy builds functional confidence but does not directly drive reliance. Students use AI pragmatically for efficiency in editing or effects rather than habitually. This challenges generic literacy models and highlights AI's transformative role in content creation: reliance stems from perceived utility, preserving human originality and authorship.

The study advances co-creativity pedagogy, which positions AI as a collaborative agent, encouraging students to negotiate between human creativity and machine augmentation rather than treating AI as a shortcut or replacement. In other words, curricula are supposed to integrate prompt engineering with critical reflection and ethical judgment. Students learn to co-create rather than outsource, fostering reflective, productive AI use in creative industries.

In conclusion, AI training equips media students with literacy and confidence essential for content creation, yet reliance depends on practical assistance. By emphasizing critical thinking and creative self-efficacy, educators can harness AI as a true co-creator, balancing technology with human creativity and ethics. Experimental settings can be applied for further studies to expand the scope of this field.

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