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The Butterfly Model of Media Education: A Context-Sensitive Framework for Reflective Praxis in an AI-Mediated Media Environment

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Abstract: Rapid digitalization, platformization, and the growing integration of artificial intelligence (AI) have transformed professional journalism and wider media environments, creating new challenges for contemporary media education. Existing literature identifies persistent gaps between theoretical knowledge and professional practice and highlights the growing importance of critical media literacy, AI literacy, ethical reasoning, reflective learning, and experiential education. However, these dimensions are often discussed separately, leaving a conceptual need for an integrated educational architecture that connects knowledge, practice, reflection, and adaptation. This conceptual paper proposes the Butterfly Model of Media Education, a context-sensitive framework for reflective praxis in an AI-mediated media environment. Developed through an integrative synthesis of literature on media education, critical media literacy, experiential learning, reflective practice, AI literacy, journalism education, and contextual approaches to media theory, the model is structured around three interdependent components: Reflective Knowledge, Reflective Praxis, and Applied Praxis. Reflective Knowledge represents theoretical, critical, ethical, methodological, and contextual understanding; Reflective Praxis functions as the connecting and transformative process through which experience is examined, evaluated, conceptualised, and translated into revised action; and Applied Praxis represents authentic media production, professional engagement, project-based learning, and responsible AI-supported practice. AI literacy operates as a cross-cutting capability across all three dimensions rather than as an isolated technical component. The model further situates media education within an ecosystem involving universities, industry, communities, technologies, research, and knowledge networks. It proposes that global theoretical perspectives should be critically examined alongside local and regional knowledge rather than transferred uncritically across contexts. The Butterfly Model therefore contributes a relational and adaptive conceptual architecture through which media education can connect theory, practice, reflection, ethical judgement, AI competence, and contextual responsiveness. The paper concludes by identifying implications for curriculum design, assessment, Asian media education, and future empirical research.

Keywords: media education; journalism education; artificial intelligence; AI literacy; reflective practice; critical media literacy; praxis; experiential learning; conceptual framework; Asian media education

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1. Introduction

Media environments have undergone substantial transformation through digitalization, platformization, mobile communication, algorithmic systems, and the increasing incorporation of artificial intelligence (AI) into media production and circulation. Journalism and communication professionals now work within environments in which information gathering, content production, verification, distribution, audience engagement, and professional decision-making are increasingly mediated by digital and AI-enabled technologies. These transformations have created new demands for media education, requiring students to develop not only technical competencies but also critical, ethical, reflective, and context-sensitive capacities. The transformation of journalism has also altered the relationship between professional knowledge and practice. Deuze (2009) argues that contemporary media work must be understood in relation to changing technological, organizational, and labour conditions[1]. Deuze and Witschge (2018) similarly describe journalism as undergoing broader transformation beyond traditional institutional and occupational boundaries[2]. These changes challenge media-education systems to prepare learners for professional environments that are dynamic rather than stable.

A persistent issue within media education is the gap between academic knowledge and professional practice. Studies of media and journalism education have repeatedly identified tensions between what is taught within educational institutions and the knowledge and skills expected within media industries (Abuhasirah & Ismael, 2023; Hamid et al., 2022; Kumar et al., 2021a, 2021b; Sinha & Basu, 2020)[3-7]. These tensions are not limited to technical skills. They also concern curriculum relevance, professional judgement, industry expectations, institutional structures, and the relationship between theoretical knowledge and practical experience. At the same time, critical media literacy has expanded the purpose of media education beyond technical production. Kellner and Share (2007) conceptualise critical media literacy as an educational approach concerned with power, representation, ideology, democracy, and critical interpretation[8]. Such an approach is particularly relevant within contemporary digital environments where audiences encounter information through platforms shaped by commercial, algorithmic, political, and social structures.

The emergence of AI introduces an additional layer of complexity. AI literacy is increasingly understood as multidimensional, involving knowledge of AI systems, their uses, limitations, implications, and responsible application (Ranieri et al., 2025)[9]. Recent work has further conceptualized AI literacy as a set of interconnected capabilities rather than a single technical skill (Hackl et al., 2026)[10]. Within journalism education, AI creates questions concerning curriculum design, professional practice, institutional preparedness, ethics, authorship, verification, and the changing nature of journalistic work (Wenger et al., 2025)[11]. The educational challenge therefore extends beyond teaching students how to use new technologies. Students must also learn how to evaluate technological outputs, recognise limitations, make ethical decisions, reflect on their own practices, and adapt their professional judgement to changing circumstances. AI competence in media education consequently requires an integration of technical application with critical evaluation and reflective judgement.

This paper responds to this conceptual challenge by proposing the Butterfly Model of Media Education, a framework designed to connect theoretical knowledge, practical experience, reflective learning, AI literacy, ethical judgement, and contextual adaptation. The model does not claim empirical validation. Rather, it provides a theoretically informed architecture that can subsequently be examined through empirical research.

2. Research Problem

Contemporary media education faces a multidimensional challenge. On one side, universities are expected to provide theoretical, critical, ethical, and methodological knowledge. On the other, students are expected to develop practical competencies that correspond to rapidly changing media industries. Digitalization and AI have further complicated this relationship by continuously changing the technologies, workflows, professional roles, and ethical questions associated with media production. Previous scholarship identifies several dimensions of this challenge. Research on media education highlights gaps between educational curricula and professional expectations (Kumar et al., 2021a, 2021b)[5-6]. Studies of journalism education similarly identify tensions between academic research and professional practice (Sinha & Basu, 2020)[7]. Comparative work has examined the theory–practice gap between academia and media industries (Hamid et al., 2022)[4], while other scholarship has emphasised the importance of stronger connections between media faculties and professional practice (Abuhasirah & Ismael, 2023)[3].

Critical media literacy provides an important conceptual response by encouraging learners to interrogate media power, representation, ideology, and social structures (Kellner & Share, 2007)[8]. Experiential learning provides another dimension by connecting experience, reflection, conceptualization, and experimentation (Kolb, 1984)[12]. Reflective practice similarly emphasizes the role of reflection in professional learning and development (Harvey et al., 2025)[13]. Meanwhile, emerging AI-literacy literature highlights the need for multidimensional understanding of AI and its implications (Ranieri et al., 2025; Hackl et al., 2026)[9-10].

However, these bodies of scholarship are frequently addressed as separate educational concerns. A conceptual problem therefore remains: how can media education integrate theoretical knowledge, practical experience, critical analysis, reflective learning, AI competence, ethical judgement, and contextual responsiveness within a single educational architecture?

The Butterfly Model is proposed as a response to this problem.

3. Research Questions

This conceptual paper addresses the following questions:

RQ1: How can existing literature on media education, critical media literacy, experiential learning, reflective practice, and AI literacy be synthesized into an integrated conceptual framework?

RQ2: How can reflective praxis function as a connecting process between theoretical knowledge and applied media practice?

RQ3: How can AI literacy be positioned as a cross-cutting educational capability within media education rather than as an isolated technical competency?

RQ4: How can contextual and regional knowledge be incorporated into a media-education framework that connects global theoretical perspectives with local professional realities?

4. Objectives

The objectives of the paper are to:

1. synthesize relevant literature on media education, critical media literacy, experiential learning, reflective practice, AI literacy, and journalism education;
2. identify conceptual fragmentation within existing approaches to contemporary media education;
3. develop the Butterfly Model as an integrated framework connecting Reflective Knowledge, Reflective Praxis, and Applied Praxis;
4. conceptualize AI literacy as a cross-cutting capability within the model;
5. incorporate contextual and epistemic considerations into the proposed framework; and

6. derive theoretical and educational propositions for future empirical examination.

5. Methodological Approach

This paper adopts a conceptual and integrative theoretical approach. It does not report primary empirical data or statistical testing. Instead, the Butterfly Model is developed through an integrative synthesis of established and emerging literature relevant to media education, critical media literacy, experiential learning, reflective practice, AI literacy, journalism education, professional practice, and contextual approaches to media theory. The literature was examined thematically rather than treated as a systematic review designed to estimate effect sizes or produce a quantitative synthesis. The purpose was to identify recurring concepts, relationships, tensions, and complementary perspectives that could inform the construction of a coherent conceptual architecture.

The synthesis proceeded through four broad stages. First, literature concerning the changing media environment and the theory–practice relationship in media education was examined. Second, literature on critical media literacy, experiential learning, reflective practice, and AI literacy was analyzed to identify educational processes and capabilities relevant to contemporary media education. Third, literature on AI and journalism education was examined to identify professional and ethical challenges associated with AI-mediated media practice. Fourth, the identified concepts were integrated into a relational framework consisting of knowledge, reflective praxis, applied practice, AI literacy, educational ecosystems, and contextual adaptation.

The resulting model is therefore a theoretically derived framework rather than an empirically validated model. The propositions developed later in the paper are intended to provide a basis for future empirical investigation.

6. Literature Review

6.1. Changing Media Environments

The contemporary media environment is characterized by technological convergence, platformization, digital production, networked distribution, and changing forms of professional labour. Media professionals increasingly operate across multiple platforms and formats while responding to rapidly changing audience expectations and technological infrastructures. Deuze (2009) highlights the changing relationship between media industries, work, and professional life[1]. The transformation is not simply technological; it also involves organizational and occupational changes. Deuze and Witschge (2018) further argue that journalism needs to be understood beyond conventional institutional boundaries because digital transformation has altered how journalistic work is organised and practiced[2]. For media education, these changes create a challenge of continuous curriculum adaptation. Students require foundational theoretical knowledge while simultaneously developing the capacity to work within changing technological and professional environments.

6.2. Theory and Practice in Media Education

The relationship between academic theory and professional practice has long been a concern in media and journalism education. Kumar et al. (2021a) identify challenges within media education and emphasize the need to examine educational provision in relation to professional requirements[5]. Kumar et al. (2021b) similarly discuss gaps within Indian media education and identify areas requiring institutional and curricular attention[6]. Sinha and Basu (2020) specifically examine the widening relationship between research and professional practice in journalism education[7]. Their discussion suggests that journalism education must

negotiate between academic knowledge production and the practical demands of media industries.

Hamid et al. (2022) also identify a gap between theoretical instruction and practical media-industry requirements[4]. Abuhasirah and Ismael (2023) further highlight the importance of strengthening connections between academic institutions and media professionals[3]. Together, these studies indicate that the theory–practice gap is multidimensional. It involves not simply the absence of practical training but also questions concerning curriculum relevance, institutional structures, professional engagement, and the ability of students to translate conceptual knowledge into situated action.

6.3. Critical Media Literacy and Critical Thinking

Critical media literacy extends media education beyond the acquisition of technical production skills. Kellner and Share (2007) argue that critical media literacy involves examining media representation, power, ideology, and democratic participation[8]. This perspective is particularly significant in digitally mediated environments. Students encounter large quantities of information through platforms in which content visibility may be influenced by algorithms, commercial incentives, social networks, and patterns of audience engagement. Technical ability alone does not provide sufficient capacity to interpret such environments. Critical media literacy therefore contributes an analytical dimension to media education. Learners need to ask not only how media content is produced but also who produces it, under what conditions, for what purposes, with what forms of power, and with what consequences.

Within the Butterfly Model, critical media literacy contributes primarily to Reflective Knowledge and Reflective Praxis. It enables learners to interrogate their experiences and practices rather than simply reproduce established media conventions.

6.4. AI Literacy

The integration of AI into education and professional environments has expanded the meaning of technological literacy. AI literacy involves more than operating AI tools. It includes understanding AI systems, recognizing their limitations, evaluating outputs, considering social and ethical consequences, and making responsible decisions concerning their use. Ranieri et al. (2025) conceptualize AI literacy within higher education as a multidimensional capability requiring systematic attention to different forms of AI knowledge and competence[9]. Hackl et al. (2026) similarly propose a multidimensional approach to AI literacy in higher education[10]. These perspectives suggest that AI literacy should not be treated as an isolated technical module. Instead, AI-related knowledge needs to be integrated into broader educational processes involving critical thinking, ethical reasoning, professional judgement, and reflective practice.

The Butterfly Model therefore positions AI literacy as a cross-cutting dimension rather than as a fourth independent component.

6.5. AI and Journalism Education

AI has increasingly entered journalism workflows involving information retrieval, transcription, translation, content generation, data analysis, recommendation, and other forms of media production. These developments create opportunities but also require new forms of professional judgement.

Wenger et al. (2025) examine the implications of AI for journalism education and identify challenges associated with curriculum development, professional preparation, and the changing nature of journalism work[11]. The educational issue is therefore not simply whether students can use AI tools. Students need to

understand when AI should be used, what forms of human oversight are required, how outputs should be verified, what ethical risks may arise, and how AI-supported production affects journalistic responsibilities. The Butterfly Model incorporates these concerns through the integration of AI literacy across knowledge, reflective practice, and applied practice.

6.6. AI as Practice, Not Merely Technology

Treating AI exclusively as a technological object risks reducing AI education to tool training. In professional media environments, however, AI use involves decision-making and situated judgement. A journalist may need to determine whether an AI-generated translation is sufficiently accurate, whether generated information requires additional verification, whether a synthetic image is ethically appropriate, whether confidential material should be entered into an AI system, or whether automated content production is compatible with professional standards. Consequently, AI competence involves a relationship between knowledge, action, evaluation, and judgement.

The Butterfly Model conceptualizes this relationship by locating AI within the reflective learning process. Students are expected to understand AI, use it where appropriate, evaluate its outputs, make informed decisions, reflect on the consequences, and adapt their subsequent practice.

6.7. AI Ethics and Professional Judgement

The increasing use of AI in professional environments raises questions concerning responsibility, transparency, bias, authorship, accountability, privacy, verification, and professional judgement. Mazlan et al. (2026) examine AI ethics and professional judgement, highlighting the importance of connecting abstract ethical principles with situated professional practice[14]. This distinction is particularly relevant to media education because ethical decisions are often made within specific professional and social circumstances rather than through abstract principles alone. Within the Butterfly Model, ethics is therefore integrated into both Reflective Knowledge and Reflective Praxis. Students should not only learn ethical principles but also examine how those principles operate in actual media-production situations.

6.8. Reflective Practice and Praxis

Reflection is central to the proposed framework because it provides a mechanism through which experience can become learning. Kolb's (1984) experiential learning theory conceptualizes learning as a cyclical process involving concrete experience, reflective observation, abstract conceptualization, and active experimentation[12]. This provides an important foundation for understanding how practical experiences can generate conceptual understanding and subsequent action.

Reflective practice extends this relationship into professional learning. Harvey et al. (2025) discuss reflection as a mechanism through which practitioners can examine experience and develop professional learning[13]. The concept of praxis provides an additional critical dimension. Freire (1970) conceptualizes praxis through the relationship between reflection and action[16]. In an educational context, praxis involves more than reflecting after an activity; it involves a continuing relationship in which reflection informs action and action generates new material for reflection. The Butterfly Model adopts this relational understanding. Reflective Praxis is therefore positioned at the center of the model, connecting knowledge with practice and enabling continuous adaptation.

6.9. Existing Integrated Approaches to AI and Journalism Education

Existing scholarship provides important components for an integrated model but does not necessarily combine all of them within one architecture. AI literacy frameworks provide multidimensional approaches to AI competence (Hackl et al., 2026; Ranieri et al., 2025)[9-10]. Critical media literacy provides tools for analyzing power, representation, and media structures (Kellner & Share, 2007)[8]. Experiential learning explains how experience and reflection can generate learning (Kolb, 1984)[12]. Reflective-practice scholarship explains how reflection contributes to professional development (Harvey et al., 2025)[13]. Journalism-education research identifies persistent relationships between academic preparation and professional practice (Abuhasirah & Ismael, 2023; Hamid et al., 2022; Sinha & Basu, 2020)[3-4, 7].

The conceptual contribution of the Butterfly Model lies in bringing these strands into a relational educational architecture. Rather than adding AI literacy to an existing curriculum as an isolated component, the model positions AI competence within a wider cycle of knowledge, reflection, application, evaluation, and adaptation.

6.10. Asian and Contextual Perspectives

The transfer of media theories and educational practices across geographical and institutional contexts requires critical attention. Keightley et al. (2023) highlight the importance of examining encounters with Western media theory and the assumptions involved when theoretical traditions move across contexts[15]. For Asian media education, this issue is particularly relevant because educational systems operate within diverse institutional, cultural, technological, linguistic, economic, and professional conditions. A framework developed in one context cannot necessarily be transferred unchanged to another. The Butterfly Model therefore incorporates a contextual and epistemic foundation. Global theoretical perspectives remain valuable, but learners are encouraged to critically compare them with local and regional knowledge and professional realities. Contextual adaptation becomes part of the learning process rather than an afterthought.

7. Synthesis of Literature

The literature reviewed in this paper identifies several complementary dimensions of contemporary media education. First, media education needs to respond to changing professional and technological environments (Deuze, 2009; Deuze & Witschge, 2018)[1-2]. Second, the persistent relationship between theoretical knowledge and professional practice indicates the need for stronger integration between university learning and authentic media environments (Abuhasirah & Ismael, 2023; Hamid et al., 2022; Kumar et al., 2021a, 2021b; Sinha & Basu, 2020)[3-7]. Third, critical media literacy demonstrates that media education must address power, ideology, representation, and democratic participation rather than concentrating exclusively on technical skills (Kellner & Share, 2007)[8]. Fourth, experiential learning and reflective practice demonstrate the importance of connecting experience with reflection, conceptual understanding, and subsequent action (Harvey et al., 2025; Kolb, 1984)[12-13]. Fifth, AI literacy research demonstrates that competence in AI requires multidimensional knowledge and responsible engagement rather than simple technical proficiency (Hackl et al., 2026; Ranieri et al., 2025)[9-10].

Finally, contextual approaches to media theory indicate the importance of examining how theoretical concepts travel across geographical and institutional settings (Keightley et al., 2023)[15]. Taken together, these strands provide the conceptual foundations for the Butterfly Model.

8. Research Gap

The literature does not indicate an absence of research on the individual dimensions addressed by this paper. Rather, the gap is integrative and relational.

Existing research has separately examined:

- the theory–practice gap in media and journalism education;
- critical media literacy;
- experiential learning;
- reflective practice;
- AI literacy;
- AI and journalism education;
- professional and ethical judgement; and
- contextual approaches to media theory.

However, these strands are not consistently brought together within a single media-education architecture that explicitly connects knowledge, reflection, application, AI literacy, professional judgement, and contextual adaptation. The Butterfly Model addresses this conceptual gap by proposing a relational structure in which these elements are mutually connected rather than treated as independent curriculum components.

The model therefore does not claim to replace existing theories. Instead, it synthesizes their relevant contributions and reorganizes them into a framework designed specifically for contemporary media education in AI-mediated environments.

9. The Butterfly Model

9.1. Core Architecture

The Butterfly Model consists of three interdependent components:

Wing 1: Reflective Knowledge

Reflective Knowledge represents the conceptual foundation of media education. It includes:

- media theory;
- critical media literacy;
- research methods;
- media ethics;
- contextual understanding;
- professional knowledge; and
- structural and conceptual understanding of AI.

Reflective Knowledge provides learners with the conceptual resources required to interpret media practices critically.

Centre: Reflective Praxis

Reflective Praxis forms the central connecting process of the model. It involves:

Experience → Action → Reflection → Critical Evaluation → Conceptual Understanding → Adaptation → New Action

The centre is therefore not a static stage between theory and practice. It is a continuing process through which learners examine their experiences, identify problems, connect experiences with theoretical concepts,

evaluate decisions, and modify subsequent action.

Wing 2: Applied Praxis

Applied Praxis represents the practical dimension of media education. It includes:

- multimedia production;
- project-based learning;
- authentic media tasks;
- AI-supported workflows;
- industry engagement;
- community engagement;
- collaborative problem solving; and
- professional simulation.

Applied Praxis provides the experiential environment in which theoretical knowledge and reflective processes can be enacted.

9.2. AI as a Cross-Cutting Dimension

AI is represented as a cross-cutting dimension rather than a separate wing.

The model proposes the following AI learning cycle:

UNDERSTAND → USE → EVALUATE → DECIDE → REFLECT → ADAPT

Students first develop an understanding of AI systems and their capabilities. They then use relevant tools in appropriate situations. Outputs and processes are evaluated critically. Students make decisions concerning appropriate or inappropriate use, reflect on consequences, and adapt future practice. This structure positions AI literacy within broader professional judgement.

9.3. Educational Ecosystem

The Butterfly Model does not conceptualize media education as occurring exclusively inside the university classroom.

The educational ecosystem consists of:

- Universities
- Industry
- Communities
- Technologies
- Research
- Knowledge Networks

These elements interact continuously. Universities provide structured knowledge and learning environments. Industry provides professional contexts and evolving occupational expectations. Communities provide social and contextual realities. Technologies provide changing tools and infrastructures. Research provides knowledge development and critical inquiry. Knowledge networks connect learners and educators with wider intellectual and professional communities.

9.4. Contextual and Epistemic Foundation

The model is also grounded in the relationship between global and contextual knowledge. The proposed

process is:

Global Theory + Local/Regional Knowledge → Critical Comparison → Contextual Adaptation

This means that theories developed in particular historical or geographical contexts should not automatically be transferred without examination. Learners should critically compare theoretical assumptions with local and regional media realities. Such contextual adaptation is particularly important for Asian media education, where media systems, institutional structures, languages, professional cultures, technological infrastructures, and social conditions may differ from those in Western contexts.

9.5. Core Learning Cycle

The model integrates the three components through a continuous learning process:

Reflective Knowledge

↓

Applied Experience

↓

Reflective Praxis

↓

Critical Evaluation

↓

Revised Conceptual Understanding

↓

Adapted Applied Practice

↓

New Experience

This cycle prevents theory and practice from becoming separate educational domains. Theory informs practice, practice generates experience, reflection interprets experience, and revised understanding informs subsequent practice.

9.6. Why a Butterfly?

The butterfly metaphor represents four characteristics of the proposed framework.

Transformation

Learning involves transformation from knowledge to experience, reflection, judgement, and revised action.

Interdependence

The three components are interconnected. Reflective Knowledge cannot function fully without practice, while Applied Praxis requires conceptual and critical foundations.

Balance

The model seeks a balance between academic knowledge and professional application, technological capability and critical judgement, and global theory and contextual knowledge.

Adaptation

Like the changing media environment, the educational process must continuously adapt. AI technologies,

professional expectations, platforms, and media practices change over time. The metaphor therefore represents the dynamic and relational character of the framework rather than a linear curriculum sequence.

10. Comparison of Educational Approaches With the Butterfly Model

Educational approach	Primary contribution	Relationship to Butterfly Model
AI literacy frameworks	Define multidimensional AI knowledge and capabilities	AI literacy is embedded across all three components
AI literacy Heptagon	Identifies seven dimensions of AI literacy	Provides a multidimensional basis for AI competence
Critical media literacy	Emphasizes power, representation, media interpretation, and critical analysis	Informs Reflective Knowledge and Reflective Praxis
Experiential learning	Connects experience, reflection, conceptualization, and experimentation	Informs the reflective learning cycle
Reflective practice	Connects reflection with learning and professional development	Forms the central Reflective Praxis component
Project-based learning	Provides authentic tasks and problem-solving opportunities	Supports Applied Praxis
Media/journalism education research	Identifies theory–practice, curriculum, industry, and technological challenges	Establishes the need for an integrated media-education framework
AI and journalism education	Identifies curricular, institutional, partnership, and ethical challenges	Provides the professional context for AI integration
Contextual approaches to media theory	Question uncritical transfer of theoretical traditions	Provides the contextual and epistemic foundation
Butterfly Model	Integrates knowledge, reflection, practice, AI competence, and contextual adaptation	Provides a relational and adaptive conceptual architecture

11. Figure 1: The Butterfly Model of Media Education

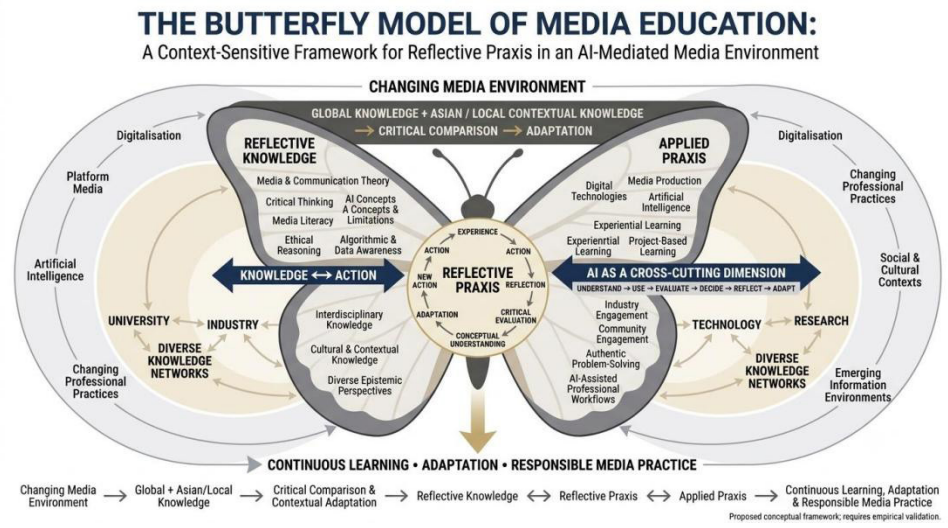


Figure 1. The Butterfly Model of Media Education: A Context-Sensitive Framework for Reflective Praxis in an AI-Mediated Media Environment

Source: Author's conceptualization based on the synthesis of Freire (1970)[16], Kolb (1984)[12], Kellner and Share (2007)[8], Deuze (2009)[1], Deuze and Witschge (2018)[2], Hanney (2021), Hackl et al. (2026)[10], and related literature reviewed in this study.

The figure should visually represent:

- Left wing: Reflective Knowledge
- Centre: Reflective Praxis
- Right wing: Applied Praxis
- AI literacy: a cross-cutting layer connecting all three components
- Educational ecosystem: Universities, Industry, Communities, Technologies, Research, Knowledge Networks
- Contextual foundation: Global Theory + Local/Regional Knowledge → Critical Comparison → Contextual Adaptation
- Learning cycle: Experience → Action → Reflection → Critical Evaluation → Conceptual Understanding → Adaptation → New Action

Figure 1. The Butterfly Model of Media Education: A context-sensitive framework for reflective praxis in an AI-mediated media environment.

12. Conceptual Contribution

The conceptual contribution of the Butterfly Model lies in its relational architecture. First, it connects knowledge and practice rather than treating theoretical learning and practical training as separate educational domains. Second, it positions reflection as a central mechanism rather than an optional activity occurring after practice. Third, it integrates AI literacy across the educational process, avoiding the treatment of AI as an isolated technical subject. Fourth, it connects professional practice with critical and ethical judgement, recognising that effective media education requires decisions about how technologies should be used, not simply whether they can be used. Fifth, it incorporates contextual adaptation, recognizing that media theories and educational practices need to be interpreted in relation to local and regional realities.

Finally, the model positions media education within a broader educational ecosystem involving universities, industry, communities, technologies, research, and knowledge networks.

13. Theoretical Propositions

The following propositions are derived from the conceptual synthesis:

Proposition 1: Effective media education requires relational integration among theoretical knowledge, practical skill, critical analysis, and ethical reasoning.

Proposition 2: Reflective praxis functions as a connecting mechanism through which practical experience can contribute to conceptual understanding and improved subsequent practice.

Proposition 3: AI literacy is more educationally meaningful when technical application is integrated with critical evaluation and ethical reasoning.

Proposition 4: AI competence in media education requires professional judgement concerning when, how, and whether AI should be deployed.

Proposition 5: Authentic industry and community engagement can provide contexts in which learners

examine and revise theoretical assumptions through practical experience.

Proposition 6: Critical comparison of global theoretical perspectives with local and regional knowledge can support contextually appropriate adaptation of media-education practices.

Proposition 7: Continuous pedagogical adaptation is necessary because AI technologies, media practices, professional expectations, and educational environments continue to evolve.

These propositions are conceptual rather than empirically tested. Their purpose is to provide a basis for future empirical examination of the relationships proposed by the Butterfly Model.

14. Curriculum Implications

The Butterfly Model suggests that curriculum design should move beyond the separation of theoretical and practical modules.

First, theoretical courses should include opportunities for students to apply concepts to contemporary media problems. Media theory, critical media literacy, ethics, and research methods can therefore be connected with authentic professional cases. Second, practical courses should incorporate structured reflection. Students should be required not only to produce media content but also to explain their decisions, evaluate outcomes, identify limitations, and consider alternative approaches.

Third, AI literacy should be distributed across the curriculum. Rather than introducing AI exclusively through a specialised technology course, students can encounter AI-related questions within journalism, production, research, ethics, communication, and media-management modules. Fourth, industry and community engagement can provide authentic learning contexts. Projects involving media organizations, civil-society organizations, communities, or other external partners can enable students to experience real-world complexity. Finally, curricula should incorporate local and regional media knowledge alongside global theoretical traditions.

15. Assessment Implications

The Butterfly Model also has implications for assessment.

Assessment should not focus exclusively on the final media product. It should also examine the learner's ability to explain decisions, evaluate information, reflect on experience, and demonstrate ethical and contextual judgement.

Possible assessment forms include:

- reflective production journals;
- AI-use documentation;
- portfolio assessment;
- project-based assessment;
- professional simulations;
- critical media analyses;
- collaborative industry projects;
- community-based media projects; and
- reflective presentations.

AI-supported assignments can require students to document how AI was used, which outputs were

accepted or rejected, how information was verified, and what ethical considerations influenced their decisions.

Such assessment practices would make the reflective process visible rather than treating reflection as an implicit outcome.

16. Implications for Asian Media Education

The Butterfly Model has particular relevance for Asian media education because educational institutions across the region operate within diverse media systems, cultural environments, technological infrastructures, and professional contexts. A context-sensitive approach does not require rejecting global theories. Instead, it encourages critical comparison between theoretical traditions and local realities. For example, students may examine how concepts of journalism, media ethics, AI governance, digital literacy, or professional practice operate differently across countries and institutional settings. Such comparison can help learners recognise that theoretical concepts may require contextual adaptation. The model may therefore support media education that is simultaneously globally informed and locally responsive.

17. Discussion

The Butterfly Model responds to a central challenge in contemporary media education: the need to prepare students for rapidly changing professional environments without weakening the theoretical and critical foundations of university education. The model does not suggest that theory should be replaced by practice. Instead, it proposes that theory and practice should interact through reflective praxis. This position is consistent with experiential and reflective approaches to learning (Harvey et al., 2025; Kolb, 1984) and with critical approaches that emphasise the relationship between reflection and action (Freire, 1970)[12-13, 16].

The model also extends this relationship into AI-mediated environments. AI introduces new forms of technical capability but also new requirements for evaluation, ethical reasoning, verification, and professional judgement. AI literacy therefore becomes most meaningful when integrated with broader processes of reflection and practice. The Butterfly Model also responds to concerns about the relationship between academic preparation and professional expectations. Existing research identifies gaps between media education and industry practice (Abuhasirah & Ismael, 2023; Hamid et al., 2022; Kumar et al., 2021a, 2021b; Sinha & Basu, 2020)[3-7]. Rather than treating this gap simply as a deficiency in practical training, the model conceptualizes it as a relational problem requiring stronger interaction among knowledge, practice, reflection, and professional engagement.

The contextual dimension further contributes to this discussion. Media education cannot be entirely detached from the social, cultural, institutional, and technological conditions within which it operates. The model therefore encourages critical comparison and contextual adaptation rather than straightforward transfer of educational assumptions. Overall, the Butterfly Model provides a conceptual architecture through which contemporary media education can be understood as a continuous process of learning, application, reflection, evaluation, and adaptation.

18. Limitations

This paper has several limitations. First, the Butterfly Model is conceptual and has not yet been empirically validated. The relationships proposed in the framework therefore require examination through future research. Second, the literature synthesis is integrative rather than systematic. It was designed to construct a conceptual architecture rather than conduct a systematic review or meta-analysis. Third, the model is particularly oriented toward media and journalism education. Its applicability to other professional education contexts requires further examination. Fourth, although the model incorporates contextual and regional considerations, its practical application across different Asian countries may produce different outcomes depending on institutional, cultural, technological, and policy conditions. These limitations do not invalidate the framework but define the boundaries of the current conceptual contribution.

19. Future Research

Future research can further examine the Butterfly Model through empirical and comparative approaches. One area of investigation involves developing instruments to operationalize its three core dimensions: Reflective Knowledge, Reflective Praxis, and Applied Praxis. Qualitative research can also explore experiences of reflective learning and AI-supported media practice across diverse educational contexts. Longitudinal studies may investigate whether repeated cycles of experience, reflection, evaluation, and adaptation contribute to the development of professional competence over time. Comparative research can assess the application of the framework across different countries and institutional settings. Experimental and quasi-experimental studies may further examine the outcomes of educational interventions structured around the Butterfly Model in comparison with conventional approaches to media education. Further research can also investigate the development of AI-related competencies and ethical judgement as artificial intelligence technologies and professional media practices continue to evolve.

20. Conclusion and Recommendations

The rapid transformation of media environments requires media education to reconsider how theoretical knowledge, practical experience, critical literacy, professional judgement, and technological competence are connected.

This conceptual paper proposed the Butterfly Model of Media Education as a context-sensitive framework for reflective praxis in an AI-mediated media environment. The model integrates three interdependent components: Reflective Knowledge, Reflective Praxis, and Applied Praxis. AI literacy operates across all three rather than as an isolated technical capability.

The model further situates media education within an ecosystem of universities, industry, communities, technologies, research, and knowledge networks. Its contextual foundation encourages critical comparison between global theoretical traditions and local and regional knowledge. The central proposition of the model is that effective media education requires an ongoing relationship among knowing, doing, reflecting, evaluating, and adapting.

Accordingly, media-education institutions should consider:

1. strengthening connections between theoretical and practical learning;
2. embedding structured reflection within practical media activities;

3. integrating AI literacy across curricula rather than limiting it to technical training;
4. incorporating ethical judgement and critical evaluation into AI-supported media tasks;
5. expanding industry and community engagement;
6. strengthening locally and regionally relevant media knowledge;
7. developing assessment methods that evaluate reflection and decision-making as well as final products; and
8. empirically examining the proposed model across different educational contexts.

The Butterfly Model should therefore be understood as a proposed conceptual architecture for further theoretical and empirical development, rather than as a completed or empirically validated educational model.

Disclosure statement

The author declares no conflict of interest.

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