Determinants of Digital Platform Utilization in the Assessment of Mandatory Curriculum Subjects (MKWK): A Qualitative Descriptive Document Analysis

Budi Setiawan[1*], Isnandar[2], Jakobis Johanis Messakh[3], Ardiansah[4]
[1]Master Program of Curriculum Development, Universitas Pendidikan Indonesia, Indonesia
[2]Doctoral Program of Vocational Education, Universitas Negeri Malang, Indonesia
[3]Building Engineering Education Study Program, Universitas Nusa Cendana, Indonesia
[4]Library and Information Science Study Program, Universitas Pendidikan Indonesia, Indonesia

Corresponding Author's e-mail : *budi_setiawan@upi.edu*

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Abstract : Compulsory Curriculum Courses (MKWK) aim to develop ethical judgement, Pancasila-based citizenship, national identity, academic communication, and responsible public participation. However, assessment practices are still dominated by conventional methods that are not yet optimal in measuring reflection, argumentation, collaboration, and value-based actions. This study aims to identify the determining factors in the utilisation of digital platforms for MKWK assessment and develop a pedagogical framework for assessment innovation. The study employed a qualitative descriptive document analysis of 18 documents consisting of policies, implementation reports, and scholarly studies related to MKWK, digital assessment, authenticity, feedback, and academic integrity. The findings revealed six key factors: technological readiness, digital assessment competence, pedagogical alignment, accessibility and inclusion, security and academic integrity, and institutional governance. The results indicate that transforming MKWK assessment cannot be achieved merely through the adoption of digital platforms but requires an ecosystem that supports authentic tasks, meaningful feedback, valid assessment practices, and secure data governance.

Keywords : MKWK; Digital Assessment; Digital Platforms; Authentic Assessment; Document Analysis; Higher Education

Abstrak *: Mata Kuliah Wajib Kurikulum (MKWK) bertujuan mengembangkan penilaian etis, kewarganegaraan berbasis Pancasila, identitas nasional, komunikasi akademik, dan partisipasi publik yang bertanggung jawab. Namun, praktik penilaian masih didominasi metode konvensional yang belum optimal dalam mengukur refleksi, argumentasi, kolaborasi, dan tindakan berbasis nilai. Penelitian ini bertujuan mengidentifikasi faktor penentu pemanfaatan platform digital dalam penilaian MKWK serta mengembangkan kerangka pedagogis untuk inovasi penilaian. Penelitian menggunakan analisis dokumen deskriptif kualitatif terhadap 18 dokumen, terdiri atas kebijakan, implementasi, dan studi ilmiah terkait MKWK, penilaian digital, autentisitas, umpan balik, dan integritas akademik. Hasil penelitian menemukan enam faktor utama, yaitu kesiapan teknologi, kompetensi penilaian digital, keselarasan pedagogis, aksesibilitas dan inklusi,*

keamanan serta integritas akademik, dan tata kelola kelembagaan. Temuan menunjukkan bahwa transformasi penilaian MKWK tidak cukup melalui penggunaan platform digital, tetapi membutuhkan ekosistem yang mendukung tugas autentik, umpan balik bermakna, validitas penilaian, serta tata kelola data yang aman.

***Kata Kunci** : MKWK; Penilaian Digital; Platform Digital; Penilaian Autentik; Analisis Dokumen; Pendidikan Tinggi*

INTRODUCTION

Higher education has a responsibility not only to produce graduates with disciplinary and professional competencies but also to develop individuals who are capable of making ethical judgements, communicating academically, participating responsibly in democratic life, and interpreting national values in relation to contemporary challenges. In Indonesia, this responsibility is reflected through the implementation of Mandatory Curriculum Subjects (*Mata Kuliah Wajib Kurikulum* [MKWK]), which include Religion, Pancasila, Citizenship, and Indonesian Language as mandated by Article 35 of Law No. 12 of 2012 on Higher Education. These courses are designed to contribute to character development, national identity formation, civic responsibility, and intellectual communication skills (Republic of Indonesia, 2012; Directorate General of Higher Education, 2020). Consequently, MKWK learning outcomes are multidimensional, extending beyond cognitive achievement to include reflection, collaboration, communication, value-based decision-making, and context-sensitive actions.

The multidimensional nature of MKWK requires an assessment approach capable of capturing complex forms of student learning evidence. Within the framework of authentic assessment, evaluation should not be limited to measuring knowledge reproduction but should also examine students' abilities to apply concepts, respond to real-world issues, construct arguments, collaborate with others, and produce meaningful outcomes (Ajjawi et al., 2024; Vlachopoulos & Makri, 2024). Furthermore, the principle of constructive alignment emphasises the importance of coherence between intended learning outcomes, learning activities, assessment tasks, assessment criteria, and feedback mechanisms. Therefore, MKWK assessment should provide valid evidence of students' ability to integrate knowledge, values, and practical actions.

However, current MKWK assessment practices continue to face significant challenges. Conventional assessment methods, which are frequently dominated by written examinations and factual knowledge measurement, remain insufficient for assessing students' ethical reasoning, civic argumentation, collaborative competence, and ability to apply Pancasila values in real-life contexts. Previous studies on MKWK implementation have identified several persistent issues, including policy interpretation, lecturer readiness, student engagement, relevance of instructional strategies, and misalignment between graduate outcomes, course outcomes, learning activities, and assessment practices (Nugraha et al., 2026; Zulfadhli et al., 2023). In addition, evaluations of online MKWK learning have highlighted problems related to limited accessibility, monotonous learning experiences, and the need for more meaningful and varied instructional designs (Defina, 2023).

One potential solution to address these limitations is the integration of digital platforms into MKWK assessment. Digital technologies, including learning management systems, e-portfolio platforms, collaborative digital spaces, multimedia applications, online discussion forums, quiz systems, and learning analytics tools, provide opportunities to develop more diverse, traceable, and continuous forms of learning evidence. These technologies enable staged project submission, peer and self-assessment, reflective writing, rubric-based evaluation, immediate feedback, and longitudinal documentation of student development. Previous research demonstrates that digital assessment can enhance flexibility, feedback quality, and assessment transparency; however, its effectiveness depends on assessment design, technological readiness, user competence, and institutional support (Heil & Ifenthaler, 2023; Slade et al., 2024). Moreover, technology-supported formative assessment becomes more meaningful when digital tools are pedagogically aligned and lecturers possess sufficient data literacy to interpret learning evidence and adjust instructional practices (Børte et al., 2023).

Nevertheless, digital transformation in assessment does not automatically guarantee educational innovation. The adoption of technology may merely transfer conventional examinations into digital formats without improving the quality of assessment evidence. In contrast, a pedagogy-driven approach positions technology as part of a broader assessment ecosystem involving lecturers, students, curriculum design, institutional governance, accessibility, data security, and quality assurance. From a sociotechnical perspective, digital assessment should be understood not merely as the use of technological tools but as a complex practice involving task design, user capability, interaction patterns, institutional regulations, data management, and implications for learning experiences.

The Indonesian higher education policy direction further strengthens the need for an ecosystem-based approach. National guidelines for implementing case-based and project-based MKWK emphasise the integration of learning outcomes, lesson planning, instructional methods, assessment instruments, learning outputs, lecturer development, and implementation evaluation rather than focusing solely on technological adoption (Directorate of Learning and Student Affairs, 2023). Similarly, recent higher education quality assurance regulations position assessment as an integral component of institutional standards and continuous quality improvement (Ministry of Higher Education, Science, and Technology, 2025). However, existing studies remain fragmented, with some focusing primarily on digital infrastructure, others examining lecturer competence, and several exploring project-based learning or authentic assessment separately. A comprehensive framework integrating technological, pedagogical, human, ethical, and institutional dimensions in MKWK digital assessment remains limited.

This study addresses this research gap by identifying the determining factors influencing the utilisation of digital platforms in MKWK assessment and developing a pedagogically grounded framework for assessment innovation. Specifically, this study seeks to answer three research questions: (1) What technological, pedagogical, human, ethical, and organisational factors determine meaningful digital platform utilisation in MKWK assessment? (2) How do these factors interact to form an integrated digital assessment ecosystem? and (3) What practical assessment innovations and institutional strategies can be derived from this synthesis? The novelty of this research lies in the development of the MKWK Digital Assessment Ecosystem framework, which integrates technological readiness, pedagogical alignment, assessment competence, accessibility, academic integrity, and institutional governance into a comprehensive model for Indonesian higher education contexts.

The urgency of this research is based on the need to ensure that digital transformation in higher education does not merely increase technological adoption but also strengthens the validity, authenticity, inclusiveness, transparency, and reliability of assessment practices. The proposed framework provides practical guidance for universities in designing MKWK assessment models through approaches such as e-portfolios, civic action projects, digital case files, reflective journals, peer review activities, multimedia products, and low-stakes formative assessments. Ultimately, this research contributes to the development of assessment practices that support critical thinking, ethical awareness, civic responsibility, and meaningful student engagement in contemporary higher education.

METHOD

The study employed a qualitative descriptive design using document content analysis. Document analysis is appropriate when policy, implementation guidance, scholarly evidence, and institutional expectations must be examined as socially produced records that both describe and shape practice (Bowen, 2009). Qualitative content analysis was used to organize recurrent meanings, compare patterns across document types, and develop an interpretive framework without reducing the material to decontextualized word counts (Bengtsson, 2016). The unit of analysis was a meaningful statement, recommendation, finding, policy provision, or design principle concerning the use of digital platforms or digitally mediated processes for assessment in higher education, with particular attention to MKWK. The analysis was primarily deductive-inductive. Initial sensitizing categories were technological, pedagogical, human, ethical, and organizational conditions. Codes were then refined, split, combined, or relabeled as recurrent patterns emerged.

The document corpus was assembled in July 2026 through targeted searches of official Indonesian government repositories, ministry and higher-education websites, journal platforms, publisher pages, DOI records, and scholarly search services. Search terms combined Indonesian and English expressions, including "MKWK assessment," "Mata Kuliah Wajib Kurikulum," "digital assessment higher education," "online assessment," "digital assessment competence," "authentic assessment," "feedback literacy," "academic integrity," "project-based MKWK," and "MKWK evaluation." Backward and forward reference checking was used to identify foundational assessment literature.

Documents were included when they: (a) established or interpreted the purpose and implementation of MKWK; (b) reported empirical or review evidence on MKWK learning or assessment; (c) examined digital assessment in higher education; or (d) offered a directly applicable conceptual basis for feedback, evaluative judgement, authenticity, accessibility, governance, or integrity. Documents were excluded when they focused only on platform adoption without an assessment component, addressed school assessment with no transferable higher-education implication, lacked identifiable authorship or provenance, or duplicated another source. The final purposive corpus contained 18 documents: four national policy or implementation documents and 14 peer-reviewed journal articles. Appendix A provides the complete corpus and analytical role of each document.

Table 1. Composition of the document corpus

Document category	n	Purpose in the analysis	Representative documents
National law and regulation	2	Define the legal status of MKWK and the quality-assurance context of assessment.	Republic of Indonesia (2012); Ministry of Higher Education, Science, and Technology (2025)
National MKWK implementation guidance	2	Specify MKWK purposes, implementation expectations, project-based learning, and assessment support.	Directorate General of Higher Education (2020); Directorate of Learning and Student Affairs (2023)
Indonesian empirical MKWK / higher-education studies	6	Identify local implementation problems, student experience, project-based innovation, outcome alignment, and assessment design.	Defina (2023); Zulfadhli et al. (2023); Haryani et al. (2023); Gumilar et al. (2025); Wicaksana et al. (2025); Nugraha et al. (2026)
International digital and authentic assessment studies	6	Synthesize pedagogical, technical, contextual, accessibility, and integrity requirements.	Heil & Ifenthaler (2023); Børte et al. (2023); Slade et al. (2024); Viberg et al. (2024); Vlachopoulos & Makri (2024); Garg & Goel (2022)
Feedback and evaluative judgement studies	2	Explain student capacity to understand criteria, judge quality, and act on feedback.	Carless & Boud (2018); Tai et al. (2018)

Analysis proceeded in six stages. First, bibliographic and contextual information was recorded for each document. Second, relevant passages were extracted into a document matrix. Third, open codes were assigned to statements concerning enabling or constraining conditions. Fourth, codes were compared within and across policy documents, Indonesian empirical studies, and international assessment research. Fifth, related codes were organized into candidate themes and reviewed against the full corpus. Sixth, the themes were interpreted as an ecosystem and translated into design principles and implementation recommendations. Theme presence was recorded in a binary document-by-theme matrix to provide descriptive transparency. The resulting counts indicate how widely a theme appeared across the selected corpus; they are not effect sizes, quality

rankings, or measures of causal importance. Security and privacy, for example, appeared in fewer documents than pedagogical alignment but were treated as threshold conditions because a serious failure can invalidate an otherwise well-designed assessment. Appendix B presents the coding matrix.

Table 2. Final coding framework

Theme	Operational definition	Illustrative indicators
Technological readiness	The capacity of infrastructure and systems to support dependable assessment activity.	Connectivity; device access; platform stability; interoperability; storage; backup; technical support.
Digital assessment competence	Lecturer and student knowledge and capability needed to design, enact, interpret, and improve digital assessment.	Task and rubric design; platform operation; data literacy; feedback literacy; troubleshooting; evaluative judgement.
Pedagogical alignment	Coherence among outcomes, tasks, evidence, criteria, judgement, feedback, and MKWK purposes.	Constructive alignment; authenticity; formative use; project/case design; criterion validity; revision cycles.
Usability, accessibility, and inclusion	The extent to which assessment can be understood, accessed, and completed without irrelevant barriers.	Cognitive load; navigation; mobile access; low-bandwidth alternatives; disability access; clear instructions; flexibility.
Security, privacy, transparency, and integrity	Safeguards that maintain trustworthy evidence, fair decisions, responsible data use, and procedural legitimacy.	Authentication; permissions; data retention; privacy; audit trails; transparent rules; authorship evidence; integrity education.
Institutional governance and quality assurance	Policies, resources, roles, standards, professional development, and evaluation that sustain implementation.	Institutional policy; common standards; help desk; procurement; workload; moderation; monitoring; continuous improvement.

Trustworthiness was supported through source triangulation, an explicit inclusion logic, a documented codebook, constant comparison, and attention to disconfirming or limiting evidence. Policy expectations were not treated as proof of successful implementation, and platform affordances were not treated as learning outcomes. Interpretive claims were retained only when supported by more than one document or when a single authoritative policy document established a formal requirement. All analyzed materials were publicly accessible policy or scholarly documents. No human participants, personal data, confidential records, or private institutional assessment files were used; consequently, informed consent was not applicable. The study nevertheless treated documents as context-bound records and avoided inferring individual lecturer or student behavior beyond the evidence reported in the sources

RESULTS AND DISCUSSION

The analysis produced six interdependent themes. Table 3 below reports their descriptive distribution across the 18 documents. Pedagogical alignment and institutional governance were the most widely distributed themes, followed by digital assessment competence and usability/accessibility. Technological readiness appeared as a recurrent enabling condition. Security and integrity appeared in fewer sources but were framed as indispensable for the legitimacy of digital evidence and decisions.

Table 3. Cross-document presence of the six determinants (N = 18)

Determinant	Documents coded	Interpretive status
Technological readiness	8	Necessary operational foundation; insufficient without aligned design and user capability.
Digital assessment competence	14	Core human capability connecting platform functions to valid tasks, feedback, and data use.
Pedagogical alignment	16	Central design determinant and the strongest cross-source pattern.
Usability, accessibility, and inclusion	11	Condition for equitable participation and valid interpretation of performance.
Security, privacy, transparency, and integrity	5	Less frequently explicit but a threshold condition for trust and defensibility.
Institutional governance and quality assurance	15	System-level determinant of consistency, sustainability, and continuous improvement.

Technological readiness: dependable access before advanced functionality

Technological readiness included connectivity, devices, platform availability, stability, interoperability, storage, backup, and technical assistance. Indonesian evidence shows that online and blended learning experiences are strongly shaped by internet access, supporting facilities, and the organization of learning activities (Defina, 2023; Haryani et al., 2023). International digital-assessment studies similarly treat reliable systems and contextual fit as prerequisites for acceptable use (Heil & Ifenthaler, 2023; Slade et al., 2024). The documents distinguished availability from dependability. A university may possess a learning management system, but assessment remains fragile when submission fails during peak use, mobile access is poor, files are incompatible, students cannot recover interrupted work, or support is unavailable. These failures introduce construct-irrelevant variance: performance may reflect bandwidth, hardware, or troubleshooting ability rather than the intended MKWK outcome. The synthesis therefore supports a minimum viable technology principle. Institutions should establish a dependable baseline - mobile-responsive access, low-bandwidth options, clear file standards, backup submission routes, version history, and responsive technical support - before adding advanced proctoring, analytics, or artificial-intelligence functions. Sophistication without reliability can reduce rather than improve assessment quality.

Digital assessment competence: from operational literacy to evidentiary judgement

Digital competence was not limited to knowing how to upload material or create an online quiz. Lecturer competence included clarifying assessment purposes, selecting appropriate evidence, designing authentic tasks, constructing analytic rubrics, configuring the platform, moderating judgement, providing actionable feedback, interpreting analytics, and recognizing the limitations of automated indicators. This broader conception is consistent with research that emphasizes pedagogical knowledge, assessment knowledge, and technology-related knowledge as interconnected dimensions of digital assessment practice (Børte et al., 2023; Viberg et al., 2024). Student competence included navigating the platform, understanding instructions and criteria, managing digital files and sources, participating responsibly in peer review, interpreting feedback, revising work, and documenting authorship. Feedback literacy and evaluative judgement are especially important because digital systems can increase the volume of comments without ensuring that students understand or use them (Carless & Boud, 2018; Tai et al., 2018).

The local MKWK literature reinforces the need for capability development. Policy implementation challenges include differing lecturer interpretations and uneven translation of requirements into learning and assessment practice (Zulfadhli et al., 2023). Recent redesign research also identifies the need for stronger alignment and more reflective and contextual strategies (Nugraha et al., 2026). The determining factor is therefore not generic digital literacy but digital assessment literacy: the ability to use digital means to produce and interpret defensible evidence of learning.

Pedagogical alignment: the organizing determinant

Pedagogical alignment was the most pervasive theme. Across policy, MKWK research, and international assessment scholarship, technology was valuable when it supported coherent relationships among learning outcomes, tasks, criteria, feedback, and instructional activity. Misalignment occurred when a course claimed to develop civic engagement or critical reasoning but relied primarily on decontextualized recall tests; when a project was assigned without staged feedback; or when a rubric emphasized visual presentation more than the target reasoning. For MKWK, alignment requires specifying what observable evidence would justify an inference about a value-oriented outcome. Values themselves cannot be validly inferred from a single statement of agreement. More credible evidence can be obtained through reasoned analysis of dilemmas, sustained reflection, deliberation with alternative perspectives, participation in a contextual project, and explanation of decisions. Digital platforms can preserve this evidence through drafts, discussion records, feedback histories, artifacts, and reflective commentary. Authenticity strengthened alignment when tasks connected to meaningful social, academic, or ethical practices (Ajjawi et al., 2024; Vlachopoulos & Makri, 2024). Project-based MKWK can make civic engagement and character-related learning more visible when students investigate a public problem, collaborate with stakeholders, communicate a product, and evaluate the consequences of their action (Gumilar et al., 2025). Project orientation alone, however, did not guarantee quality. The documents consistently implied the need for milestones, criteria, feedback, individual accountability within groups, and reflection.

Usability, accessibility, and inclusion: fairness in the assessment experience

Usability and accessibility shaped whether students could demonstrate the intended outcome without avoidable barriers. Problems included complex navigation, unclear task sequences, excessive switching between applications, incompatible formats, high bandwidth demands, inaccessible media, and insufficient time to learn a new tool. These features increase extraneous cognitive load and can disadvantage students whose digital experience, devices, connectivity, language background, or access needs differ. Accessibility was treated as a design requirement rather than a post hoc accommodation. Relevant practices included mobile-compatible tasks, downloadable instructions, captioned media, readable rubrics, keyboard-accessible documents, alternative file formats, reasonable time windows, and an equivalent low-bandwidth pathway. Digital assessment should also permit students to preview submission requirements, verify successful upload, and retain a copy of submitted evidence. The qualitative interpretation is that usability contributes to validity. When a platform is difficult to navigate, the score partially measures interface management. When instructions are fragmented, the score may reflect students' ability to infer hidden procedural expectations. Clear interface and assessment communication are therefore not merely matters of satisfaction; they protect the interpretability and fairness of results.

Security, privacy, transparency, and academic integrity: trust as a threshold condition

Security and integrity appeared explicitly in fewer documents than alignment or competence, but the theme carried high consequence. Digital assessment generates identity information, submissions, feedback, grades, interaction traces, and potentially sensitive reflective writing. Trust requires clear rules concerning access, permissions, retention, backup, data sharing, and the role of third-party tools. Academic integrity was most defensible when assessment design, education, process evidence, and proportionate verification were combined. Garg and Goel (2022) show that no single technical control can resolve online assessment integrity. For MKWK, design-based safeguards include contextualized tasks, staged submissions, oral or reflective follow-up, visible revision histories, source documentation, individual contribution statements, and questions that require students to connect claims to their own project decisions. These measures generate evidence of authorship without treating every student as a suspected offender. Transparency is equally important. Students should know which data are collected, how rubrics are applied, whether automated tools are used, what those tools can and cannot establish, and how to challenge a technical or scoring decision. Human review should remain available for high-stakes decisions, especially where similarity detection, analytics, or AI-supported feedback is involved.

Institutional governance and quality assurance: from isolated innovation to sustainable practice

Institutional governance was a pervasive determinant because digital assessment crosses academic, technical, ethical, and administrative boundaries. National MKWK guidance connects

project-based implementation to policy, semester learning plans, outcomes, methods, instruments, lecturer preparation, outputs, and evaluation (Directorate of Learning and Student Affairs, 2023). Quality assurance regulation similarly requires institutions to establish and continuously improve educational standards (Ministry of Higher Education, Science, and Technology, 2025). Governance included decisions about approved platforms, minimum service standards, data ownership, accessibility, support responsibilities, lecturer workload, rubric moderation, quality review, and professional development. Without coordinated governance, innovative practices remain dependent on individual lecturers, students encounter inconsistent platforms and rules, and evidence cannot be compared or audited. Excessive standardization, however, can also be counterproductive if it forces all MKWK outcomes into one task format. The synthesis supports governed flexibility: institutions establish common principles and minimum standards, while course teams retain authority to select tasks suited to Religion, Pancasila, Citizenship, or Indonesian Language. Common elements may include an assessment blueprint, rubric quality criteria, accessibility checks, integrity procedures, student orientation, moderation, and periodic evaluation. The specific artifact - civic project, essay portfolio, case dossier, or reflective journal - remains pedagogically adaptable.

The MKWK Digital Assessment Ecosystem

The six determinants are not independent variables that can be addressed sequentially and then considered complete. They form an ecosystem. Technological readiness and institutional governance create the operating environment. Digital assessment competence enables lecturers and students to use that environment intelligently. Pedagogical alignment organizes the evidence chain. Usability and accessibility protect participation and validity. Security, privacy, transparency, and integrity maintain trust. A weakness in one domain can neutralize strength in another.

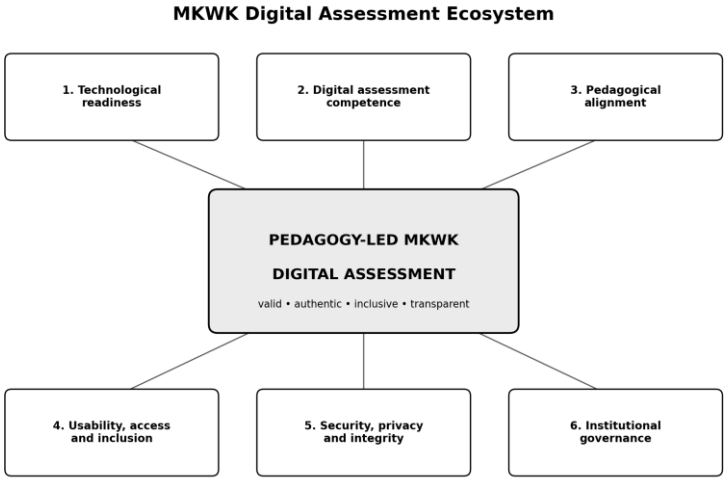


Figure 1. The MKWK Digital Assessment Ecosystem. The arrows indicate reciprocal dependence rather than a linear implementation sequence

Discussion

From platform adoption to pedagogy-led transformation

The central finding is that digital platform utilization should be understood as assessment transformation rather than software adoption. This interpretation extends existing research by integrating the international digital-assessment literature with the distinctive purposes and policy context of MKWK. The result is a shift in the unit of analysis: the relevant question is not whether lecturers use a learning management system, but whether the complete assessment arrangement produces valid, usable, equitable, and trustworthy evidence. This finding explains why technically successful implementation can remain educationally weak. A platform may record every submission and calculate grades correctly while the assessment still rewards recall, offers no revision, obscures criteria, or provides little evidence of value-informed judgement. Conversely, a relatively simple combination of an LMS, structured rubric, versioned portfolio, and reflective conference can support rich evidence when design is aligned. Platform complexity is therefore not a proxy for assessment maturity. The ecosystem perspective also reconciles apparently different

problem descriptions in the literature. Connectivity problems, lecturer readiness, student boredom, weak outcome alignment, inaccessible interfaces, integrity concerns, and fragmented institutional policy are not isolated obstacles. They are points of failure within one assessment system. Interventions should therefore be bundled. Lecturer training without workload support is unlikely to persist; a new platform without student orientation may increase inequity; an authentic project without moderation may produce inconsistent scoring.

Implications for validity in value- and character-oriented courses

MKWK includes outcomes that are sometimes described broadly as character or values. Such outcomes require careful assessment claims. A university should not claim to measure an enduring moral trait from a short online response. More defensible claims concern students' demonstrated reasoning, interpretation, communication, participation, and reflection in a defined context. This distinction protects against overclaiming and helps lecturers design observable criteria. Digital portfolios and staged projects are particularly useful because they preserve process evidence. A portfolio can show how a student framed a problem, selected sources, responded to feedback, revised an argument, and reflected on consequences. A civic-action project can combine group evidence with individual decision logs and reflective defenses. These designs improve authenticity while maintaining individual accountability. They also support triangulation: claims are based on multiple artifacts rather than one test event.

Rubrics should translate MKWK outcomes into dimensions that are observable but not reductive. For example, civic reasoning may include problem framing, use of evidence, consideration of rights and responsibilities, engagement with alternative viewpoints, feasibility of action, and reflective evaluation. Academic communication may include purpose, organization, evidence integration, language accuracy, ethical source use, and revision. The rubric should be discussed through exemplars and applied in peer or self-assessment so that it becomes a learning resource rather than only a scoring device.

Practical digital assessment innovations for MKWK

The ecosystem framework suggests a portfolio of complementary assessment formats rather than one universal digital instrument. Table 4 maps six innovations to intended evidence, platform functions, and validity safeguards.

Table 4. Pedagogy-led digital assessment innovations for MKWK

Assessment innovation	Primary MKWK evidence	Useful digital functions	Essential safeguards
Digital civic-action project portfolio	Problem analysis, civic reasoning, collaboration, public communication, action, and reflection.	Milestone submissions; collaborative workspace; media upload; rubric; contribution log; feedback history.	Community/context verification; individual reflection; staged evidence; consent for public media; moderation.
Digital case dossier	Reasoned analysis of an ethical, constitutional, social, or linguistic case from multiple perspectives.	Annotated sources; discussion board; branching prompts; oral response; rubric.	Contextualized cases; evidence requirements; alternative viewpoints; short oral defense.
Academic communication e-portfolio	Inquiry, drafting, source integration, academic language, feedback use, and revision.	Version history; inline annotation; peer review; originality support; portfolio showcase.	Explicit authorship process; source-use instruction; revision commentary; human review of similarity reports.

Assessment innovation	Primary MKWK evidence	Useful digital functions	Essential safeguards
Reflective values journal	Connection among concepts, experience, ethical tension, perspective-taking, and future action.	Private journal; periodic prompts; audio/text options; lecturer feedback; tag-based review.	Psychological safety; privacy; clear boundaries; criterion-based assessment of reflection, not belief conformity.
Structured peer and self-assessment	Evaluative judgement, use of criteria, feedback quality, and responsibility for improvement.	Anonymous or named review; rubric; exemplars; calibration activity; revision tracking.	Feedback literacy training; quality prompts; lecturer sampling; respectful communication protocols.
Low-stakes formative quiz and misconception clinic	Foundational knowledge, misconceptions, confidence, and readiness for complex tasks.	Question bank; immediate feedback; confidence rating; analytics; adaptive practice.	Low stakes; explanation-rich feedback; item review; accessible format; no use as sole evidence of complex outcomes.

These innovations should be assembled into an assessment program. A course might use diagnostic quizzes early, a case dossier in the middle, and a portfolio or project as the culminating task. Peer assessment can be embedded before final submission, and reflective writing can connect learning across activities. The program should intentionally balance individual and group evidence, formative and summative purposes, knowledge and performance, and private reflection and public communication. Generative artificial intelligence adds urgency to this design. The most defensible response is not to rely exclusively on detection. Assessment should foreground process, contextual specificity, dialogue, source verification, and student explanation of decisions. Where AI tools are permitted, students should disclose their use, evaluate outputs, and retain responsibility for accuracy and reasoning. Where they are restricted, expectations and consequences must be explicit and proportionate. In both cases, digital evidence should support rather than replace academic judgement.

Institutional implementation roadmap

Sustainable implementation requires staged organizational development. Table 5 translates the six determinants into a four-phase roadmap.

Table 5. Institutional roadmap for MKWK digital assessment

Phase	Priority actions	Key outputs	Quality questions
1. Baseline and governance	Audit platforms, access, current tasks, policies, accessibility, integrity procedures, and support. Establish a cross-functional MKWK assessment team.	Baseline report; approved platform list; minimum standards; risk register; roles and escalation routes.	Can every student access and complete core assessment? Are data, responsibilities, and exceptions governed?
2. Design and capability	Map CPL/CPMK to evidence; redesign tasks; develop common rubric principles; train lecturers and orient students; prepare exemplars.	Assessment blueprints; task briefs; rubrics; accessibility checklist; training modules; student guides.	Does each task elicit the intended outcome? Can users understand criteria, feedback, and platform procedures?

Phase	Priority actions	Key outputs	Quality questions
3. Pilot and moderation	Pilot in selected classes; collect technical and pedagogical evidence; moderate samples; review workload and student experience.	Pilot dataset; moderation notes; issue log; revised tasks and procedures.	Are scores defensible and consistent? Which barriers or unintended consequences appear?
4. Scale and continuous improvement	Scale governed designs; maintain help desk and professional learning; monitor access, completion, feedback use, integrity cases, and learning evidence.	Annual quality report; updated standards; communities of practice; improvement plan.	Is implementation improving learning evidence, not merely digitizing workflow? Are inequities and risks decreasing?

Theoretically, the study positions digital MKWK assessment at the intersection of constructive alignment, authentic assessment, feedback literacy, sociotechnical systems, and institutional quality assurance. Its contribution is not a new list of platform features, but an integrated explanation of why the same technology can support high-quality assessment in one context and weak assessment in another. The determining factors operate configurationally: quality emerges from their alignment. Practically, the MKWK Digital Assessment Ecosystem offers a diagnostic framework. Course teams can use the six domains to review an existing assessment before changing technology. Institutional leaders can use them to allocate resources and clarify governance. Quality-assurance units can evaluate both technical compliance and pedagogical impact. The framework is intentionally platform-neutral so that it remains applicable as specific applications and artificial-intelligence functions change.

CONCLUSION AND SUGGESTIONS

The meaningful use of digital platforms in MKWK assessment is determined by an ecosystem rather than a device or application. Technological readiness provides dependable access; digital assessment competence enables sound design and use; pedagogical alignment connects MKWK outcomes to credible evidence; usability and accessibility protect equitable participation; security, privacy, transparency, and integrity sustain trust; and institutional governance makes practice consistent and improvable. The most important shift is from platform-led to pedagogy-led assessment. Universities should begin with the learning claim they need to make, identify the evidence required, design an authentic and accessible task, establish criteria and feedback processes, and only then configure the technology. For MKWK, digital civic projects, case dossiers, academic communication portfolios, reflective journals, peer review, and low-stakes formative assessment can reveal dimensions of learning that conventional tests alone cannot capture. Their value depends on staged evidence, clear rubrics, feedback literacy, individual accountability, data governance, and continuous quality review.

The proposed MKWK Digital Assessment Ecosystem provides a coherent basis for this work. It can guide course redesign, lecturer development, institutional standards, platform evaluation, and future research toward assessment that is valid, authentic, inclusive, transparent, secure, and educationally consequential. Future research should validate the framework through multi-site case studies, lecturer and student interviews, classroom observation, platform log analysis, rubric studies, and comparative evaluation of assessment designs. Design-based research could examine whether staged e-portfolios, digital civic projects, or peer-feedback interventions improve evidentiary quality and student learning. Quantitative studies could develop and validate an MKWK digital assessment readiness instrument based on the six domains. Equity-focused research should investigate accessibility, bandwidth, disability inclusion, language, and the distribution of technical burden. Research on AI-supported assessment should examine disclosure, feedback quality, authorship evidence, bias, and human oversight in MKWK contexts.

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