Beyond the Shutter: Perception Teaching Quality in Learning Basic Photography in Sarawak

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ABSTRACT

Teaching quality is part of how students experience skills-based, studio disciplines such as photography, where learning depends on both instructional guidance and physical resourcing (Rabadán, 2015). Refers to the capacity to use, evaluate, and create content through the quality of teaching, and has become as important to photographic courses as camera technique (Ginns, Prosser, Barrie, 2007). This paper presents the perception of teaching quality readiness among local students in Sarawak by learning in photography courses in Malaysia. By using local institutional Course Evaluation Feedback (CEF) data from two related photography-relevant courses (n = 385) at a public institution. In the absence of a purpose-built perception teaching quality instrument, this study repurposes course appraisal data as a measure across four dimensions of teaching and learning methodology. Overall, this will cover 4 factors that are course perception, instructor professionalism, teaching and learning activities, and infrastructure, which are conceptually mapped onto the technical, cognitive, and social-emotional model of digital literacy (Ng, 2012). The findings show consistently "Excellent" ratings across both photography-related courses (93.50% and 98.46% overall), with the strongest performance recorded in instructor professionalism and teaching methodology, but a comparatively weaker infrastructure dimension. This gap is of practical significance in a discipline where equipment and studio access are directly tied to the development of digital skills, especially those related to the digital era. The paper situates this gap within Sarawak's range of rural-urban digital divide and argues that while teaching quality is not a barrier to digital literacy development in this context. It concludes that local institutions can use routinely collected feedback data as an early, low-cost signal of resourcing gaps as part of the evaluation and to improve further. It recommends that future studies validate these findings against a purpose-built teaching quality instrument for studio-based discipline before translating them into curriculum or investment decisions.

Keywords: Teaching Quality, Student Perception, Basic Photography, Course Evaluation, Sarawak

INTRODUCTION

Photography education has shifted decisively from analogue technique skills to a digitally mediated practice capture image, editing images using software, digital asset management, and online platform distribution (Hand, 2012). For students learning basic photography, the quality of teaching – how clearly content is explained, how accessible instructors are, and how well activities are structured – is a primary driver of learning outcomes and confidence (Long, Ibrahim, Kowang, 2013). Nowadays, for students learning basic photography courses, digital literacy is no longer a supplementary skill but a baseline competency expected in creative industry practice (Hobbs, 2017). In Sarawak, uneven infrastructure with the latest facilities and a diverse student population can widen gaps between curriculum intent and actual digital readiness (Marr, 2022). The problem this paper addresses is not whether digital literacy matters in photography courses; that premise is well established, but how local institutions can detect readiness gaps using data they already collected, rather than waiting for a dedicated survey instrument that may never be commissioned (Webb & Layton, 2023). Course evaluation systems such as the institution's Course Evaluation Feedback (CEF) system are completed at scale every semester, yet their potential as an early-warning signal for skill-readiness issues is rarely examined. This represents the perception of quality teaching practical gap: instructors and programme coordinators have access

to rich, recurring feedback data but typically use it only for the purpose it was designed for, gauging teaching performance rather than diagnosing structural conditions that shape digital competency development. This paper positions CEF data as an accessible, underused proxy for understanding how prepared local students feel in courses that not only depend on digital competency but also on the infrastructure and the instructor. Using feedback from two foundational photography-related courses at a Sarawak as an indicator, the paper pursues three objectives:

1. To describe patterns of student-reported satisfaction with teaching quality across four dimensions of the learning experience in two courses foundational to photography and digital design practice.
2. To identify which dimensions show the strongest and weakest performance, and to interpret these patterns in relation to instructional and digital literacy (Ng, 2012).
3. To discuss the implications of these patterns for resourcing and curriculum planning in Sarawak's basic photography courses.

The remainder of the paper is organised as follows. The literature review situates quality teaching conceptually and empirically before turning to the specific resourcing conditions in Sarawak (Saunders, 1971). The methodology section describes the case study design and its limitations. The results and discussion sections then interpret the CEF data, before the conclusion offers recommendations for practice and future research (Rea & Parker, 2014).

In Sarawak, CEF-type feedback data is collected every semester, across nearly every course they offer, yet this data is rarely mined for anything beyond individual instructor appraisal. If a simple sectional read of this already-available data can flag a resourcing gap as clearly as it does here, the same approach could plausibly be scaled across other technical and creative programmes facing similar digital-readiness pressures, offering a low-cost complement to more resource-intensive digital literacy audits.

LITERATURE REVIEW

Conceptualising teaching quality and student perception

Teaching quality is commonly understood as the combination of instructional clarity, accessibility, structured feedback, and learning conditions under which the content is delivered (Long, Ibrahim, Kowang, 2013). Digital literacy is commonly defined as the ability to locate, evaluate, and communicate information using digital technologies (Morgan, Sibson, Jackson, 2022). In higher educational research, student perception of teaching quality is most often captured through students' evaluation of teaching (SET) instruments, which typically separate instructor-level factors from broader course and facility conditions. Student-perceived teaching quality has been shown to demonstrate a coherent underlying factor structure when examined using confirmatory factor analysis, lending confidence that such instruments capture meaningful variation in the student experience rather than noise (Khong, 2014).Three-dimensional model: there are the technical dimension, concerning the skills needed to use information technology proficiently; the cognitive dimension, concerning the skills needed to search, evaluate, and synthesise digital information critically while remaining conscious of ethical and legal issues. The social-emotional dimension concerns the skills needed to socialise and collaborate online appropriately (Ng, 2012). This model has since been applied across disciplines from nursing to teacher education, and it offers a useful lens for interpreting general satisfaction data in the absence of a purpose-built digital literacy instrument, because its three dimensions map reasonably well onto the structural sections already captured by standard course-evaluation tools (Ilomäki, Paavola, Lakkala, Kantosalo, 2016). Nowadays, the revolution of digital literacy in education has been shaped by the advances of ICT, and it is a significant contributor to the achievement of the Sustainable Development Goals (Reddy, Sharma, Chaudhary, 2020). Digital literacy is the set of skills that are necessary for every individual in the 21st century to apply all the digital tools to achieve goals within their life situations, especially in the work of industry (Fu, 2013). This offers a useful lens for interpreting general course-satisfaction data in the absence of a purpose-built, discipline-specific teaching-quality instrument, because the structural sections already captured by standard course-evaluation tools plausibly separate distinct components of the teaching-and-learning experience: what is taught, how it is taught, who teaches it, and where it is practised.

Technology-integrated pedagogy and instructor competence

In another level of education, the Technological Pedagogical Content Knowledge (TPACK) framework was developed by Mishra and Koehler in 2006, and there are three factors to the efficacy of the technology-integrated approach applied in teaching methodology, there are: knowledge, pedagogical knowledge, and content knowledge (Koehler, Mishra, Cain, 2013). When this method has been applied to the photography courses, the TPACK framework shows that the instructor's abilities to teach digital tools not only depend on technical skills but also include the knowledge of pedagogical structure and course expertise by the instructor themselves. Based on this framework, it is related to the studies that clarify why the professionalism of the instructor may score high even when the infrastructure lags (Gatete, 2026) Somehow, some of the scholars have mentioned that in the creative courses such as visual arts and photography, the new AI digital integration may create another phase of modes of expression and restrict originality templates and normative aesthetic patterns (Yıldızhan Bora & Şahin Kölemen, 2025). Photography courses, unlike more theory-oriented disciplines, rely on visual analysis, iterative practice, and immediate critique areas well-suited to technology integration, such as AI capabilities such as image recognition, composition analysis, and adaptive feedback. Fundamental of photography digital are nature; it lends itself to seamless integration with AI platforms, facilitating interaction between learner input and system-generated insights. These features are another digital photography phase as an ideal context for exploring technology integration in education, particularly at the level, and how advanced AI can support technical skill development and creative autonomy within a structured pedagogical framework (Li, Zhang, Um, 2025) .

Teaching quality in creative art media and photography education

In photography courses, digital literacy extends to camera-to-computer workflow processes, continuing with editing software fluency, and publishing to online platform-based sharing (Hartley, McWilliam, Burgess, Banks, 2008). Studies on photography pedagogy show that based on the hands-on digital tool use strengthens engagement that students need to have and conceptual retention, but that infrastructure access to functioning equipment and adequate studio space is a precondition rather than a supplement to skill-building (Rabadán, 2015). This distinguishes photography and other studio-based disciplines from purely theoretical subjects, where a lecture and a textbook may be sufficient: digital literacy in photography cannot be taught in the abstract, and any resourcing shortfall is likely to surface directly in students' practical competence rather than only in their satisfaction scores (Cordell, 2016). The remaining sections of this chapter will consider the notions of literacy most pertinent to these studies, encompassing the photographic practices of unit stills photographers and studio portrait photographers working with film (Burn, 2009) Digital literacy research in Malaysian higher education has concentrated on general student populations or teacher-training groups, with comparatively little attention paid to creative and vocational disciplines such as photography, where digital competency is inseparable from studio practice (Jamaludin, Abdullah, Azizan, Isa, 2025). Studies of student evaluation instruments such as CEF have treated them almost exclusively as teaching-quality measures, rarely as a source of structural or resourcing insight (Al-Maamari, 2021). While Sarawak's digital divide is well documented at the level of rural schools and household connectivity, comparatively little work connects this state-level picture to campus-level, course-specific resourcing patterns within higher education institutions (Saunders, 1971). This paper addresses all three gaps by using a creative-discipline case study, reading CEF structurally rather than only as a teaching gauge, and explicitly connecting its findings to Sarawak's documented digital-divide literature.

Student evaluation as a proxy for learning readiness

Student Evaluation of Teaching (SET) instruments, including CEF, are widely applied across Malaysian local education to monitor teaching effectiveness (Khong, 2014). While designed primarily to assess instructor performance, SET instruments also capture data about course relevance, confidence gained, and perceived skill development among the local students (Singh & Kaur, 2022). The dimensions directly relevant to digital literacy outcomes, even when not clearly labelled. This dual utility is what motivates the present study's repurposing of CEF data: rather than treating the instrument purely as teaching-quality data, its sectional structure is read as an indirect map of the conditions that support or constrain digital skill and knowledge (Reynolds, 2016).

Instructor competence and student satisfaction

In Malaysian studies, most of the instructor competence and clarity of explanation, approachability, and structured feedback are the strongest data and statistics of student satisfaction (Long, Ibrahim, Kowang, 2013). Not only for photography courses, but it also applies to where digital skill-building is a continuous task and feedback dependent, but instructor behaviour may compensate for other structural gaps, at least in terms of how students report their satisfaction, even if it cannot fully compensate for gaps in hands-on practice time or equipment access (Eslava, Arones, Godoy, Guerrero, 2021). Most of the studies found a constructive interaction between physical infrastructure, such as studio space, equipment, and classroom conditions, and both satisfaction and academic performance of the students. Especially regarding skill-based disciplines specifically, substandard accommodations have been shown to constrain applied learning even when instructors have high qualifications (Rafiq-uz-Zaman, 2023). This literature review supports treating infrastructure not merely as a comfort factor but as a direct input into whether digital literacy, once taught, can actually be practised and consolidated by students.

The Sarawak resourcing context

Sarawak is rural-urban and has a digital divide that has been applied and well documented. A recent mixed-methods study in part of Sarawak's range found that the majority of students could not effectively participate in online learning due to unstable internet connections, limited device access, and technological challenges (Jalli, Idris, Widjaja, 2025). Another range that has been reporting similar research is that students in Sarawak's rural areas and interior regions remain at a disadvantage in digital skills development compared to urban peers, prompting state-level initiatives to expand digital infrastructure and upgrade digital connectivity. Within this context, some of the local institutions in Sarawak have been identified as a strategic aspect for institutions bridging the digital divide through ICT-oriented education. This positions the present case study's infrastructure findings as more than an internal quality-assurance detail: they intersect with a state-level policy conversation about digital equity, and any observed infrastructure gap within a basic photography course is relevantly connected to these wider structural conditions rather than being a purely local, course-specific issue (Elshater, 2018).

Multimedia and technology-enhanced instruction in creative arts

Most of the researcher found out that on multimedia-integrated arts and design instruction offers a further, closely related line of evidence. A study of multimedia integration in arts education found that combining instructional media in any platform with subject content positively affected both students' learning attitude and their learning satisfaction, and argued that photography instructors increasingly need to combine professional subject knowledge with technological and multimedia competence to meet the demands of a digitally infused curriculum (Sun, Fu, Zhang, Chen, 2022). This paper discusses that in creative art disciplines, digital competence is not a skill but an integrated part of what “good teaching” and “good infrastructure” jointly deliver, and satisfaction-type instruments can meaningfully reflect this even when they were not designed with digital literacy explicitly in mind.

Ethnic and socioeconomic diversity in Sarawak's student population

In Sarawak, the education intake consists mostly of students from Iban, Bidayuh, Melanau, and Orang Ulu communities, many of whom come from rural or semi-rural backgrounds with historically weaker access to consistent internet connectivity and digital devices before entering tertiary education (Ting & Kayad, 2026). This demographic reality form directly relevant to how infrastructure-related findings in this paper should be interpreted: a lower infrastructure score in a course with a larger, more diverse intake may reflect not only shared institution facilities being stretched across more students, but also a wider range of prior digital exposure among those students, some of whom may be encountering consistent, reliable access to cameras especially the current digital equipment, editing software, and high-speed connectivity for the first time within the course itself (Alberts, Lyngs, Lukoff, 2026). Curriculum and resourcing decisions in this context, therefore, carry an equity dimension as well as a quality-assurance one: an underfinanced, diverse group escalating risks pre-existing obstacles of digital rather than levelling it (McMillan, Little, Conway, Solman, 2019).

METHODOLOGY

Research design

This study adopts a case study design using secondary institutional data, consistent with empirical case-study approaches employed in prior CEF-based studies within the institution. A case study design was chosen over a purpose-built survey because it allows the study to draw on data already collected at scale each semester, without adding to student or staff survey burden, an important practical consideration for a first, exploratory study of this kind

Data source and population

Data were drawn from official CEF reports for two foundational courses at the institution: the Photography and New Media (PNM) (n = 302 respondents) and the Basic Photography (BP) (n = 83 respondents). Both courses form part of introductory photographic and new media coursework and involve substantial hands-on, tool-dependent components centred on foundational image-making skills. Respondents were the full group of enrolled students who completed the CEF evaluation for the semester in question, rather than a drawn sample, which removes sampling error as a concern but means the findings are specific to these groups and should not be generalised without replication.

Instrumentation

Each CEF instrument uses a 4-point Likert scale (Strongly Disagree to Strongly Agree) across four sections: (A) Overall course perception, (B) Instructor professionalism, (C) Teaching and learning activities, and (D) Infrastructure. Institutional performance indicators classify scores of 90–100% as "Excellent," 80–89% as "Very Good," 70–79% as "Good," 60–69% as "Average," and below 60% as "Weak."

Analytical approach

Rather than treating CEF as a direct digital literacy instrument, this study analyses its four sections as indirect indicators, provisionally mapped onto Ng's (2012) three-dimensional model as summarised in Table 1. Section A is read as a proxy for perceived cognitive gain, Section B as a proxy for guided instruction, Section C as a proxy for the pedagogical structure supporting cognitive and technical development, and Section D as a direct measure of the technical/physical conditions digital literacy depends on. Percentage scores across sections and courses were compared descriptively to identify relative strengths and weaknesses; no inferential statistical testing was performed given that full-group data, rather than sampled data, were used.

Table 1: Provisional Mapping of CEF Sections to Ng's (2012) Digital Literacy Dimensions

CEF Section	Ng (2012) Dimension (proxy)	Rationale
A: Course Perception	Cognitive	Reflects perceived knowledge and confidence gain
B: Instructor Professionalism	Social-emotional (support)	Reflects guidance, accessibility, and feedback quality
C: Teaching & Learning Activities	Cognitive / Technical	Reflects pedagogical scaffolding for skill acquisition
D: Infrastructure	Technical	Reflects physical/technical conditions for practice

For reference, Table 2 reproduces the institutional performance-indicator scale used to classify CEF percentage scores, against which the results reported in this paper are benchmarked.

Table 2: Institutional Performance Indicator Scale

Score (%)	Indicator
90 – 100	Excellent
80 – 89	Very Good
70 – 79	Good
60 – 69	Average
Below 60	Weak

Ethical considerations

Data used in this study were anonymised, aggregated institutional records routinely collected for quality-assurance purposes; no individually identifiable student information was accessed or reported. Course-level aggregate reporting was used throughout, consistent with the institution's existing data-governance practice for CEF records.

Validity and reliability considerations

CEF's validity as a teaching-effectiveness measure has been examined in prior Malaysian research focusing in Sarawak district, which found its items to demonstrate acceptable internal consistency and a coherent underlying factor structure when analysed using exploratory and confirmatory factor analysis (Khong, 2014). This lends some confidence that the instrument reliably captures what it was designed to capture: the student-perceived teaching quality and course experience in learning photography (Pheunpha, 2019). However, validity for its designed purpose does not transfer automatically to the reinterpretation attempted in this paper; the mapping in Table 1 is therefore explicitly framed as provisional and interpretive, not as a validated digital-literacy measurement model, and no claim of construct validity for digital literacy specifically is made.

Limitations

CEF measures general course satisfaction rather than digital-literacy-specific constructs (e.g., technical skills in operating a camera, editing software proficiency, digital publishing). This limitation is stated explicitly rather than implied, and the mapping in Table 1 should be read as an interpretive lens rather than a validated measurement model. A further limitation is the unequal group sizes (n = 302 vs. n = 83), which may itself partly explain the more tightly clustered, higher scores in the smaller group. A further limitation is that this is a single-semester snapshot for each course; without repeated measures across groups and years, it is not possible to determine whether the infrastructure gap observed here is a persistent structural condition or a one-off fluctuation. Future work should validate these findings against a purpose-built digital literacy instrument such as Ng's (2012) academic digital literacy scale and should track the same courses longitudinally.

RESULTS

Both courses achieved “Excellent” institutional ratings (≥90%), but with a consistent pattern across all four sections: In every dimension, the largest gap is recorded in infrastructure (Table 3).

Table 3: Comparison of CEF Ratings Across Course Sections

Section	PNM (n=302)	BP (n=83)	Difference (pts)
A: Course Perception	94.55%	98.56%	4.01

B: Instructor Professionalism	94.78%	98.49%	3.71
C: Teaching & Learning Activities	94.29%	98.69%	4.40
D: Infrastructure	90.38%	98.08%	7.70
Overall (Grand Average)	**93.50%**	**98.46%**	**4.96**

Across both courses, infrastructure was the weakest-performing dimension, particularly in the PNM, where it trailed the next lowest section by more than 3.9 percentage points, the largest internal gap of any section in either course. In relative terms, the infrastructure gap between the two courses (7.70 points) was also nearly twice as large as the gap in any other section, suggesting that facility conditions, rather than teaching or curriculum delivery, are the primary source of divergence between the two groups.

Within Section C (Teaching and Learning Activities), the items concerning the interest and cognitive challenge based on the instructor's delivery style were consistently the lowest-scoring items in that section for the larger group, even though they remained within the "Excellent" band overall. This suggests a secondary, smaller-scale pattern: even where infrastructure is acceptable, the more demanding, advanced dimensions of digital-skill pedagogy. Applying stimulating, genuine cognitive challenge rather than straightforward content delivery may be marginally harder to sustain at scale in a large group than in a small one.

Table 4 summarises these observations against the interpretive mapping proposed in Table 1, showing that the pattern of relatedness to strength (cognitive and social-emotional dimensions) and connection of weakness (technical dimension) held regularly across both groups, despite their very different sizes and generally different performance levels.

Table 4: Summary of Relative Strengths and Weaknesses by Digital Literacy Dimension

Dimension (Ng, 2012)	Pattern Observed	Consistent Across Both Courses?
Cognitive	Consistently strong (Sections A & C)	Yes
Social-emotional	Consistently strong (Section B)	Yes
Technical	Weakest dimension; largest inter-course gap (Section D)	Yes

DISCUSSION

Interpreting the pattern through Ng's (2012) model

Read through Ng's (2012) framework; the results suggest that the cognitive and social-emotional dimensions of digital literacy readiness approximated by Sections A, B, and C are consistently well supported in both courses. The technical dimension, approximated by Section D (Infrastructure), is comparatively the weakest, and the gap between courses is also widest here. This is a theoretically coherent pattern: it is easier for a well-trained instructor to sustain cognitive and social-emotional support even under resource constraints than it is to conjure adequate cameras, computers, or studio space out of goodwill alone.

Instructional quality is not the constraint

Instructional quality means explaining content, giving feedback, and structuring assessment. It is not the constraint in either course; both scored strongly here, consistent with the broader Malaysian literature showing

instructor competence as the dominant driver of student satisfaction (Long, Ibrahim, Kowang, 2013) It is also consistent with what TPACK would predict of an instructor who combines strong content knowledge with strong pedagogical knowledge, even when technological resourcing is imperfect (Mishra & Koehler, 2006). Relatively few investigations have explored whether observing only a small number of lessons per teacher or class yields data reliable enough to conclude particular dimensions of instructional quality (Praetorius et al., 2014).

Infrastructure is the more fragile link

Infrastructure appears to be the more fragile link in the chain, particularly for the larger group. In a field where digital literacy is developed through hands-on use of cameras, computers, and editing software, this gap has direct implications: students may express confidence in what they are taught while still lacking consistent access to the tools needed to practise it (Joshkun, Kurmanov, Kabdullina, Bakirbekova, 2024). This reframes the conventional "digital divide" narrative for this context. It is not that local students lack interest in digital literacy, nor that teaching fails to build it is that the physical and technical support needed to practice it consistently is the more constrained resource (Yap, Moses, Cheah, 2024).

Situating the finding within Sarawak's resourcing context

This pattern is consistent with, and plausibly connected to, the wider digital divide documented across rural and interior Sarawak, where connectivity, device access, and digital literacy levels lag behind urban areas. Although the courses examined here are campus-based rather than remote or online, the same underlying resourcing pressures that shape state-level digital inequality cost, logistics, and infrastructure rollout plausibly also shape which campuses and group that receive better-equipped studio and computing facilities. Local Sarawak's institution documented role as a catalyst institution for digital-divide reduction (Sulaiman & Halamy, 2021) makes this an especially relevant setting in which to track infrastructure-related gaps directly, since improvements here are likely to have a demonstrable multiplier effect on the wider regional digital literacy agenda.

Alternative explanations for the group gap

Before attributing the observed gap entirely to infrastructure, it is worth considering plausible alternative explanations. First, group size itself may generate a statistical artefact: with more than three times as many respondents, PNM's scores are less likely to be inflated by a small number of highly satisfied students, and are more likely to reflect a genuinely wider spread of experiences, some of which may be less positive for reasons unrelated to infrastructure. Second, the two courses may differ in year level, prerequisite structure, or assessment design in ways not captured by CEF, any of which could independently shape satisfaction. Third, it is possible that a larger group simply places more simultaneous demand on the same fixed pool of equipment and studio space, in which case the infrastructure gap is not a separate explanation from group size but a direct consequence of it the same facilities are being asked to serve more students. This third explanation is, in fact, consistent with the paper's core argument. Whether the mechanism is described as "group size" or "infrastructure capacity," the practical implication remains that facilities have not scaled proportionally with enrolment (a pattern visible across several creative art programs nationally), and this is precisely the kind of structural condition that a purpose-built digital literacy study, or a facilities audit, should investigate directly.

Theoretical contribution

This paper theoretically draws a key connection between two separate areas of study that seldom intersect. First, it examines student evaluation of teaching research, particularly within the Malaysian context, which is extensively developed but typically focuses narrowly on teaching quality. Plus, in practice, second, it addresses digital literacy research, which is conceptually advanced through frameworks like Ng's (2012) model but often lacks empirical evidence from institutional feedback data. By integrating these domains, the paper aims to present a more thorough understanding that uses feedback data to enrich digital literacy research while expanding the scope of teaching evaluations.

Policy implications

At the policy level, Sarawak's state government has articulated a digital economy agenda that explicitly includes bridging the rural-urban digital divide through education, with the local institution Sarawak positioned as one of the recognised centres of excellence supporting this agenda (Sulaiman & Halamy, 2021). The infrastructure gap identified in this paper, while modest in absolute percentage terms, is a concrete, course-level illustration of the same resourcing challenge that this wider policy agenda is meant to address. This suggests that infrastructure investment decisions at the programme level should not be treated purely as internal faculty budgeting matters, but could be explicitly linked to existing state digital-economy and digital-inclusion funding streams, for which a documented, data-supported case of the kind presented in this paper may strengthen funding applications.

Implications for curriculum design

For curriculum designers, the findings suggest a two-track response rather than a single fix. On the pedagogical track, the strong performance already observed in instructor professionalism and teaching activities should be preserved and documented as good practice, potentially through structured peer observation or mentoring, so that this strength is not lost as courses are revised. On the resourcing track, curriculum planning should explicitly budget for equipment refresh cycles and studio capacity that scale with enrolment, rather than treating infrastructure as a fixed, one-time investment. Embedding a routine, section-level review of CEF data that shows rather than only the aggregate score into annual curriculum review meetings would allow programme committees to catch emerging infrastructure strain before it affects a full group's digital literacy development, and before it appears as a decline in the overall satisfaction figure that most quality-assurance reporting currently emphasises.

Practical implications

For programme coordinators, the practical implication is not to redesign teaching approaches, which are already functioning well, but to prioritise equipment and studio infrastructure investment, particularly for higher-enrolment courses like photography courses where the gap is largest in both absolute and relative terms. For institutional quality-assurance offices, the broader implication is that existing CEF data, if disaggregated and tracked over time by section rather than only as an aggregate score, can serve as an early, low-cost signal of where resourcing attention is most needed, as well as before a formal digital-literacy audit would otherwise surface the same issue.

SUMMARY OF KEY FINDINGS

Taken together, the results and discussion above converge on a single, consistent picture. Both courses examined in this case study are functioning well on every dimension that depends primarily on people instructors explaining content clearly, giving feedback, and creating a supportive learning environment. Both courses are comparatively weaker and diverge from one another most sharply, on the one dimension that depends primarily on things such as studio space, computers, and equipment. This is not a subtle statistical pattern requiring advanced modelling to detect; it is visible directly in the sectional breakdown of routinely collected feedback data, and it recurs at both the course level (Table 3) and the conceptual-mapping level (Table 4). The clarity of this pattern is itself part of the paper's contribution: it shows that a resourcing gap of practical significance for digital literacy development can be identified without commissioning new data collection, simply by reading existing institutional feedback data structurally rather than only as a single aggregate satisfaction score.

CONCLUSION AND RECOMMENDATIONS

The case study showed that even though the feedback data gives readiness signals if you analyse it section by section, instead of the one aggregate score. For Sarawak's basic photography courses, instructional quality is not the constraint, but both courses examined here were rated "excellent" for the instructor's professionalism. When the bigger group, the infrastructure is poor, and too many people can mess up many facilities. This also shows that the teaching quality is not the issue.

Based on these findings, three recommendations are proposed:

1. Prioritise equipment and studio infrastructure investment for higher-enrolment photography and design courses, using CEF Section D scores as a routine monitoring indicator.
2. Validate the interpretive mapping used here (Table 1) with a purpose-built digital literacy instrument, such as Ng's (2012) academic digital literacy scale, to confirm whether the infrastructure gap identified translates into measurable skill deficits.
3. Connect programme-level infrastructure planning to Sarawak's range of digital-divide initiatives, so that campus-level investment complements, rather than duplicates, state-level digital diversity initiatives.

In future research, highly recommended that the researcher extend this case study across additional groups and years to establish whether the infrastructure gap identified here is a stable pattern or a semester-specific anomaly, and should pair institutional feedback data with direct measures of students' technical, cognitive, and social-emotional digital literacy to test the interpretive planning proposed in this paper.

More broadly, this paper contributes to a small but growing body of Malaysian research that treats routinely collected student feedback as more than an instructor-appraisal tool. For a creative discipline like photography, where digital competence is inseparable from studio and equipment access, this reframing has direct practical value: it gives programme leaders a defensible, evidence-based way to argue for resourcing, without waiting for a dedicated audit or survey cycle. As Sarawak continues to invest in closing its digital divide at the state level, higher education programmes such as the ones examined here are well placed to demonstrate, in concrete and locally grounded terms, where that investment is most needed.

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