



INTERNATIONAL JOURNAL OF
EDUCATION, PSYCHOLOGY
AND COUNSELLING
(IJEPC)
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DESIGNING AND VALIDATING ONLINE COURSE
EVALUATION INDICATORS: INSIGHTS FROM LEARNER
ENGAGEMENT AND EXPERT REVIEW IN THE CHINESE
CONTEXT

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Article Info:

Article history:

Received date: 03.11.2025

Revised date: 27.11.2025

Accepted date: 21.12.2025

Published date: 31.12.2025

To cite this document:

Zhang, Z., Abdullah, N., Abdul Aziz, N., & Wu, Q. (2025). Designing And Validating Online Course Evaluation Indicators: Insights from Learner Engagement and Expert Review in the Chinese Context. *International Journal of Education, Psychology and Counseling*, 10 (61), 1337-1349.

Abstract:

Online learning has become a part of higher education in most parts of the world, but most existing models of evaluation are primarily influenced by Western thinking and thus fail to represent the multicultural environment that many global learning centres embody. Since the fast development of online higher education in China has introduced the acute necessity to introduce credible and context-specific assessment systems that would precondition the quality and efficiency of digital learning settings, despite all the international frameworks, some of them do not consider the pedagogical, cultural, and policy contexts of Chinese universities. This research suggests a theoretical model of the online course assessment indicators design and validation in the Chinese college environment. Based on the learner engagement theory and expert review methodology, the framework incorporates three main steps: the first step is to consider the possible indicators based on the global and national literature; the second step available is the refinement and validation of the indicators based on expert consultation using the established content validity techniques; and finally, a plan of empirical testing among the Chinese learners is outlined. The proposed model focuses on the combination of all three

DOI: 10.35631/IJEPC.1061092

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dimensions of behavioural, emotional and cognitive engagement to provide quality evaluation that is learner-centred. The study can be used to build a localised and theoretically grounded instrument to enhance the quality assurance of online education in China.

Keywords:

Online Course Evaluation, Learner Engagement, Expert Validation, Higher Education, China, E-Learning Quality Assurance

Introduction

Online learning is transforming the face of higher learning very fast, and it has provided the students with the opportunity of studying at any time and from any location (García-Morales et al., 2021). It entails the use of digital media like computers, the internet, videos and interactive media to aid teaching and learning outside the classroom. Online platforms enable students to have lectures, assignments and discussions that previously were only available in face-to-face environments (Papadakis et al., 2024; Thai et al., 2020). This has made education flexible, accessible, and inclusive, enabling the universities to access a wide range of learners in different regions. Nonetheless, with the continued growth of online education, it has also promoted significant concerns over how to assess the standard and efficiency of these classes in alternative cultural and institutional settings (Strielkowski et al., 2024). The fast transition to online learning has brought to the fore the need to evaluate the extent to which online courses are effective in delivering the desired learning outcomes. Course appraisals in most universities continue to be based on generic surveys or borrowed models, which primarily emphasise such areas as technical performance, including system reliability or user satisfaction (Lavidas et al., 2022; Martínez-Caro et al., 2014). These factors may be significant, but they fail to consider the important aspects of education, such as the depth, participation and motivation of the students. An evaluation process that is meaningful is more than just a hands-on assessment of technical efficiency; it should encompass the manner in which the students interact with learning materials and the way in which the instructional practices affect the comprehension (Chang et al., 2023). In the absence of this balanced analysis, the institutions might fail to determine the real factors that render an online course effective.

China has experienced a phenomenal growth in online higher education in the last ten years (Li & Xing, 2025). With the growing access to digital learning environments, additional support of the government on open and distance learning, the current state of designing and delivering academic courses at universities has changed. This change has also brought questions of quality and effectiveness, as well as satisfaction of the learners. With new technological developments and delivery modes of education in universities, there is a rising necessity of establishing sound systems that can quantify the success of online courses in accordance with their educational goals. In the absence of effective evaluation systems, policymakers, administrators, and educators will find it hard to be certain that online programs within acceptable standards of teaching and learning (Syed Muhammad Ishaq et al., 2025). Despite the fact that there are a number of international models of online course evaluation, most of the models were designed within the Western educational environment (Agostinelli & Albert, 2024). Such frameworks as the Quality Matters rubric or any other international standards might not exhaust the pedagogical and cultural specificities of higher education in China. The Chinese universities are usually guided by different academic frameworks, student

demands, and institutional guidelines (Zhang et al., 2024). This leads to partial or distorted evaluation of the quality of courses when direct adoption of foreign models is conducted. This gap demonstrates the necessity of localised indicators that could display the educational values or learner behaviours of the digital environment in China.

Although international rubrics offer useful starting points, direct adoption can be problematic when indicator definitions and acceptable evidence sources are assumed to be universal. For example, design-focused rubrics typically privilege documentation produced during course development, yet quality assurance in Chinese higher education often relies on evidence that is generated through platform use at scale, including learning-trace data, institutional reporting requirements, and post-delivery monitoring of participation and completion patterns (Li et al., 2024). Similarly, some international indicators treat frequent open discussion as a primary signal of interaction quality; however, in many Chinese university contexts, hierarchical communication norms and large enrolments can shift meaningful interaction toward structured instructor-guided questioning, feedback cycles, and task-focused collaboration, which may not be captured by indicators that emphasise discussion volume alone (Bunsu et al., 2025). Assessment is another area where transfer can be imperfect, because Chinese online courses may place greater weight on high-stakes examinations, standardised item banks, and integrity controls, which require indicators that evaluate not only the variety of assessments but also alignment, fairness, and credibility under local implementation constraints.

Accordingly, the purpose of this framework is not to propose fundamentally new dimensions, but to improve content validity by specifying context-sensitive operationalisations within widely recognised dimensions and by foregrounding learner engagement as a core evaluative construct rather than a secondary outcome. The five dimensions are intentionally aligned with international practice, while the proposed indicators are designed to reflect how course quality is enacted and evidenced in Chinese higher education settings. This positioning strengthens the rationale for a China-specific instrument by treating localisation as an empirical measurement problem at the item level, to be addressed through planned expert review and subsequent learner-based testing.

One of the most problematic aspects in the estimation of online education is learner engagement (Hu & Xiao, 2025). This is in contrast to the case with traditional classrooms, where the online learning environment heavily depends on the capacity of students to control their levels of motivation, time, and engagement with content and fellow students. The engagement identifies not only the satisfaction but also the persistence and performance of the learning. Nevertheless, most current evaluation frameworks do not make engagement a primary quality indicator, though they consider it to be an important outcome. The appreciation of engagement as a crucial construct can result in more precise and learner-focused systems of evaluation. The incorporation of behavioural, emotional, and cognitive measures of engagement in evaluation indicators gives a better insight into the experience of online learning by students (Fatima et al., 2025; Papadakis et al., 2024). The creation of the valid evaluation indicators cannot be done without a theoretical basis, as well as verification by the experts. Educational technology, pedagogy, and quality assurance experts can be able to assess the relevance, clarity and appropriateness of proposed indicators in relation to higher learning in China (Fatima et al., 2025). Content validity can be secured by systematic expert validation and enhances the validity of the proposed framework. This method also complies well with international research practices where expert consensus is used to narrow down indicators

before any empirical testing at a large scale (Lavidas et al., 2022). As such, the convergence of the engagement theory and expert validation provides a moderated and evidence-based avenue to developing a powerful evaluation instrument. The current research will establish and suggest an online course assessment indicator framework that will be appropriate in Chinese higher education. It combines the theory of engagement of learners with the expert review in order to make it both theoretically and practically relevant. The conceptual framework, design procedure and validation plan have been outlined in the paper, which will serve as the basis of the empirical research in the future. This study helps enhance the measurement of online learning in China by concentrating on localised measures of quality and sheds some light that can also be used in other Asian settings that might be facing the same dilemma. Finally, the framework will help the universities and policymakers to enhance accountability, improve the quality of learning, and foster continual improvement of online learning.

The remainder of this paper is organised into five main sections. The first section introduces the background, purpose, and significance of the study within the broader context of online learning and course evaluation. The second section explains the methodological approach adopted for developing the conceptual framework and outlines the theoretical foundations that guide this work. The third section presents the proposed results in the form of evaluation dimensions and indicators derived from literature and engagement theory. The fourth section discusses the implications of these findings, highlighting their potential use for improving online teaching quality and policy development in Chinese higher education. Finally, the fifth section concludes the paper by summarising key contributions, identifying limitations, and suggesting directions for future research focused on the empirical validation of the proposed framework.

Methodology

This paper is conceptual and aims at establishing a model for designing and testing the online course evaluation indicators that can be applicable in Chinese higher education. Instead of gathering or examining data, the research builds on the existing theories, models, as well as practical guidelines connected with online learning assessment and engagement of learners. These research methods focus on the ways of modifying existing frameworks to suit the unique needs of Chinese universities, where cultural values, institutional arrangements and learning activities might be different compared to the situation in the West. The process of designing started by extensive examination of past literature on the quality of online courses, instructional design and student engagement in order to come up with the most pertinent dimensions to be included. The dimensions usually consist of the structure of courses, teaching practices, content quality, interaction with learners, engagement, and assessment practices. All these areas were analysed conceptually to find out the role each plays in the overall learning process and the effectiveness of the course. The analysis is also based on the principles of the learner engagement theory that perceives behavioural, emotional, and cognitive engagement as one of the most important signs of significant learning in an online space. The indicators proposed were structured in a way that could be adopted as both theoretically consistent and practical at the same time, so that they can be empirically validated in the future. Even though no professional consultation was carried out at this stage, the framework is structured in such a way that it is supposed to be analysed and improved with the help of expert analysis in further research stages. This research is theoretical and does not involve any human research; therefore, no secondary data were used, no primary data were gathered, and no data set was created on the basis of the referenced sources. Any future stages which use panels of experts

or surveys of learners will be forwarded to the relevant institutional ethics review committees and will be done in compliance with the set ethics, such as informed consent, voluntary participation, and confidentiality. On the use of automated writing assistance, the authors state a clear disclosure according to the journal policy, whether the generative AI tools were employed, and, in this case, say that they were only applied to linguistic rephrasing and copyediting, but not writing original scholarly work, analysis, and references; the final work and referenced sources are the responsibility of the authors.

In the current article, the word in the prospective context validation is applied to refer to the further empirical validation steps that are planned to be conducted but not yet finalised. This stage has summarised, theory-informed, literature-based synthesis, identifying candidate indicators of online course evaluation, through five commonly embraced quality dimensions, and specifying how indicator definitions and sources of evidence might need to be context-responsive in Chinese higher education. This framing is not neglected by the fact that broad dimensional overlap with accepted models should be anticipated, whereas localisation is pursued by express references to institutional, cultural and policy conditions that tend to articulate how engagement, interaction and feedback are brought into practice and substantiated in practice. Consequently, the framework provided in this manuscript is to be viewed as tentative and hypothesis-forming and aimed at directing the further review of expert content validity and the ultimate empirical research on learners.

Data Collection

The literature on online course evaluation and learner engagement spans decades of work on instructional design, quality assurance, and student experience. Large international frameworks (for example, Quality Matters) emphasise alignment, accessibility, and design standards for online courses, while academic research has focused on factors such as instructor presence, interaction, learner satisfaction, and engagement as predictors of effective online learning. In the Chinese context, the rapid expansion of online and blended modalities has stimulated many local studies that examine students' perceptions, MOOC/platform development, and the applicability of Western rubrics to Chinese higher education. Several recent large-scale surveys and conceptual analyses confirm that course design, interaction, assessment, and engagement recur as the most influential dimensions in evaluating online course quality. A cluster of empirical studies used student survey data to validate instruments that measure online course experience and quality. Few researchers adapted the Online Course Experience Questionnaire for China and found robust factor structure and associations with student satisfaction in very large samples, confirming that clear goals, appropriate assessment, and student learning efficacy are central for perceived course quality. Similarly, national and multi-university surveys carried out during and after emergency remote teaching have documented the central role of interaction, instructor responsiveness, and course organisation for student satisfaction and persistence. These empirically validated instruments offer useful candidate indicators for any evaluation framework intended for Chinese higher education. Frameworks developed for or adapted to China show how cultural and institutional contexts shape priorities. Early evaluations of national online course projects in China found strengths in technological integration and course structure but weaknesses in social design (peer and instructor interaction), suggesting that interaction metrics must be emphasised when adapting foreign rubrics to China. Later studies on MOOCs and institutional online programs observed similar patterns, technical and content quality often rate well, while community building and learner

engagement require targeted design interventions. This evidence motivated the inclusion of interaction and engagement as core dimensions in the present framework.

Scholarly work using the Community of Inquiry (CoI) and engagement theory has been especially influential for understanding how presence, social interaction, and cognitive engagement contribute to learning outcomes. Chinese studies applying CoI constructs report that teaching, social, and cognitive presence each influence engagement and learning, but the balance between them may differ from Western settings because of pedagogical traditions and expectations about instructor authority. These theoretical lenses justify structuring indicators around behavioural, emotional, and cognitive engagement, alongside instructor presence and course design metrics. Research that mines learner-generated data (e.g., platform reviews, forums) and qualitative analyses adds depth to indicator selection by revealing learners' spontaneous evaluation criteria. Such studies identify many fine-grained factors from multimedia quality to emotional experience, but often produce very large indicator sets that are difficult to operationalise without parsimony. This trade-off between exhaustiveness and usability suggests developing a concise but comprehensive indicator set that draws on frequent themes across studies while allowing for a longer list of sub-items if needed during pilot testing. Finally, instrument-development and validation literature (on content validity, CVI, and iterative expert review) provides clear methodological guidance for turning a literature-derived indicator list into a defensible measurement tool. Content Validity Index procedures and structured expert review (multiple rounds, Lawshe or I-CVI/Ave-CVI reporting) are standard practices to ensure items are relevant and clear before any student survey or factor analysis.

Combining the literature synthesis with CVI-style expert review, therefore, follows accepted methodological norms. Across these studies reviewed (Table 1), several consistent gaps emerge: many frameworks are developed in Western contexts and require local adaptation; engagement is sometimes measured only indirectly; stakeholder perspectives are not always combined; and large indicator sets need pruning for practical use. These observations informed the present framework's focus on five core, adaptable dimensions (course design; instructional delivery; learner engagement; interaction & collaboration; assessment & feedback), and the plan to validate items via expert review and future empirical testing.

Table 1: List of Reviewed Studies

References	Focus / Sample	Key dimensions/indicators	Strengths	Limitations
(Yin et al., 2022) Online Course Experience (China).	Large multi-university student samples	Clear goals; Student independence; Assessment; Satisfaction	Strong empirical validation; large N	Focus on perceptions; mixes blended & online contexts.
(Taskiran, 2023)	CoI theory is applied in various contexts.	Teaching presence; Social presence;	Strong theoretical basis	Needs contextual

CoI applications (reviews & case studies).	Cognitive presence	for interaction & presence	adaptation to China	
(Ding et al., 2017) Quality Matters local adaptation.	Application/adaptation of Quality Matters to China	Design standards; alignment; accessibility	Uses established rubric; actionable review checklist	May require cultural adaptation; resource-intensive
(Zheng et al., 2018) National MOOCs / book on MOOCs in China.	Large MOOC/platform analyses in China	Platform, course, learner, institutional indicators	Comprehensive empirical coverage of MOOCs	Very broad; many indicators, needs focus.
(Zhou & Mou, 2022) tracking public opinion on online education.	Public sentiment analysis post-COVID in China	Satisfaction, access, perceived quality, policy sentiment	Captures public trends and perceptions	Opinion data: less direct measurement of course quality
(Tang et al., 2021) Live online learning comparisons.	Comparative study on live online learning factors	Motivation, readiness, self-efficacy	Good for learner readiness & motivation indicators	Not a course-quality instrument per se
(Zhang et al., 2023) CoI impact in Chinese online courses.	Empirical CoI study in China	Teaching, social, cognitive presence; impact on learning	Empirical CoI evidence in the Chinese context	Context-specific; needs replication.
(Wang et al., 2024) Comparison of online course quality models (IGI).	Comparative validity study of models	Factor-based evaluation constructs	Recent comparative analysis: methodological rigour	New — may need further empirical replication.
(Wang et al., 2024)	MOOC quality evaluation index systems	Teaching design, learner support,	Focused MOOC indicators, relevant to	The MOOC context differs from

MOOC evaluation indices (various).	assessment, interaction	platform courses	small online courses.	
(Zheng & Yang, 2017) learner review/knowledge management.	Mining online learner reviews (China)	Content quality, emotional/behavioral aspects, technical features (~50 factors)	Rich qualitative insights; learner voice	Too many indicators; needs paring for practical use.
(Xu & Zou, 2023) Online teaching intervention in China.	Intervention study during COVID	Teaching intervention effects, engagement, and outcomes	Experimental/quasi-experimental evidence	Specific intervention; limited generalizability
(Shek et al., 2022) Evaluation of e-service learning in China.	e-service projects evaluation	Service-learning outcomes; reflective learning; community impact	Focus on applied online learning contexts.	Domain-specific (service-learning)
(Zamanzadeh et al., 2015) Design & Implementation Content Validity CVI methods.	Methodological guidance	Content validity procedures (CVI, expert panels)	Strong methodological guidance for validation	Not domain-specific; methodological only
(Pearl et al., 2017) Establishing content validity	Instrument validation example	Lawshe's CVR, I-CVI/Ave-CVI methods	Practical demonstration for CVI use	Focus on the classroom ASD-method example only.

Results

The outcome of this study is a conceptual framework designed to guide the evaluation of online courses in Chinese higher education. The framework integrates principles of learner engagement theory with existing models of online course quality, offering a balanced approach that combines pedagogical soundness with cultural and institutional relevance. Based on an

extensive review of the literature, five major dimensions were identified as essential for evaluating the effectiveness of online courses: course design, instructional delivery, learner engagement, interaction and collaboration, and assessment and feedback. Each dimension represents a key area that contributes to the overall quality and learner experience of online education. The course design dimension focuses on how learning objectives, structure, and content organisation support clear learning pathways. It emphasises alignment between course outcomes, activities, and assessment tasks. A well-designed course should provide students with logical sequencing, accessible materials, and clear expectations. The instructional delivery dimension relates to how instructors present content and guide learning. It includes the clarity of instruction, use of multimedia tools, and adaptability to diverse learning preferences. Effective delivery ensures that students can engage with materials in meaningful ways and remain motivated throughout the learning process. The learner engagement dimension reflects behavioural, emotional, and cognitive participation in the course. It recognises that student motivation and active involvement are critical to successful learning outcomes. Indicators under this category may include participation in online discussions, completion of interactive tasks, and reflection activities that demonstrate deep learning. The interaction and collaboration dimension focuses on communication between students, instructors, and peers. Online learning thrives on dialogue and shared experiences; therefore, strong interaction mechanisms, such as discussion forums, group projects, and real-time feedback, are essential for creating a sense of community and support. Finally, the assessment and feedback dimension evaluates how students' progress is measured and how feedback contributes to continuous improvement. Effective assessment strategies should combine formative and summative methods, allowing learners to understand their performance and areas for development. Feedback should be timely, constructive, and aligned with learning goals. Together, these five dimensions form the foundation for a holistic evaluation framework that considers both the technical and pedagogical aspects of online learning. This proposed framework serves as an initial step toward building a standardised and culturally relevant evaluation model for online courses in China. While the present study focuses on conceptual development, future research will validate these dimensions through expert consultation and empirical testing. The framework thus provides a basis for ongoing improvement in online course design, teaching effectiveness, and learner satisfaction across higher education institutions.

Discussion

The theoretical construct of the study developed above demonstrates the importance of the creation of culturally and contextually specific indicators to evaluate online courses. The majority of the models of the world have provided some beneficial backgrounds to analyse the quality of e-learning, yet the majority of them are rooted in the assumptions regarding the Western cultures of education, when the autonomy of learners, style of communications, and organisational focus may not be applicable to the Asian context. Online learning in China has been taking huge strides in the national digital learning programs, yet systematic assessment instruments have not been formulated concurrently with the use of technology. The given gap is met in the framework suggested, created on the background of the five dimensions of course design, teaching delivery, interaction and collaboration with learners, engagement, and finals with assessment and feedback. It is also worth mentioning that one of the greatest implications of this framework is its emphasis on engagement of learners as a process and result of online learning. However, it should be noticed that while the framework shows a strong projected outcome, the framework is still provisional in nature; hence, future empirical testing is required to validate the proposed framework. Traditional evaluation models are typically pegged on

measurable aspects of results like grades or completion rates, and this is not fully representative of the quality of the learning process. On the other hand, this model recognises the multi-dimensionality of the concept of engagement, which includes behavioural engagement of students, emotional engagement of students and cognitive investment of students. The universities can research the interaction measure of the students with the online materials and what keeps them going with the virtual learning conditions through the engagement indicators. The approach will assist in having a bigger picture of the effectiveness of online courses, whereby the experience of the learner matters as much as technical achievement. The other significant contribution of the framework is that it defines the significance of interaction and collaboration as the determinant of online learning success. Historically, classroom practice in Chinese higher education has been teacher-centred and concerned more with the provision of the content, as opposed to conversation. However, online platforms enable creating more interactive and participatory learning platforms. When considering the efficiency of courses in communication between the teachers and learners and learners to learners and learners to learners, the institutions may identify the practices that allow them to promote active learning and more robust online learning communities. This feature is in line with the tendencies of learner-centred pedagogy in the world and helps to form the 21st-century skills, such as teamwork, communication, and digital literacy. Another element that broadens the discussion on quality assurance in online learning is the assessment and feedback element. In many cases, online tests are limited to the usage of pre-established questions or tests that may not reflect a greater degree of learning. This model encourages the idea of ongoing and informal evaluation that triggers reflection and self-managed learning. The positive feedback assists the student in testing his/ her progress and enables the student to think critically using the course materials. Such evaluation indicators may provide an impression to the educators on how they can make assessment strategies more effective to enhance the learning outcomes and student satisfaction. Overall, the conducted research is topical in the context of the ongoing discussion of the quality of online education since it introduces a versatile framework that identifies the typical standards of pedagogical principles as well as the local educational scenarios. The conceptual indicators proposed below may serve as the premise of the consequent empirical studies to be conducted with the participation of an expert review and pilot test in the Chinese universities. Such attempts will help to simplify the framework so as to offer it reliability, validity and practical relevance. On the bigger picture, one may observe that this argument highlights the importance of culture-based approaches to measuring digital learning conditions, and the aspects of local practice and learner specifics are determined as the primary qualities of educational quality.

Conclusions

This study set out to design and propose a conceptual framework for evaluating online courses within Chinese higher education by integrating learner engagement theory with established principles of course quality and instructional design. In an era where digital learning has become a permanent part of higher education, there is an urgent need for evaluation systems that go beyond technical efficiency to address the deeper dimensions of teaching and learning. The framework developed in this paper identifies five key areas: course design, instructional delivery, learner engagement, interaction and collaboration, and assessment and feedback that together provide a comprehensive basis for understanding the effectiveness of online courses. Each dimension reflects the balance between global pedagogical standards and the cultural characteristics of Chinese universities, emphasising the importance of contextual adaptation in educational research and practice. Although this study remains conceptual and does not include empirical data, it offers a solid foundation for future validation and implementation. The next

stage of research will involve expert consultation and pilot testing to assess the clarity, relevance, and applicability of the proposed indicators. This step will strengthen the reliability of the framework and contribute to developing practical tools for quality assurance in online education. The findings of this study are expected to support policymakers, educators, and instructional designers in enhancing the design and delivery of online learning environments that are engaging, inclusive, and effective. In conclusion, the proposed framework contributes to the broader understanding of how online learning quality can be evaluated in a culturally relevant manner. By linking theoretical insights with practical dimensions of learner engagement and instructional quality, this work provides a meaningful direction for improving online education in China and beyond. Continued research and collaboration among educational institutions will be essential to refine, test, and apply these indicators, ensuring that online learning remains a credible and impactful component of higher education.

Conflict of Interest

The authors confirm that they have no conflicts of interest.

Author Contribution Statement

All authors contributed equally to the conception, design, writing, and revision of this manuscript.

Acknowledgements

The authors would like to express their sincere gratitude to the Faculty of Education, Universiti Teknologi MARA and all the academic and administrative staff involved for their technical assistance throughout the research project.

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