



Quality criteria of online courses development for future specialists in library, information, and archival studies within a research-based learning environment

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Higher education's digital shift and the rise of AI require online courses in library, information, and archival studies to move beyond content delivery and function as active research environments that build analytical thinking and professional autonomy. In research-based learning, students must navigate the full inquiry cycle, from problem formulation to critical interpretation, reflecting their future roles in data management, digital humanities, and open science.

While international benchmarks confirm that course quality depends on coherent pedagogical design rather than mere technology, existing generic frameworks overlook the specialized needs of the information sector, such as advanced retrieval and primary-source curation. Developing discipline-specific quality criteria that embed research inquiry as the core instructional principle is therefore essential for preparing future information professionals.

The issue of online course quality in higher education today extends far beyond the technological aspects of the learning process. Whilst in the early stages of distance learning the main focus was on digital platforms, digital materials, and the technical accessibility of learning, contemporary research demonstrates ever more convincingly that the quality of an online

course is determined first and foremost by its pedagogical architecture, the logic behind the design of the learning experience, the nature of interaction between participants in the educational process, and the course's ability to develop complex professional competences. It is in this context that inquiry-based learning takes on particular significance, transforming the very nature of the online course: from a medium for the transmission of knowledge, it becomes a space for research, analysis, the interpretation of information, and the creation of new knowledge.

Al-Aghbari et al. [1] define online course quality through the systemic coherence of constructivist design, prioritizing authentic tasks, transparent assessment, and systematic feedback over mere multimedia presence. However, their model remains generic, overlooking the disciplinary demands of specialization B13 "Library, Information and Archival Studies", where research inquiry is foundational rather than supplementary. Evaluating courses in this domain requires dedicated criteria assessing student engagement with digital collections, primary archival records, meta-data systems, analytical tools, and scholarly databases.

Dabbagh, Marra, and Howland's [15] meaningful online learning model evalu-

ates course quality through five attributes: activity, constructiveness, cooperation, authenticity, and intentionality. Framing students as active agents tackling authentic professional challenges aligns closely with library, information, and archival studies, where practitioners solve complex information-analytical problems and curate collaborative resources. Its crucial limitation is the absence of explicit instruments to evaluate research competence. Active engagement and peer collaboration do not inherently foster scientific thinking; learners can complete group tasks without mastering critical source evaluation, data analysis, or scholarly argumentation. Consequently, the model must be augmented with dedicated criteria governing research performance.

Wiggins and McTighe's backward-design model [3] grounds course quality in internal alignment, prioritizing intended learning outcomes and acceptable evidence of learning over passive content or technology. For research-oriented learning, this framework is particularly valuable because it directly anchors inquiry competencies, problem formulation, information retrieval, critical source analysis, and synthesis into course tasks and evaluation rubrics. Its primary drawback in practice is superficial implementation: learning outcomes often remain formal compliance measures rather than genuine drivers of student inquiry. In professional training for library, information, and archival studies, this disconnect frequently manifests as online modules that teach technical digital tools in isolation while neglecting the rigorous methodological framework of scholarly research.

Gunder et al. [4] conceptualize digital course quality through the learner's holistic experience, reframing the online course from a mere digital repository into a socially organized learning community. Emphasizing intuitive navigation, blended synchronous/asynchronous interaction, and systematic feedback, this model strongly resonates with library, information, and archival studies, where professional prac-

tice depends on collaborative networks and shared engagement with digital collections. However, the framework primarily centers on student engagement and community building and lacks specific criteria for evaluating the research component. High engagement alone does not guarantee academic rigor; without dedicated evaluation mechanisms, active participation fails to ensure the development of critical, analytical, and research-based thinking.

Quality frameworks such as Quality Matters and OSCQR, analyzed by Shattuck [12], offer clear indicators for course structure, alignment, accessibility, and transparency. Their primary limitation, however, is an emphasis on instructional and structural organization over intellectual depth. While these standardized rubrics confirm whether a course is well-organized, they cannot determine whether it fosters authentic scholarly development. For research-based learning, quality assessment must extend beyond the availability of forums or tasks to evaluate students' research autonomy, the complexity of information-analytical tasks, rigorous engagement with sources, and their capacity to generate new knowledge.

Kathuria & Becker's [6] quality framework highlights student support, specifically self-organization and time management, which is vital for the self-regulation required in research-based learning. However, it exhibits a conceptual gap: it fails to treat research activity as a distinct criterion for quality. Significantly, while international scholarship predominantly evaluates the instructional design of isolated courses, Ukrainian researchers conceptualize digital learning as a systemic institutional transformation spanning infrastructure, educational processes, digital assets, and academic staff development. This broader lens shifts evaluation from an individual digital product to its operation within a holistic educational environment.

Bykov et al. [2] frame the digital educational environment as an open, networked system driving personalized learning, ac-

tive cognitive engagement, and competence development. This infrastructure provides open access, digital interaction, and flexibility vital for research-based learning. Its limitation is its macro-level focus: it defines systemic principles rather than actionable quality criteria for individual courses. For specialization B13 "Library, Information and Archival Studies", where individual courses are the primary vehicle for cultivating professional and research competencies, this systemic model must be translated into explicit, course-level instructional criteria.

Polishchuk et al. [10], Volikova & Bratanich [17], Rogulska et al. [11], and Komar et al. [8], Shlenova [13, 14] highlight the didactic integration of digital technologies, demonstrating that educational quality improves only when technological adoption is paired with pedagogical transformation. However, their focus remains confined to digital competence. While foundational, digital literacy alone is insufficient for research-based learning, which requires dedicated immersion in the methodology of scientific inquiry.

Research by Lazarenko et al. [9], Teteriev (2020), Yaroshenko [18], and Khristich et al. [7] examines digital transformation, blended learning, and digital interaction in higher education. Collectively, these scholars advocate shifting from traditional knowledge transmission to active, collaborative, and project-based learning.

Crucially, their emphasis on personalized learning, learner autonomy, and digital learning analytics aligns directly with research-based learning, which inherently demands advanced self-regulation, independent planning, and academic autonomy.

A comparative analysis reveals a core divide: international research focuses on course design, whilst Ukrainian scholarship prioritizes the broader digital learning environment. Neither alone provides a complete quality model for research-based online learning, as one overlooks systemic context and the other lacks pedagogical granularity.

The fundamental flaw in existing frameworks is treating research as an isolated task rather than the organizing principle of the entire course. Consequently, current criteria evaluate organizational mechanics, structure, technology, and interaction, while neglecting the research logic itself: problem formulation, source analysis, academic argumentation, and knowledge generation.

For library, information, and archival specialists, whose work directly supports open science, digital humanities, and research data management, the quality of online courses must be assessed by their capacity to generate and sustain authentic scholarly inquiry.

The development of quality criteria for online courses tailored to future specialists in library, information, and archival studies necessitates a rethinking of conventional approaches to digital learning. Professional practice within information, documentation, and archival science is becoming increasingly integrated with research workflows, digital information resources, open science, and analytical data processing. In contemporary knowledge society, future specialists in this domain do not merely preserve and organise records; they also serve as information mediators, deliver scientific and information support for research, manage digital curation and research data, and facilitate academic communication. Under these circumstances, the quality of an online course must be evaluated not only by the digital organisation of the learning process, but primarily by its capacity to develop research competence, information-analytical thinking, and professional readiness to operate within a digital academic environment.

In our view, the foundational criterion for the quality of an online course should be the degree to which research activity is integrated into every component of its pedagogical design. This requires that learning objectives be formulated in terms of measurable research outcomes, course

content be organised around problem-based information scenarios, learning tasks be oriented towards analysing authentic digital resources, and assessment be systematically focused on students' research outputs.

In the digital transformation of higher education, instruction must prioritise research practices utilising digital information infrastructures—including electronic libraries, archival systems, open repositories, and databases such as Scopus, Web of Science, Europeana, and DSpace.

To empirically substantiate course quality criteria for specialisation B13 "Library, Information and Archival Studies", a mixed-methods study was conducted during the spring semester (February–June 2026) at the National Aerospace University "Kharkiv Aviation Institute". Combining quantitative surveys and qualitative analysis, the investigation evaluated perceptions of course quality and the determinants of research-based learning effectiveness. The sample included 64 Bachelor's and Master's students from KhAI and 18 experienced online lecturers from multiple Ukrainian higher education institutions who delivered the B13 curriculum via platforms such as Moodle and Google Classroom.

The sample was selected using purposive sampling, as the study included respondents with direct experience with online vocational courses. The student sample included students who had been studying remotely over the past two semesters. The faculty sample included academic and teaching staff who independently developed or updated online courses in accordance with current digital learning requirements.

The quantitative phase of the study was based on a questionnaire developed by the authors, informed by an analysis of international models for evaluating the quality of online courses and adapted to the specific nature of professional training for information technology specialists. The questionnaire consisted of 36 statements grouped into six thematic blocks that reflected the

key components of online course quality in a research-based learning environment.

Table 1. Distribution of questionnaire statements across thematic blocks of online course quality

Questionnaire Section	Number of statements
Research-Based Nature of the Course	8
Quality of Digital Learning Materials	6
Organization of Research Assignments	7
Educational Interaction and Academic Communication	5
Formative Assessment and Feedback	5
Digital Accessibility and Information Support	5

Assessment was conducted using a five-point Likert scale, enabling the measurement of the perceived significance of each criterion and facilitating subsequent statistical analysis.

To verify the internal consistency of the newly developed instrument, a pilot study was conducted with a separate group of 15 students not included in the primary sample. Scale reliability was evaluated using Cronbach's alpha; the resulting coefficient ($\alpha = 0,91$) demonstrated high internal consistency across the scales, confirming the instrument's validity for the main research phase.

The qualitative stage comprised semi-structured interviews with 10 students and 6 lecturers. Participants were selected using maximum variation sampling to capture diverse academic achievement levels, degrees of online learning experience, and varying expertise in digital course design. These interviews were designed to unpack the quantitative findings and identify subtle pedagogical mechanisms that could not be fully captured through standardized survey instruments.

The interview protocol centered on students' experiences in undertaking research tasks within online courses, their utilization

of digital academic resources, the quality and timeliness of feedback, lecturer–student and peer-to-peer interactions, institutional and technical barriers to organizing inquiry in digital environments, and specific recommendations for optimizing the architectural design of online courses.

Particular attention was directed towards evaluating the research orientation of online courses, operationalized in this study as a systemic property of instructional design. To measure this construct, eight specific indicators were established:

Quantitative data were analyzed using IBM SPSS Statistics. Descriptive statistics included the mean (M), standard deviation (SD), median (Me), and interquartile range (IQR). The Shapiro–Wilk test indicated significant deviations from normality across the majority of indicators ($p < 0.05$). Accordingly, the non-parametric Mann–Whitney U test was employed to evaluate differences between student and lecturer evaluations.

Bivariate associations among variables were assessed using Spearman's rank correlation coefficient (ρ). Of primary empirical interest was the relationship between a course's research orientation, the quality of instructional feedback, levels of educational interaction, and perceived professional utility.

Qualitative interview data were examined using thematic analysis following a three-stage protocol. In the initial phase, transcripts underwent open coding to capture salient participant responses. During the second phase, these initial codes were synthesised into overarching thematic categories representing core dimensions of course quality perception. In the final phase, the emergent qualitative themes were triangulated against the quantitative survey findings, ensuring robust methodological triangulation.

To establish the methodological rigor and validity of the research design, several complementary validation procedures were implemented:

Enhancing Research Skills

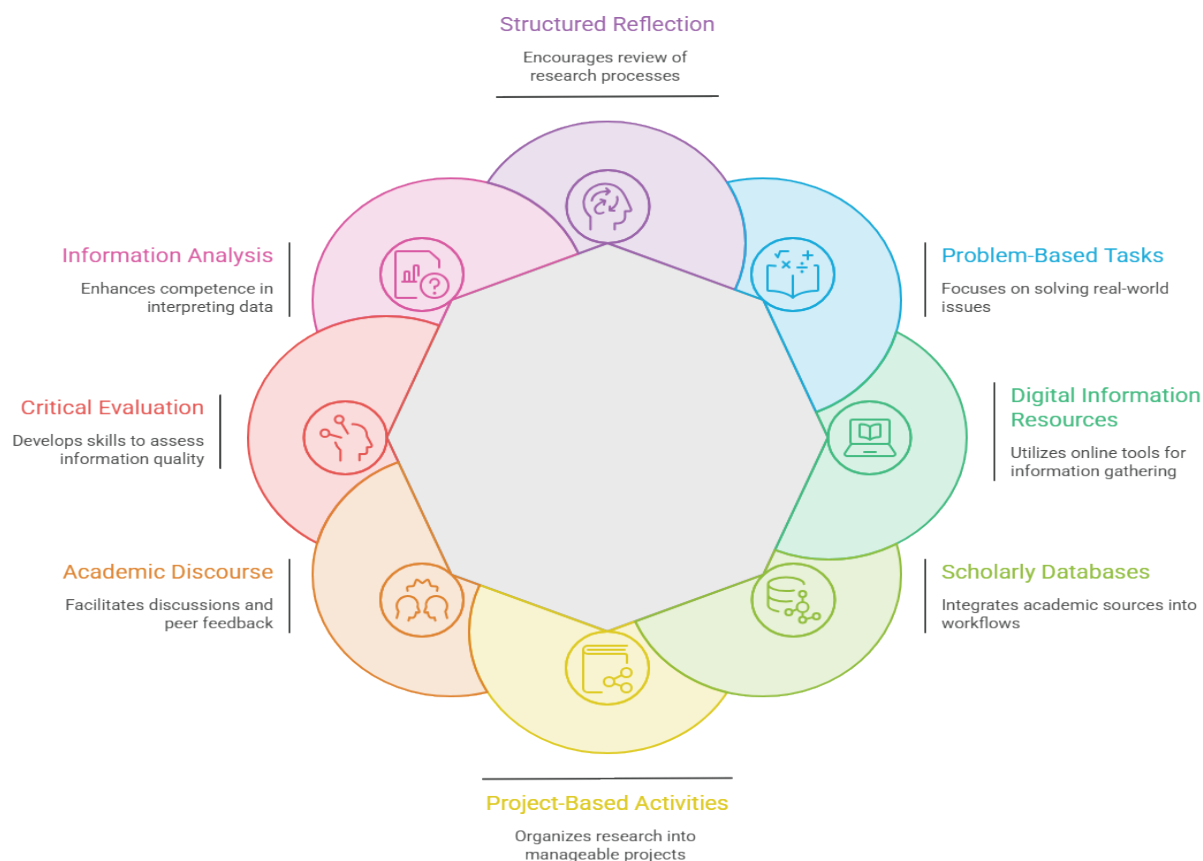


Fig.1. Indicators to evaluate the research orientation of online courses

Content Validity: Confirmed through expert review by an evaluation panel comprising three Doctors of Pedagogical Sciences and two Candidates of Sciences in Social Communications.

Construct Validity: Evaluated by examining the internal consistency metrics of the subscales alongside bivariate inter-item correlations.

Interpretive Validity: Achieved through the systematic convergence of quantitative and qualitative data streams, mitigating single-method bias.

Collectively, this methodological architecture enabled an in-depth evaluation of online course quality anchored specifically in research-based professional training rather than superficial digital administration. This provides the empirical foundation for an evidence-based framework of quality criteria tailored for future specialists in library, information, and archival studies.

The quantitative phase of the empirical study investigated which online course components students and lecturers consider most critical for cultivating the professional and research competencies of future specialists in library, information, and archival studies. Analysis revealed that while both cohorts evaluate the instructional potential of online courses favorably, their prioritization of specific quality criteria diverges significantly.

Students assigned the highest ratings to indicators reflecting the curriculum's practical orientation, authentic engage-

ment with digital information resources, and opportunities to conduct independent research projects. Conversely, lecturers placed significantly greater emphasis on instructional design coherence, assessment architecture, academic integrity protocols, and feedback quality. This divergence demonstrates that students predominantly assess an online course through the lens of instrumental professional utility, whereas lecturers evaluate it as an integrated, systemic pedagogical environment.

The findings reveal statistically significant differences between students' and lecturers' evaluations across nearly all criteria, except for digital accessibility and informational support. The most pronounced divergence concerned the course's research orientation and formative assessment, indicating that lecturers maintain markedly higher expectations for the structural integration of research inquiry into the online course architecture.

A granular analysis of specific research-orientation indicators proves particularly instructive. Students assigned the highest ratings to the authentic use of digital information resources ($M = 4.58 \pm 0.44$), practical engagement with electronic libraries and archives ($M = 4.47 \pm 0.51$), and opportunities to execute individual research projects ($M = 4.42 \pm 0.49$). Conversely, the lowest evaluations were recorded for methodological reflection on the research process ($M = 3.89 \pm 0.67$) and active participation in academic discourse ($M = 3.94 \pm 0.64$).

Table 2. Aggregated Evaluation of Online Course Quality Criteria

Criterion	Students (n=64)	Teachers (n=18)	p
Research-based nature of the course	$4,36 \pm 0,48$	$4,71 \pm 0,39$	0,012
Quality of digital learning materials	$4,22 \pm 0,57$	$4,53 \pm 0,41$	0,041
Organization of research assignments	$4,41 \pm 0,46$	$4,68 \pm 0,35$	0,028
Educational interaction and academic communication	$4,08 \pm 0,61$	$4,44 \pm 0,47$	0,036
Formative assessment and feedback	$4,17 \pm 0,59$	$4,63 \pm 0,38$	0,009
Digital accessibility and information support	$4,29 \pm 0,52$	$4,51 \pm 0,43$	0,118

These empirical patterns demonstrate that students place substantial value on instrumental, applied research tasks, yet remain less conscious of the critical roles of scholarly argumentation, epistemic reflection, and academic communication. This divergence underscores the need to embed research practices more systematically and deliberately into the instructional design of online courses.

An analysis of the "Organization of Research Tasks" domain demonstrated that students evaluate projects most favorably when tasks entail the critical analysis of authentic information case studies, the curation of digital collections, the compilation of thematic bibliographic indexes, the drafting of analytical reviews, and the development of electronic archival descriptions.

These data demonstrate that students regard tasks directly mirroring their future professional practice as the most effective. Conversely, academic writing and peer assessment received markedly lower ratings, likely attributable to limited prior experience in scholarly communication and peer review.

The evaluation of digital learning materials yielded particularly revealing results. Students prioritised interactive resources, video demonstrations of professional information systems, applied case studies, and seamless access to contemporary digital databases. In contrast, static text-based lectures and extensive theoretical modules lacking interactive components received significantly lower scores.

While lecturers likewise valued multimedia assets, their evaluations prioritised

the systematic alignment of instructional materials with intended learning outcomes, the academic currency of sources, and the didactic structure of course content. This distinction confirms that teaching staff are predominantly guided by the principles of constructive alignment and instructional design.

A critical empirical finding concerns the state of educational interaction and academic communication. Although evaluations remained generally positive, this dimension recorded the lowest aggregate scores across all assessed criteria. Participants emphasised that in many online courses, interaction remains confined to independent assignment submission and perfunctory forum postings; opportunities for collaborative information analysis, scholarly discourse, collective problem-solving, and peer review remain underutilised.

Among individual indicators within this construct, the lowest evaluations were assigned to the frequency of academic discussions ($M = 3.81 \pm 0.69$), the availability of structured forums to debate research problems ($M = 3.87 \pm 0.66$), and the peer review of student research ($M = 3.74 \pm 0.71$). Conversely, direct interaction with the lecturer received significantly higher ratings ($M = 4.36 \pm 0.52$), demonstrating that a vertical instructional dynamic continues to predominate over horizontal research collaboration.

Finally, the findings regarding formative assessment and instructional feedback proved especially instructive. While students rated the timeliness of grading ($M = 4.28 \pm 0.55$) and the clarity of assess-

Table 3. Evaluations of Specific Research Task Types

Type of Research Task	Average score
Analysis of digital libraries and repositories	4,63
Preparation of an informational and analytical review	4,51
Design of a digital collection	4,47
Analysis of digitized archival documents	4,38
Preparation of scholarly publications	3,96
Peer review of classmates' research papers	3,82

ment rubrics ($M = 4.22 \pm 0.58$) favorably, they reported significantly lower satisfaction with the analytical depth of written feedback on research tasks ($M = 3.91 \pm 0.63$) and the provision of targeted recommendations for refining research methodology ($M = 3.84 \pm 0.65$).

Lecturers, conversely, identified feedback as one of the definitive criteria governing online course quality. From their perspective, a research-based course must provide far more than a summative evaluation of the final deliverable; it demands continuous scaffolding throughout the inquiry cycle, encompassing targeted guidance on heuristic source discovery, data analysis, scholarly argumentation, and the formal dissemination of research findings.

These empirical findings support a fundamentally important conclusion: the quality of an online course within a research-based learning environment is defined less by technological sophistication than by the intentional organisation of authentic inquiry, the professional relevance of assessment tasks, and the pedagogical infrastructure supporting student research.

Synthesising the theoretical literature, international course quality rubrics, national scholarship on digital education, and these empirical findings enabled the formulation of an original quality criteria framework. Tailored to the professional training of future specialists in library, information, and archival studies, this proposed framework departs from existing models by establishing research inquiry as the core, system-forming architecture of online pedagogical design rather than an isolated,

supplementary instructional activity.

The conceptual foundation of the proposed framework rests upon the premise that online course quality is determined by its capacity to integrate professional practice with scholarly inquiry, foster information-analytical thinking, sustain academic communication, and embed students within an authentic digital research infrastructure. Within this paradigm, an online course functions not merely as a digital instructional resource but as an authentic digital research environment in which students navigate the complete cycle of professional scientific inquiry.

Exploratory factor analysis revealed three interrelated dimensions governing online course quality: the research-analytical, the collaborative-communicative, and the digital-organizational. Each dimension encompasses an operationalized set of criteria and indicators applicable to both the forward instructional design of new online modules and the systematic quality audit of existing digital courses.

The cornerstone of the proposed framework is the research-analytical dimension, which, according to the exploratory factor analysis, accounts for the largest proportion of explained variance in online course quality evaluations. This core dimension encapsulates the disciplinary specificity of professional training within specialization B13 "Library, Information and Archival Studies", differentiating a research-based online course from conventional digital instruction.

A three-level scale for evaluating the quality of online courses was developed for the practical use of the system.

Table 4. Core components and operationalized criteria of the research-based online course model

Component	Criteria
Research and Analysis	research orientation; professional authenticity of assignments; integration of digital academic resources; development of information and analytical literacy
Collaboration and Communication	academic collaboration; scholarly communication; collaborative research; reflection and peer assessment
Digital and Organizational	course structure; digital accessibility; technological support; transparency of assessment; pedagogical support

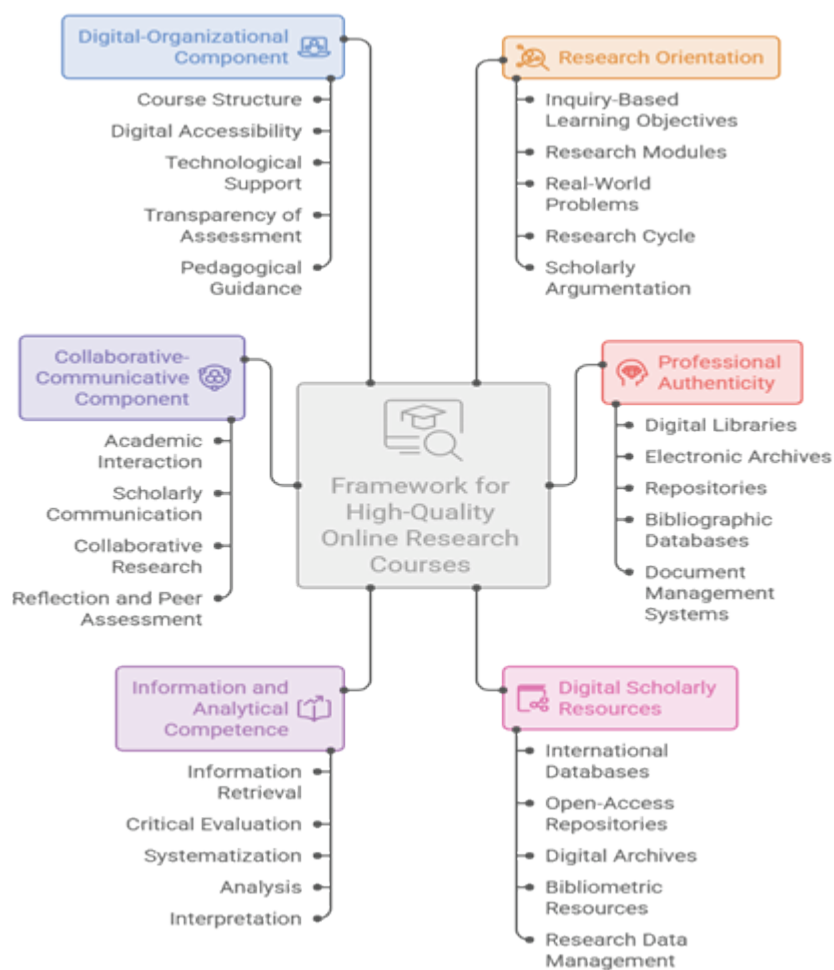


Fig 1. Framework for high-quality research courses

Table 5. Evaluation levels and performance descriptors for research-oriented online courses

Level	Characteristics
Basic	The course includes some research elements, but they are not systematically integrated.
Sufficient	Research activities are integrated into most of the course modules and supported by digital resources.
High	The course functions as a comprehensive digital research environment that supports the full cycle of professional research.

To evaluate the practical viability of the proposed criteria framework, an expert assessment was conducted on 12 professional-cycle online courses within specialization B13 "Library, Information and Archival Studies", hosted on the MEN-TOR learning management platform at the National Aerospace University "Kharkiv

Aviation Institute" (KhAI). The review panel comprised nine experienced lecturers who audited the courses against 15 operationalized indicators structured across the three core dimensions: research-analytical, collaborative-communicative, and digital-organizational.

Each indicator was rated on a 5-point Likert scale (1–5), yielding a maximum cumulative score of 75. In alignment with the proposed evaluative model, three distinct tiers of online course quality were established.

Table 6. Score thresholds across course quality tiers

Level	Score range
Basic	45–54
Sufficient	55–64
High	65–75

The expert audit revealed that only three courses (25.0 %) achieved the high-quality tier, whilst six courses (50.0 %) reached the satisfactory tier, and three courses (25.0 %) remained at the basic tier. Audit findings showed that three courses (25.0 %) attained the high tier, six (50.0 %) met the satisfactory tier, and three (25.0 %) remained at the basic tier.

Table 7. Course distribution by quality levels based on expert evaluation

Quality Level	Number of courses	%
Basic	3	25
Satisfactory	6	50
High	3	25

The results indicate that most online courses have a satisfactory level of digital organization; however, only a quarter of the courses demonstrate the systematic integration of research activities into their instructional design.

For a more in-depth analysis, average scores were calculated for each quality component.

Table 8. Average evaluation scores across quality components and tiers

Component	Basic	Sufficient	High
Research and Analysis	3,18	3,89	4,71
Collaboration and Communication	3,27	3,76	4,48
Digital and Organizational	3,94	4,31	4,67

The most pronounced disparities among the three tiers emerged within the research-analytical dimension, underscoring its decisive role in defining online course quality. High-tier courses differed significantly from basic-tier modules in their structured organization of research projects, integration of digital scientific databases, deliberate cultivation of information-analytical competence, and systematic pedagogical scaffolding for inquiry activities.

A Kruskal–Wallis test confirmed statistically significant differences across the three quality tiers within the research-

analytical dimension ($H = 8.64$, $p = 0.013$). Pairwise post hoc comparisons demonstrated that the primary divergence occurred between the basic and high tiers ($p = 0.009$), whereas the distinction between the satisfactory and high tiers was less pronounced ($p = 0.074$).

Table 9. A granular evaluation of the individual indicators yielded particularly revealing pedagogical insights

Component	Basic	High	High
Problem-Based Research Tasks	2,91	3,84	4,83
Working with Digital Academic Resources	3,08	4,02	4,76
Research Projects	2,87	3,71	4,79
Research Projects	3,11	3,65	4,42
Formative Feedback	3,29	3,93	4,68

Within basic-tier courses, the lowest mean scores were recorded for the organization of research projects ($M = 2.87$) and problem-based research assignments ($M = 2.91$). These courses were predominantly oriented towards unidirectional content delivery and the execution of reproductive tasks, with independent student inquiry occurring only sporadically.

Satisfactory-tier courses incorporated discrete research components, including the critical analysis of electronic resources, the drafting of analytical reviews, and targeted engagement with digital libraries and archival repositories. However, these activities lacked overarching curricular integration, functioning primarily as isolated instructional exercises rather than an aligned research system.

High-tier courses exhibited a qualitatively distinct pedagogical architecture. Within these modules, research inquiry was systematically embedded across every phase of the instructional trajectory, from the initial formulation of research questions to the formal dissemination of findings. Such courses were characterised by active engagement with international citation and bibliographic databases, open-access repositories, and digital archives, alongside collaborative student investigations, peer-

review cycles, reflective research journals, and public defences of project outcomes.

Triangulation of expert audit scores with student evaluations demonstrated high inter-rater concordance. A robust positive correlation was identified between expert ratings on the research-analytical dimension and student assessments of professional utility $\rho = 0,79$ ($p < 0,001$). This empirical alignment demonstrates that courses evaluated by experts as rigorously research-based were similarly perceived by students as possessing substantially higher professional relevance.

Qualitative examination of high-tier courses illuminated four defining pedagogical characteristics. First, curricula were systematically structured around authentic professional challenges. Second, instructional tasks integrated authentic digital information resources and primary repositories. Third, learning assessment was anchored in substantive, student-generated research outputs rather than conventional testing instruments. Fourth, lecturers provided continuous formative scaffolding throughout each stage of the inquiry process.

These empirical findings demonstrate that the proposed three-tier evaluative scale possesses high discriminatory power, reliably differentiating online courses by the depth of inquiry integration. Consequently, the framework serves as an operational instrument for institutional internal quality assurance, peer-review audits of digital curricula, and the forward instructional design of next-generation online courses.

This study has established an empirical and conceptual justification for online course quality criteria tailored to future specialists in library, information, and archival studies within a research-based digital learning paradigm. A critical synthesis of international rubrics and national scholarship confirms that established quality models predominantly address instructional design mechanics, technological infrastructure, and platform accessibility. Crucially, conventional frameworks fail to

capture the disciplinary specificity of information-sector professionals, for whom authentic scientific inquiry, digital curation, and analytical mediation constitute integral components of professional competence.

Empirical findings gathered from students and academic staff within B13 "Library, Information and Archival Studies" confirmed that perceived online course quality is predominantly determined by the research-based nature of instructional content, the structuring of authentic, professionally oriented tasks, the systematic integration of digital scholarly resources, formative assessment quality, and continuous pedagogical scaffolding. Statistically significant correlations established between the organization of research tasks, instructional interaction, and perceived professional utility verify the decisive role of the research-analytical dimension in ensuring high-quality digital learning.

The scientific novelty of this study lies in the formulation of an original quality criteria framework comprising three inter-related dimensions: research-analytical, collaborative-communicative, and digital-organizational. The proposed three-tier evaluative scale was empirically validated through an expert audit of professional-cycle courses, demonstrating high discriminatory power in differentiating online courses by the degree to which research inquiry is embedded in pedagogical design.

The practical significance of these outcomes resides in the operational utility of the criteria framework for designing next-generation online courses, modernizing existing digital curricula, facilitating internal institutional quality assurance, conducting peer audits, and systematically cultivating the research competence of future information, library, and archival professionals. Promising avenues for further research include expanding the participant sample, conducting cross-institutional validation of the evaluative model, and examining the pedagogical impact of generative artificial intelligence on the design and delivery of research-based online courses.

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Шленьова М. Критерії якості розробки онлайн-курсів для майбутніх фахівців з бібліотечної, інформаційної та архівної справи в умовах дослідно-орієнтованого навчання.

Теоретично обґрунтовано та емпірично верифіковано критерії якості онлайн-курсів для майбутніх фахівців зі спеціальності «Бібліотечна, інформаційна та архівна справа» в умовах дослідно-орієнтованого навчання. Доведено, що універсальні системи оцінювання зосереджені здебільшого на технічній організації платформ чи формальній структурі модулів, не враховуючи специфіки інформаційної галузі, де дослідницька діяльність становить ядро фахової компетентності. Застосовано змішаний дизайн дослідження: анкетування 64 студентів і 18 викладачів, напівструктуровані інтерв'ю та статистичний аналіз (критерії Манна-Вітні, Спірмена, Краскела-Уолліса). Встановлено значущі розбіжності між здобувачами й педагогами щодо сприйняття якості курсів: студенти виділяють автентичну роботу з науковими базами даних (Scopus, Web of Science, репозитаріями) та електронними колекціями, тоді як викладачі акцентують на системності формувального зворотного зв'язку й академічній доброчесності. Розроблено трикомпонентну модель критеріїв якості, яка охоплює дослідницько-аналітичний, колаборативно-комунікаційний і цифрово-організаційний блоки. Провідним визначено дослідницько-аналітичний компонент, який пояснює найбільшу частку дисперсії в оцінюванні фахової корисності дисциплін. Апробація моделі під час експертної оцінки 12 електронних курсів підтвердила валідність запропонованої трирівневої шкали (базовий, достатній, високий рівні). Високого рівня досягли лише 25 % курсів, де навчальний процес організовано як повний дослідницький цикл. Результати дослідження мають практичне значення для внутрішнього моніторингу якості вищої освіти та проектування цифрових освітніх середовищ.

Ключові слова: онлайн-курси; професійна підготовка; цифрова освіта; бібліотечна; інформаційна та архівна справа; майбутні фахівці; дослідницько-орієнтоване навчання; вища освіта; технічні університети.

Shlenova M. Quality criteria of online courses development for future specialists in library, information, and archival studies within a research-based learning environment.

This study theoretically substantiates and empirically verifies quality criteria for designing online courses for future library, information, and archival professionals within an inquiry-based learning framework. The author argues that existing international evaluation rubrics primarily assess technical platform delivery, navigational convenience, and general course structure, and insufficiently reflect the domain-specific demands of information science, where inquiry is the core of professional competence. A mixed-methods research design was implemented, involving 64 undergraduate and graduate students and 18 academic instructors, and combining validated questionnaire surveys, semi-structured interviews, and non-parametric statistical tests (Mann–Whitney U, Spearman's rank correlation, and the Kruskal–Wallis test). Empirical findings reveal statistically significant divergences between stakeholders: students prioritize practical engagement with authentic digital resources, open repositories, and archival databases, while educators emphasize formative feedback mechanisms, pedagogical coherence, and academic integrity. The study proposes a comprehensive three-component quality evaluation framework comprising research-analytical, collaborative-communicative, and digital-organizational dimensions. The research-analytical component emerged as the primary predictor of perceived instructional quality. Validation across 12 university e-learning courses confirmed the discriminative capability of the three-tier grading rubric (basic, proficient, advanced). Only 25% of evaluated courses demonstrated an advanced level, functioning as immersive digital research environments that support the complete scientific inquiry cycle. The developed criteria serve as an instrument for internal academic quality assurance and digital curriculum design.

Key words: online education; educational tools; professional training; library; information and archival studies; future specialists; research-based learning; higher education, technical universities.