

# **A MODEL FOR DEVELOPING INFORMATION COMPETENCE THROUGH SOCIAL NETWORKS IN A DIGITAL LEARNING ENVIRONMENT: SELECTED ASSESSMENT CRITERIA AND AN EXPERIMENTAL VALIDATION DESIGN**

Tashkent University of Applied Sciences Senior Lecturer Pazilova Dilnoza Khaydaraliyevna  
[pazilovadilnoza1014@gmail.com](mailto:pazilovadilnoza1014@gmail.com)

Tashkent University of Applied Sciences Computer Engineering Student Sadikov Abdugafur  
Isakhjon uli [abdugafursadikov@gmail.com](mailto:abdugafursadikov@gmail.com)

## **Abstract**

This paper develops a pedagogical model for forming information competence through social networks in a digital learning environment and selects the most practical assessment structure for its experimental validation. The study addresses a concrete problem: social networks are widely used in education, yet in many cases they are employed in a fragmented way that does not systematically develop learners' abilities to define information needs, search for relevant sources, evaluate credibility, synthesize evidence, create responsible digital content, and observe safety and ethical norms. The article uses conceptual modelling, systematisation, and comparative analysis to structure the model into goal, methodological, content, process, and assessment blocks. To strengthen the article as a research manuscript rather than a descriptive note, two essential tables are retained: an experimental design table and a core assessment criteria table with score weights. A quasi-experimental pre-test/post-test design with control and experimental groups is proposed as the most defensible validation strategy. The paper does not claim empirical proof at this stage; instead, it provides a methodologically coherent framework that can be tested in higher education.

**Keywords:** digital learning environment, social networks, information competence, digital literacy, assessment criteria, experimental design, educational model

The educational use of social networks has grown faster than the methodological culture needed to regulate it. Learners regularly use Telegram, YouTube, Instagram, Facebook groups, and similar platforms to exchange materials, search for explanations, discuss tasks, and create digital content. However, access does not automatically lead to competence. In many classrooms, social networks function as channels of distribution rather than as structured environments for learning how to define information needs, compare sources, verify claims, detect misinformation, synthesize evidence, and act ethically in digital space. This gap is the core problem addressed in the article. The study therefore asks a practical research question: how can social networks be integrated into a digital learning environment in a way that systematically forms information competence and can later be tested empirically? The article answers this question through a model and a deliberately limited assessment architecture. Instead of overloading the manuscript with excessive tables, only the tables that directly support research logic are retained.

The study is conceptual and design-oriented. It relies on system analysis, conceptual modelling, criterion selection, and pedagogical generalisation. The model was built around five blocks: goal, methodological, content, process, and assessment. The central design principle was economy with validity: only those elements that are necessary for an eventual quasi-experimental

test were kept. For that reason, the assessment framework was reduced to two indispensable components. The first is the experimental design structure, because without it the paper cannot move from a conceptual statement to a researchable design. The second is the core assessment criteria matrix, because without weighted criteria the outcome variable remains vague. The paper proposes a quasi-experimental pre-test/post-test design with control and experimental groups as the most practical option for real educational settings, where random assignment is often difficult.

The proposed model treats social networks not as informal add-ons, but as pedagogically regulated environments. The goal block focuses on the development of information search, source selection, critical evaluation, evidence synthesis, content creation, and safe ethical participation. The methodological block anchors the model in systemic organisation, learner-centred design, interaction, collaboration, reflection, and digital responsibility. The content block includes four core modules: information search and selection, critical evaluation of sources, digital communication and content creation, and safety with digital ethics. The process block follows four stages: diagnostic assessment and motivation, guided learning tasks, collaboration with content production, and reflection with feedback. The assessment block translates the model into measurable criteria.

To make the manuscript suitable for research publication, the most defensible assessment approach is a weighted, criterion-based rubric supported by a quasi-experimental design. The two selected tables below are therefore not decorative; they are the minimum structures required to move from a conceptual model to an empirically testable article.

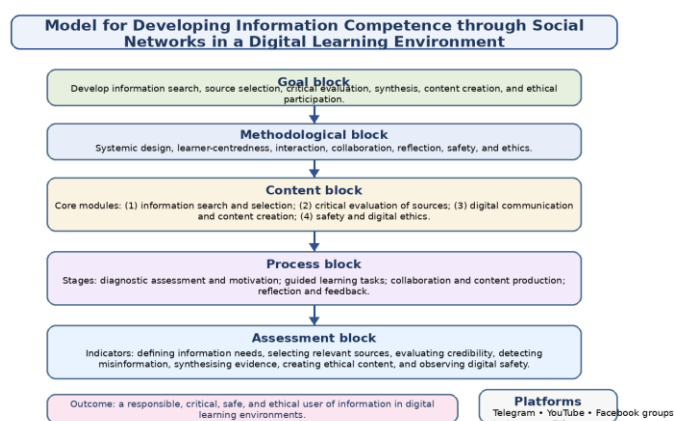


Figure 1. Conceptual model of information competence development in a digital learning environment

The model combines five blocks and links them to a measurable assessment system.

The strength of the proposed article structure lies in methodological restraint. Many weak manuscripts present a broad pedagogical idea and then add large numbers of fragmented tables, indicators, and self-made classifications that do not improve validity. That approach produces volume, not rigor. In contrast, the present paper narrows the design to the essential research logic: what will be implemented, how it will be measured, and how change will be interpreted. This is why the experimental design table and the core assessment criteria table are prioritised. Together, they make the dependent variable observable and the intervention testable. At the same time, the article remains honest about its current status. The model is a proposed solution, not yet a statistically proven one. Its value at this stage is theoretical and methodological. Its next step is

empirical validation in higher education, ideally with comparable groups, pre-test/post-test measures, and inferential statistics.

The article resolves the initial problem at the conceptual and methodological level: it transforms the unstructured use of social networks in education into a model with explicit objectives, stages, criteria, and a research design. The most appropriate tables for the manuscript are the experimental validation design and the weighted assessment criteria matrix, because they directly support testability. The recommended evaluation approach is a criterion-based rubric embedded in a quasi-experimental pre-test/post-test study with control and experimental groups. This makes the paper substantially stronger for journal submission, although empirical testing is still required before claiming effectiveness.

Table 1. Experimental validation design

| Component             | Selected design                                                                             |
|-----------------------|---------------------------------------------------------------------------------------------|
| Research type         | Quasi-experimental study                                                                    |
| Design                | Pre-test/post-test with control and experimental groups                                     |
| Participants          | Comparable higher-education student groups (recommended: at least 25–30 learners per group) |
| Duration              | 10–12 weeks                                                                                 |
| Intervention          | Structured learning tasks through social networks based on the proposed model               |
| Control condition     | Traditional or non-structured digital learning practice                                     |
| Data collection tools | Knowledge test, practical task, rubric, observation sheet, portfolio, reflective note       |
| Primary outcome       | Overall information competence score                                                        |
| Analysis              | Descriptive statistics plus group and pre-/post-comparison tests                            |

Table 2. Core assessment criteria and score weights

| Criterion                  | Indicator                                        | Max score | What strong performance looks like    |
|----------------------------|--------------------------------------------------|-----------|---------------------------------------|
| Defining information needs | Clarifies the task, purpose, and information gap | 10        | States a focused information need and |

|                                         |                                                                     |    |                                                                                  |
|-----------------------------------------|---------------------------------------------------------------------|----|----------------------------------------------------------------------------------|
|                                         |                                                                     |    | aligns it with the task objective.                                               |
| Searching and selecting sources         | Uses keywords, chooses platforms, finds relevant materials          | 15 | Selects relevant and sufficiently reliable sources instead of random links.      |
| Critical evaluation of sources          | Checks author, credibility, relevance, evidence, bias               | 20 | Justifies why a source is credible or weak, and detects misinformation risks.    |
| Synthesising and processing information | Compares, organises, and summarises evidence                        | 15 | Produces a coherent summary or conclusion from multiple sources.                 |
| Digital content creation                | Creates a post, infographic, slide, video, or brief analytical text | 15 | Produces accurate, structured, and audience-appropriate digital content.         |
| Communication and collaboration         | Participates in discussion and group work                           | 10 | Contributes with evidence-based comments and supports group task completion.     |
| Safety and digital ethics               | Respects privacy, citation, copyright, and online behaviour         | 15 | Uses citations, avoids plagiarism, and follows safety/ethics norms consistently. |

Score interpretation: 0–49 = low; 50–69 = medium; 70–84 = sufficient; 85–100 = high.

#### References

1. UNESCO. Media and Information Literacy Curriculum for Educators and Learners. Paris: UNESCO; 2021.
2. Vuorikari R, Kluzer S, Punie Y. DigComp 2.2: The Digital Competence Framework for Citizens. Luxembourg: Publications Office of the European Union; 2022.
3. OECD. Students, Digital Devices and Success. Paris: OECD Publishing; 2024.
4. UNICEF. Beyond Digital As Usual: Digital Education Strategy 2025–2030. New York: UNICEF; 2025.
5. Redecker C. European Framework for the Digital Competence of Educators: DigCompEdu. Luxembourg: Publications Office of the European Union; 2017.
6. European Commission. Digital Education Action Plan 2021–2027. Brussels: European Commission; 2020.