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Article

Toward a coherent framework for school-based information literacy: Delphi-based expert perspectives on competence and implementation

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Ivana Martinović, PhD
Associate Professor, Department of Information Sciences, Faculty of Humanities and Social Sciences, University of Osijek, Croatia. Email: imartinovic@ffos.hr. ORCID: 0000-0002-5074-9744.

Abstract

This article presents the findings of a two-round Delphi study exploring expert perspectives on information literacy (IL) in Croatian primary and secondary education. The study examined which IL competencies and pedagogical approaches are considered essential, how school librarians perceive their instructional role, and what systemic challenges influence the implementation of IL. A total of fifteen school librarians participated in the study. In the first round, participants responded to 11 open-ended prompts addressing themes such as teaching strategies, assessment, curriculum integration, and the use of artificial intelligence (AI) tools. In the second round, they evaluated 26 synthesised statements derived from a thematic analysis of the initial responses. The results reveal strong consensus on the need for a developmentally aligned and cross-curricular IL framework, encompassing skills from basic information seeking to independent inquiry and ethical information use. While school librarians are seen as key facilitators of IL, their efforts are often limited by time constraints, insufficient resources, and a lack of formal collaboration with teaching staff. Participants also expressed concern over students' increasing reliance on generative AI tools, which may impede critical thinking and encourage superficial engagement. The study underscores the need for national IL standards, stronger institutional support for school librarians, and greater attention to the pedagogical and ethical implications of AI in education.

Keywords
artificial intelligence; Croatia; curriculum design; digital literacy; information literacy; school libraries

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1. Introduction

The ability to access, evaluate, and use information is a fundamental prerequisite for lifelong learning, critical thinking, and active citizenship (UNESCO, 2003; Association of College & Research Libraries [ACRL], 2016). Information literacy (IL) is increasingly viewed not only as a technical skillset but as a socially situated practice essential for navigating saturated and algorithmically mediated information environments (Lloyd, 2012; Catts & Lau, 2008). In schools, IL serves as a foundation for independent learning and responsible participation in the digital society, and is recognised as a transversal competence crucial for academic success (UNESCO, 2021; IFLA/UNESCO, 2025). The expansion of IL into primary and secondary education has been accompanied by growing emphasis on the role of school libraries and librarians as pedagogical partners. As noted in IFLA/UNESCO (2025), school librarians are no longer seen solely as custodians of collections but as co-creators of learning experiences who foster students' critical engagement with diverse information formats. The International Literacy Association [ILA] (2022) similarly highlights their role in promoting digital and information literacies through inquiry-based learning. Nevertheless, research indicates that librarians' contributions are often underutilised or inconsistently embedded in curricula (Montiel-Overall & Grimes, 2013; Ben Amram et al, 2020; Merga, 2019; Merga et al., 2021; Merga & Mat Roni, 2025). The rapid integration of artificial intelligence (AI) tools such as ChatGPT has further complicated the information landscape. These tools offer new possibilities for access and creation but also raise concerns about authorship, credibility, and ethical use. Studies have warned that students often rely on AI-generated content uncritically, which can undermine the development of cognitive and ethical dimensions of IL (Mhlanga, 2023; Hirvonen, 2024). In response, school librarians are increasingly expected to foster students' digital resilience and responsible information practices (CILIP, 2018; Merga et al., 2021). Although international frameworks such as *Media and Information Literate Citizens* (UNESCO, 2021) advocate embedding IL across all school levels, the Croatian national curriculum formally integrates IL primarily through the cross-curricular theme *Use of ICT* (MZOM, 2019). The *Standard for School Libraries* (MZOM, 2023a) recognises school libraries as learning and information centres that promote independent learning and equitable access to information, in line with global guidelines. Yet practice across Croatian schools remains inconsistent. The implementation of IL is often shaped by the motivation, expertise, and institutional status of individual librarians. Although curriculum documents articulate ambitious IL goals, implementation is frequently fragmented and disconnected from classroom instruction (Spisak, 2021; Marquardt & Aidulyte, 2022; ILA, 2022). In light of these challenges—especially the growing use of AI tools among students (Hirvonen, 2024)—there is a pressing need to examine which IL competencies should be prioritised in compulsory education and how school librarians perceive and enact their instructional roles. This study employs the Delphi method to reach expert consensus on IL competencies, pedagogical approaches, and systemic barriers to implementation. The study was guided by the following research questions:

- RQ1: Which IL competencies are considered essential for primary and secondary students?
- RQ2: To what extent is there consensus among experts on the role of school librarians, implementation challenges, and the impact of emerging technologies on IL?
- RQ3: How do school librarians perceive the barriers and opportunities for fostering IL in the current educational context?

2. Literature review

2.1 Conceptual foundations and interrelated literacies

Contemporary perspectives position IL as a foundation for informed citizenship, encompassing the recognition of information needs and the ability to locate, evaluate, and ethically use information across diverse contexts (Bundy, 2004; Lloyd, 2010, 2012; UNESCO, 2021). Originally introduced by Zurkowski (1974) as effective information use in professional contexts, IL was later defined by the American Library Association (ALA) (2000) as the ability to recognise when information is needed and to locate, evaluate, and use the needed information. IL is often discussed alongside digital, media, and computer literacies, which reflect distinct aspects of interacting with information (UNESCO, 2021; Hobbs, 2010; Eshet-Alkalai, 2004). However, IL transcends these domains through its emphasis on purposeful, ethical, and reflective engagement with information (Lloyd, 2005; ACRL, 2016). It is now understood as a cognitively and metacognitively complex process involving critical thinking, synthesis, and reflective judgment. Kuhlthau's (1991) Information Search Process model frames it as a dynamic cognitive and emotional experience. Scholars further highlight IL's metacognitive dimension—learners' capacity to plan, monitor, and adapt strategies (Basili, 2008; Bruce, 1997)—which supports self-regulation, problem-solving, and knowledge construction (Andretta, 2005; Lloyd & Williamson, 2008). This integrative view positions IL as a meta-literacy essential for academic achievement and civic participation.

2.2 Curricular context and implementation in Croatia

In Croatia, IL is formally embedded in educational policy through national curriculum documents, particularly the cross-curricular theme *National curriculum for the cross-curricular topic: Use of information and communication technology* and the pilot programme *Experimental curriculum for the subject* Information and digital competences in primary education. [MZOM, 2019, 2023b). These documents align with international frameworks such as Media and Information Literacy Citizens (UNESCO, 2021) and IFLA (2015) guidelines, reflecting a global emphasis on the integration of IL into formal education. However, research indicates a significant gap between curricular intent and classroom practice (Lasić-Lazić et al., 2006). Although IL is formally included, implementation remains inconsistent. It is rarely systematically embedded in subject teaching, and its development often relies on individual initiative rather than coordinated institutional support.

2.3 The role of school librarians and cross-sectoral collaboration

School librarians have long been recognised as key agents in the development of students' IL, particularly through their expertise in navigating information environments and supporting critical engagement with sources (Kuhlthau, 2004; Todd, 2006). International frameworks increasingly emphasise the librarian's pedagogical role, advocating for their inclusion in curriculum planning, co-teaching, and inquiry-based learning (IFLA, 2015; IFLA/UNESCO, 2025; Loertscher, 2000). However, the realisation of this role in school practice remains inconsistent and often lacks structural support. Research indicates that school librarians frequently operate in isolation from teaching staff, with limited opportunities for sustained collaboration or involvement in instructional planning (Shannon, 2002; Williams & Wavell, 2007). A recent Delphi study by Son (2024) confirms these challenges in the context of South Korea, where volunteer librarians report a lack of formal institutional support despite playing a vital role in IL and media literacy

education. The study emphasises the need for clearer policy frameworks and systemic recognition of librarians' educational contributions. Although national education strategies may formally acknowledge the contribution of libraries, librarians are often excluded from strategic decisions or confined to logistical tasks (e.g., resource provision, cataloguing), rather than pedagogical integration. These structural limitations hinder the systematic development of IL, particularly in contexts where IL is not embedded in national curricula or supported school-wide. Cross-sectoral collaboration – especially between librarians, subject teachers, policymakers, and ICT professionals – is increasingly viewed as essential for effective IL instruction (Todd, 2008; Henri et al., 2002). Yet such collaboration is rarely formalised or adequately resourced. This fragmentation undermines continuity across subjects and limits librarians' potential to act as instructional partners, particularly in navigating emerging technologies like AI tools. In Croatia, similar patterns can be observed. While librarians are officially recognised as IL supporters, their role is often underutilised. Studies report insufficient collaboration with teachers, limited curriculum involvement, and a lack of systemic support (Ben Amram, 2020; Merga & Mat Roni, 2025; Zimmerman & Rose, 2024). Although some inquiry-based initiatives exist, collaborative models remain sporadic and not institutionally embedded (Marquardt & Aidulyte, 2022). A similar lack of institutionalised collaboration has been observed in Japan, where Niwai (2016) highlights persistent gaps between the expected and actual roles of school librarians in IL instruction. Several unpublished Croatian master's theses (e.g. Ružić, 2021; Vladisavljević, 2020; Ivanić, 2023) highlight fragmented IL provision, variable programme quality, and organisational challenges such as weak leadership support, inadequate infrastructure, and a lack of professional development for librarians. While not peer-reviewed, these works provide valuable insights and reinforce the need for further empirical research. Collectively, these findings underscore the need to rethink the librarian's role and supporting structures. Developing coherent, context-sensitive IL models that reflect both global standards and local realities is crucial. This study addresses that need by examining expert perspectives on IL competencies, pedagogical approaches, and implementation challenges to inform a more integrated framework for IL in schools.

3. Methodology

To address the lack of research on the role of school librarians in IL education - especially in Croatia - this study used a two-round Delphi method to explore expert consensus on key IL competencies, instructional approaches, and implementation challenges. The method was selected for its effectiveness in gathering expert input and achieving consensus on complex educational issues (Hsu & Sandford, 2007; Lund, 2020; Šobota, 2023).

3.1 Research Design and Procedure

The Delphi process consisted of two stages. In Stage A (round one), participants answered 11 open-ended questions (see Appendix A), designed to elicit a broad range of views on IL development. These questions were informed by the relevant literature, professional frameworks, and recent developments in school librarianship and digital information environments. Participants were also invited to offer additional comments beyond the predefined scope, enhancing the exploratory depth of the study.
The open-ended questions addressed:

- key IL competencies expected by the end of primary and secondary education,
- curriculum integration and extracurricular initiatives,

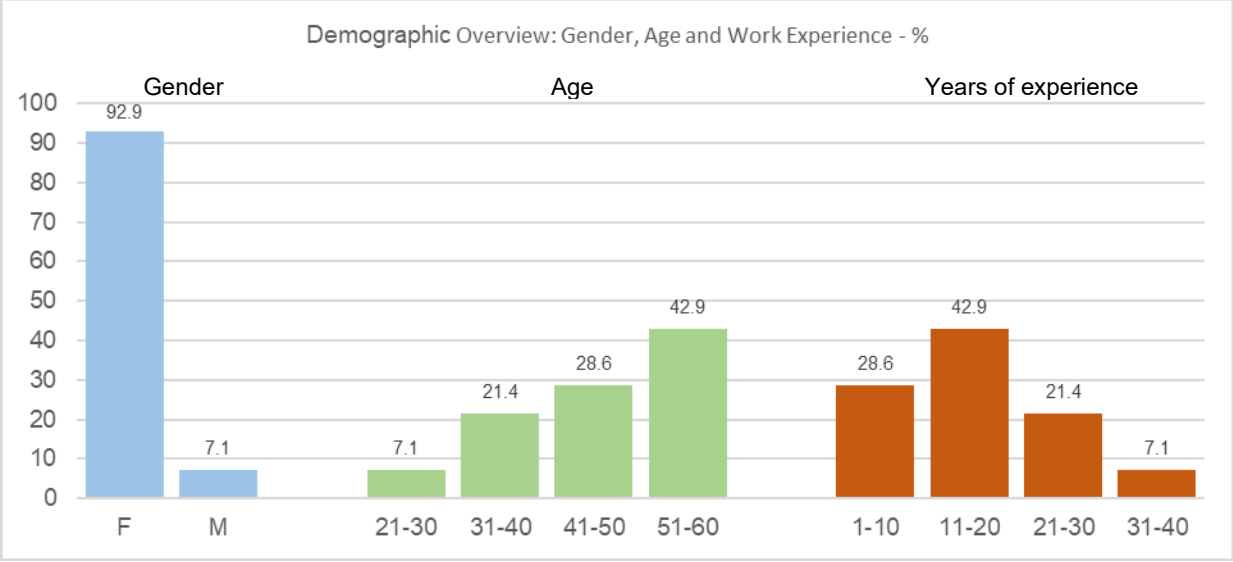
- librarian–teacher collaboration,
- pedagogical and assessment strategies,
- and the impact of AI tools such as ChatGPT on students' information practices.

Responses were analysed inductively using MAXQDA. Recurring themes and frequently cited perspectives were synthesised into 26 concise statements (see Appendix B), reflecting both converging and diverging expert views. These were grouped into seven thematic categories, elaborated in the Results section. Stage B (round two) involved rating the 26 statements using a 5-point Likert scale (1 = strongly disagree; 5 = strongly agree), with the option to provide qualitative comments. This round aimed to identify the level of expert consensus, highlight areas of disagreement, and assess the need for a third round.

3.2 Participants and Sampling

A purposive sample of 15 school librarians (eight from primary and seven from secondary schools) from Osijek-Baranja County in Croatia participated in the study. All participants were members of the County Professional Council for Primary and Secondary School Librarians, through which the invitation was extended. Selection criteria included current employment in a school library, substantial professional experience, and authorship of scholarly publications in library and information science—criteria consistent with expert identification standards in Delphi methodology (Hsu & Sandford, 2007; Lund, 2020). 14 librarians (eight from primary schools and six from secondary schools) proceeded to the second round. Figure 1 presents the demographic profile of the overall expert sample.

Figure 1: Participant demographics



3.3 Data collection and tools

The first-round questionnaire was administered via Google Forms, allowing for efficient collection of qualitative responses. The second round was implemented using LimeSurvey, which facilitated structured data entry and export for statistical analysis in SPSS. Qualitative

comments were subjected to thematic coding to further contextualise rating patterns and deepen understanding of divergent perspectives.

3.4 Ethical considerations

The study was conducted in April and May 2025. Participants were introduced to the study by telephone and provided informed consent before receiving a questionnaire link via email. Anonymity and voluntary participation were ensured throughout.

4. Findings of round one

The following section presents the results of round one of the Delphi study, derived from a thematic analysis of responses to 11 open-ended questions. Findings are organised into seven key thematic categories that synthesise expert insights, recurring viewpoints, and perceived challenges related to the development of students' IL in primary and secondary education. Each theme corresponds to a specific question from the Delphi questionnaire, as indicated in parentheses (e.g., Q1, Q2 etc.).

4.1 Levels and progression of IL skills (Q1)

Participants articulated a clear distinction between the IL skills expected at the primary and secondary school levels, outlining a progressive trajectory from foundational to advanced competencies. At the primary level, the focus is on establishing essential building blocks of IL. These include the ability to recognise an information need and formulate relevant questions, search simple sources (such as books, encyclopaedias, and child-friendly websites), and distinguish credible from non-credible information. Furthermore, pupils are expected to understand basic copyright principles, cite sources appropriately, take notes, and organise information effectively. Digital competence is introduced through the use of basic tools, while emphasis is also placed on internet safety, protection of personal data, and the development of early critical thinking and responsible behaviour online.

> By the end of primary school, students should be able to recognise information needs, use basic sources (books, reference materials, search engines), distinguish reliable from unreliable information, organise it effectively (e.g., mind maps), and understand copyright. (P6)

At the secondary level, expectations shift towards more autonomous and analytical skills. Students should be able to implement advanced search strategies (including the use of academic databases), critically evaluate and compare information from diverse sources, and identify misinformation and propaganda. They are expected to demonstrate a deeper understanding of copyright, academic honesty, and ethical use of information. Moreover, skills such as synthesising and interpreting information, applying it to real-world problems, and engaging in more complex digital citizenship are considered essential. The ability to formulate research questions and engage in self-directed inquiry also emerges as a priority at this stage.

> By the end of primary school, students should have mastered basic skills such as planning a search, conducting the search, and evaluating the information found. By the end of secondary school, these skills should be developed at a deeper level, meaning that students should be able to independently define the task, choose appropriate information search strategies across different media, locate and access relevant

> information, synthesise and present it, and evaluate both the process and the information itself. Students should also be able to distinguish between true and false information. (P15)

4.2 Approaches to integrating IL into the curriculum (Q2, Q3, Q4)

Participants emphasised that the effective integration of IL into school life requires a systemic, collaborative, and cross-curricular approach. Rather than being treated as a standalone subject, IL should be embedded across multiple domains of teaching and learning, with school librarians playing a central coordinating role. A cross-curricular integration model emerged as one of the most natural and sustainable approaches. Respondents described how IL competencies can be cultivated through authentic tasks within core subjects, such as analysing news articles in Croatian language classes, comparing historical sources in history, conducting inquiry-based research in science, or evaluating digital content in informatics.

> Students should gradually adopt key IL skills through diverse tasks, ranging from analysing articles to conducting research in science and critically thinking about digital sources in informatics. The librarian's role is crucial in this process. (P1)

These activities were viewed as most effective when embedded in everyday classroom work and aligned with curricular goals, rather than being sporadic or isolated.

> I see the greatest potential for IL development in Croatian, History, Science and Society, and Informatics classes, as well as in library workshops and extracurricular activities such as debate or school journalism. (P7)

Another strategy involves a spiral curriculum led by school libraries, in which IL concepts are introduced early and progressively reinforced.

> By the end of primary school, students should be able to plan, search, and evaluate information; by the end of secondary school, they should define search strategies, evaluate reliability, and synthesise and present findings. (P15)

Others proposed thematic workshops tailored to students' cognitive levels and supported by evaluative tools such as rubrics and quizzes.

Extracurricular and project-based learning contexts were also viewed as valuable. These include activities such as media literacy days, student blogs, or collaborative campaigns against misinformation:

> Particularly effective approaches include project-based and extracurricular activities where students apply IL skills in real-world contexts (P1).

Respondents also stressed the importance of collaborative instructional models between librarians and teachers:

> Teachers and librarians should jointly design research tasks and guide students in using both print and digital sources – regardless of whether the activity is curricular or extracurricular. (P10)

Several emphasised that meaningful collaboration is often reliant on personal initiative:

> In my early years, I had to prove myself and 'offer' my knowledge. Now, my colleagues recognise the value of the school librarian, but such recognition shouldn't depend on personal persistence. (P2)

Some participants advocated for early and formal integration of IL, starting in the first grade:

> IL is included in the curriculum, but often overlooked due to other priorities. I believe it should be a core focus from the first grade, ideally through mandatory informatics, which should also reflect IL goals—not just computer skills. (P3)

Frameworks such as Big6 and Super3 were mentioned as age-appropriate tools for structuring IL learning. Finally, challenges related to institutional recognition were noted. While some librarians enjoy strong partnerships with teachers, others struggle for visibility:

> Since collaboration is suggested but not mandated in official documents, there are no consequences if it doesn't occur—leaving students without the benefits of IL instruction. (P2)

4.3 Teaching methods and instructional strategies (Q5, Q6)

Participants emphasised that joint planning and teaching between school librarians and teachers is a key strategy for developing students' IL. This model combines the librarian's expertise in information sourcing and evaluation with the teacher's subject knowledge and pedagogical skills. Effective approaches include team teaching**,** project-based learning, and interdisciplinary collaboration, where IL is integrated into authentic learning tasks. Examples such as the *Fake News* project illustrate how students can develop critical thinking through inquiry and content creation.

Other suggested models include library-led workshops**,** teacher training sessions led by librarians, and systematic planning at the start of the school year. Participants also stressed the importance of the librarian's visibility and initiative, especially in the absence of formal mandates for collaboration.

Challenges include inconsistent support, lack of a national curriculum for information and media education (e.g., KIMOO), and reliance on individual motivation. To overcome these barriers, stronger institutional support and integration of IL into the school curriculum were recommended.

> I believe it is essential to develop an IL standard for our primary and secondary education system (or at least at the European level). School librarians implement their Library, Information, and Media Programme (abbreviated as KIMO), which is not officially prescribed or published anywhere. I consider this one of the key tasks that should be addressed at the national (or European) level. (P2)

Implementation of the Library, Information, and Media Education Programme (cro. KIMOO) remains inconsistent. Despite efforts by the professional association (cro. HUŠK), there is no official curriculum for KIMOO, which means its implementation is not mandatory. There are several reasons for this: some librarians are unwilling to teach, some schools do not recognise

librarians as part of the teaching staff, and in others, there is a lack of adequate ICT equipment. (P9)

Ultimately, successful collaboration depends on shared goals, mutual respect, and recognition of the librarian's role in fostering **multiliteracy** from the earliest grades.

> Some of the effective models of collaboration between school librarians and teachers may include joint creation of teaching units (i.e., co-planning and co-teaching lessons that involve research activities), team teaching (with clearly defined roles for both librarian and teacher during instruction), project-based collaboration (where librarians support school-wide and cross-curricular projects focused on developing research and information skills), and workshops for teachers (in which librarians provide training on tools, resources, and methods for fostering IL). (P3)

4.4 Assessment and evaluation (Q7)

Participants identified a range of effective methods for evaluating students' progress in IL. Emphasis was placed on formative assessment, including feedback during the learning process, student self- and peer-assessment, and continuous monitoring. A combination of quantitative and qualitative approaches was seen as optimal, providing a comprehensive understanding of students' skills, attitudes, and development. Table 1 summarises the evaluation methods mentioned, along with their applications and frequency of reference.

Table 1: Methods of IL evaluation

Type of Method	Description / Specific Activities	Participant Quotation
Formative Assessment	Feedback during learning, task analysis, observations, and individual or group discussions	*Formative assessment seems to me the most effective, as it allows for real-time feedback and timely support for students. In addition, quizzes—which primary school students greatly enjoy—and questionnaires or student self-reflection are also valuable tools. (P5)* *Assessment after a completed workshop, yes—but continuous assessment is nearly impossible, especially if there are no regular activities. (There are 29 class sections, and other school specialists also conduct their own workshops.) Perhaps formative assessment is feasible if the librarian has connected topics/content, so that each subsequent session can begin with a review of previously covered material. I should note that the librarian only has one lesson period available (and only if they manage to secure it and if it is planned in advance in the school curriculum). (P12)*
Self-reflection	Self-reflection / Quizzes	*Students need to engage in self-assessment, alongside methods of assessment for learning, as learning, and of learning at the end. Additionally, there should be some form of accreditation once a student has mastered the skill. (P15)*

Surveys / Questionnaires	Initial Diagnosis and Final Evaluation	*The survey method can be used to identify students' initial skill levels, monitor the development of their competencies over time, and conduct final evaluation at the end of the school year. (P1)*
Project Tasks / Portfolios	Evaluation through practical tasks, presentations, and source analysis	*Evaluation methods for monitoring student progress in the field of IL can include project-based learning and tasks, portfolios, quizzes and tests, self-assessment or peer assessment, and reflection. (P11)*
Combination of Methods	A combination of qualitative and quantitative approaches (surveys, reflections, tasks, quizzes)	*Student observation focuses on how learners search, select, and process information. Work evaluation (e.g., projects, presentations) assesses source credibility, structure, and citation. Rubrics offer clear criteria (e.g., source selection, organisation, application). Self- and peer-assessment promote reflection and feedback. Quizzes and questionnaires test key concepts, such as distinguishing facts from opinions and recognising reliable sources. (P14)* *Students need to engage in self-assessment, along with methods of assessment for learning, as learning, and of learning at the end. Additionally, there should be some form of accreditation once a student has mastered the skill. (P15)*

4.5 Role of school librarians and the school library in the IL education (Q11, Q12)

Participants emphasised that developing students' IL requires systemic**,** school-wide efforts**.** They highlighted the need to integrate IL into the curriculum**,** ensure collaboration between librarians and teachers, and provide institutional support and recognition for the librarian's educational role. Other recommendations included investing in infrastructure**,** promoting critical and ethical use of information, and involving school leaders, teachers, and parents in the process. Several stressed the importance of project-based learning, regular student engagement with the library, and building a culture of lifelong learning**:**

> Integrating IL into the curriculum, joint lesson planning, librarians' educational and mentoring roles, program funding, and inviting guest experts. Active involvement of school principals in promoting collaboration between librarians and teaching staff, with a clearly defined librarian role. (P4)

4.6 Challenges and necessary changes (Q8)

Participants identified several key challenges that significantly impact the ability to implement high-quality and continuous instruction aimed at developing students' IL. The most prominent issues are organisational, including the lack of allocated time within the school schedule, limited opportunities for regular collaboration with subject teachers, and the fact that IL activities are often carried out solely at the initiative of school librarians. In addition to organisational concerns, numerous technical challenges were reported, such as outdated or insufficient computer equipment, poor internet connectivity, and spatial limitations of school libraries, which are often unable to accommodate entire classes.

From a staffing perspective, librarians are frequently overburdened with administrative tasks and lack the professional and temporal capacity to fully engage in educational roles—particularly when working part-time. Participants also emphasised the absence of systemic curricular support, noting that IL is neither clearly defined nor fully integrated into national educational frameworks.

Finally, several participants highlighted motivational difficulties, especially among students who often perceive IL content as irrelevant due to the lack of formal assessment. Additionally, some teachers fail to recognise the educational value of library-based instructional activities. These challenges are summarised in Table 2.

Table 2: Key Challenges in implementing IL

Type of Challenge	Description of Challenge	Quote
Organisational	Lack of scheduled time, inability to integrate into classes, overloaded timetables, and reliance on teacher goodwill.	*The biggest challenge is getting access to a lesson, homeroom period, or substitution time and using that for IL. Librarians don't have mandatory teaching hours - everything depends on their own motivation.* (P3) *The greatest challenge in teaching IL is limited time and packed schedules, making it difficult to work with students consistently. Librarians often take over tasks from other staff- teachers, secretaries, principals-which leaves little time for actual library and educational work.* (P10)
Financial	Lack of funding for library equipment, literature, and programming.	*There is no consistent funding, the library space is inadequate, and there's a lack of cooperation.* (P4)
Technical	Outdated equipment, insufficient number of computers/tablets, poor internet connectivity, lack of space, and software licensing issues.	*The library lacks computers, and there's too little time to prepare workshops – especially when working part-time.* (P1) *Outdated technology, burden of non-student-related tasks (administration, statistics, textbooks, substitutions, committee obligations, various reports).* (P2) *School equipment is unsatisfactory. Students only have access to computers in the ICT room, while tablets provided are poor quality and often non-functional. Many digital tools are not free, and schools can't afford licenses.* (P6)

Staffing	Librarians working part-time, administrative overload, lack of professional recognition, non-librarian tasks.	*The principal believes the librarian always has more urgent matters than professional work; workshops are only allowed during homeroom, and only after the homeroom teacher completes their agenda.* (P7)
Curricular	Absence of national IL standards, lack of formal recognition of KIMO, and no systematic curriculum integration.	*Sometimes it's hard to even get a lesson or access to students. It's less of a problem in lower grades but more difficult from grades 5–8. One school hour isn't enough to achieve real results, and teachers often can't spare more time.* (P15)
Motivational	Low motivation among students and teachers, students don't see IL as relevant if it's not graded, inconsistent prior knowledge.	*Student motivation is very low; they see IL tasks as extra work, especially when teachers don't require it.* (P6) *The biggest challenge is students' uneven prior knowledge. Their interest in new skills is very low if it's not graded, which is discouraging.* (P13)

4.7 AI and IL (Q9, Q10)

Participants confirmed that the availability of AI tools significantly transforms how students access and engage with information. There is a prevailing concern that students increasingly rely on tools such as ChatGPT as their primary source of information, often without verifying the accuracy, reliability, or relevance of the content:

> They believe it's enough to just ask AI a question to get all the answer. They don't even consider whether those answers are relevant. (P1)

Many participants observed that students use ChatGPT as a substitute for traditional search or library work, frequently copying answers without deeper understanding. Several compared this behaviour to earlier "copy-paste" tendencies, now amplified in speed and scale. A particular concern is students' uncritical acceptance of AI-generated content, with no regard for source reliability, bias, or ethical issues like plagiarism:

> Students are becoming very lazy. They check nothing, believe everything. One student copied a book report from ChatGPT claiming Breza was written by Ivo Andrić, with a protagonist from Herzegovina - even after watching the film. They completely trust ChatGPT and never verify the content. This is alarming. (P15)

While some acknowledged AI's benefits—faster access to information, task simplification, or personalised learning—most emphasised the risks: reduced independence, superficial learning, and the erosion of research and language skills:

> AI narrows students' logical thinking and language expression. It also gives incorrect answers if students don't ask the right questions. (P13)
> AI has changed learning completely. Students go straight to the answer without researching, learning, or reflecting. They don't consider accuracy, copyright, or plagiarism. (P12)
>
> It has replaced all other ways of accessing information - even basic Google searching. (P4)

Participants strongly positioned school libraries as central to educating students about ethical and responsible AI use. Systematic support should include workshops, collaborative projects, and integration into the curriculum:

> Librarians can organise workshops, debates, or projects where students explore responsible and ethical AI use. (P6)
>
> Our role hasn't changed drastically—we just need to expand our activities, which requires resources and cooperation. (P8)

Recommendations included:

- Promoting critical AI literacy (understanding bias, data protection, plagiarism).
- Comparative activities (e.g., AI-generated vs. student-created content).
- Debates and guideline development for responsible use.
- Strengthening digital and IL and intellectual property education.
- Encouraging critical thinking through real-world problem solving.

These insights shaped several statements for round two, reflecting nuanced participant perspectives and forming the basis for consensus assessment.

5. Findings of round two

In the second round, participants evaluated a total of 26 statements derived from the thematic analysis of round one. These statements were rated on a 5-point Likert scale and grouped into seven thematic categories. For the purpose of analysis, responses were aggregated into three categories: "do not agree," "neither agree nor disagree," and "agree." This round presents quantitative insights into participants' views, structured across the following thematic areas:

1. Levels and development of skills
2. Curriculum integration and strategic framework
3. Teaching methods and instruction
4. Assessment
5. The role of librarians and the school library
6. Challenges and necessary changes
7. AI and IL

5.1 Levels and development of skills

Participants expressed a strong consensus on the importance of developing students' IL progressively and in line with their cognitive development throughout primary and secondary education. By the end of primary school, students should be able to recognise their information

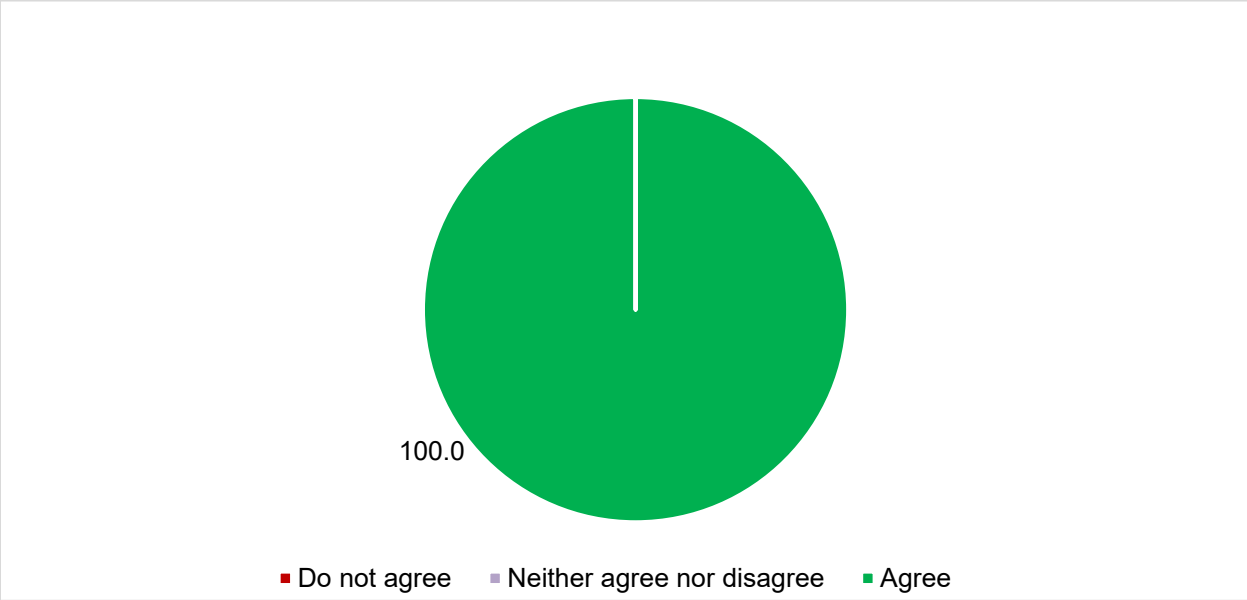
needs, search for and evaluate sources, and cite them appropriately. By the end of secondary school, they are expected to independently formulate research questions, use advanced search strategies, and apply information ethically and responsibly. All participants agreed that IL instruction should start in the early grades and become gradually more complex, supporting students' growing ability to think critically and work independently with information. See Table 3 and Figure 2.

Table 3: Levels and development of skills

	Do not agree*	Neither agree nor disagree**	Agree***	Mean
By the end of primary education, students should acquire fundamental IL skills (e.g., recognising the need for information, searching, evaluating sources, and citing them appropriately).	0,0	0,0	100,0	4,93
By the end of secondary education, students should be able to independently formulate research questions, employ advanced search strategies, and apply information responsibly.	0,0	0,0	100,0	5,00
IL skills should be developed from the earliest grades and gradually become more complex in accordance with students' cognitive development and their ability to use information independently and critically.	0,0	0,0	100,0	5,00
Average	0,0	0,0	100,0	4,98

** Do not agree (combined "strongly disagree" and "somewhat disagree"), %*
*** Neither agree nor disagree, %*
**** Agree (combined "strongly agree" and "somewhat agree"), %*

Figure 2: Levels and development of skills – average level of agreement



5.2 Curriculum integration and strategic framework

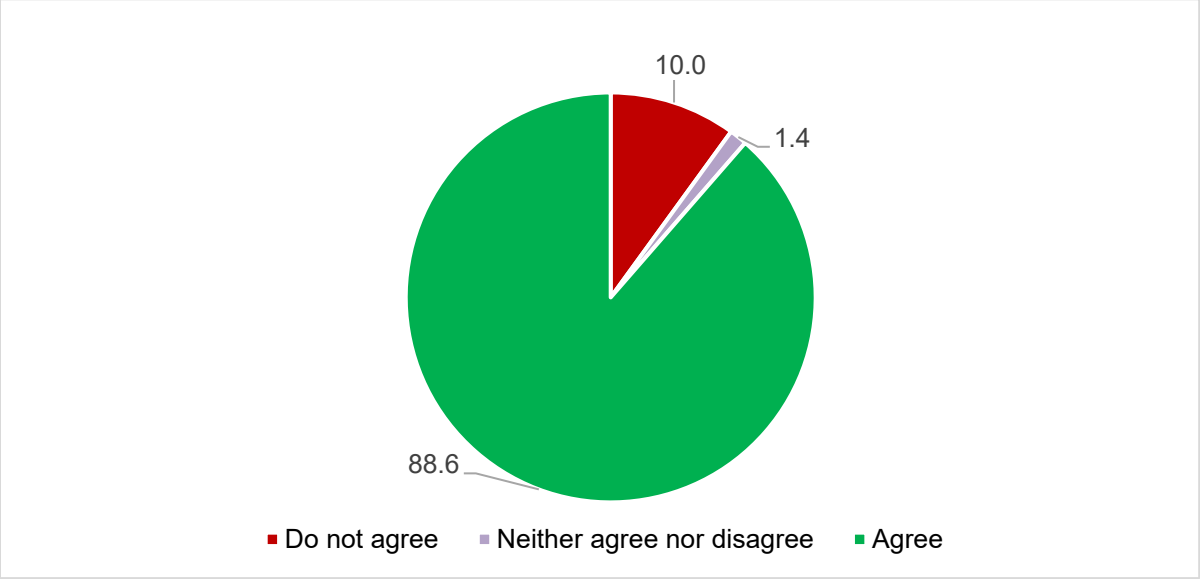
Participants evaluated several statements regarding the curricular positioning of IL. There was strong consensus that IL should be integrated across all subjects, extracurricular activities, and library programs, rather than being limited to research-focused instruction—this statement was supported by all 14 participants. Similarly, full agreement (14 participants) was expressed on the need for a national or European IL standard and the importance of expert-designed IL programs to ensure consistency and quality across schools. Thirteen participants supported the idea that IL is a cross-curricular topic that should be developed in collaboration with teachers, while one participant disagreed. The most contested issue was the proposal to introduce IL as a separate subject: seven participants supported this idea, six opposed it, and one was undecided. As shown in Table 4 and Figure 3, this division highlights differing professional perspectives on how IL should be positioned within the curriculum.

Table 4: Curriculum integration

	Do not agree*	Neither agree nor disagree**	Agree***	Mean
IL should be integrated across all subjects, extracurricular activities, and library programs, not only in those that involve research-based assignments.	0,0	0,0	100,0	4,86
IL is a cross-curricular topic that should be systematically developed in collaboration with teachers.	7,1	0,0	92,9	4,57
Since IL is not systematically defined in the curriculum, its introduction as a separate subject with clearly defined learning outcomes should be considered.	42,9	7,1	50,0	3,14
IL programs should be designed at the national level by expert working groups comprising librarians, teachers, and educational specialists, in order to ensure quality, consistency, and applicability in schools.	0,0	0,0	100,0	4,71
It is essential to develop a national (or European) IL standard that clearly defines competencies, levels of proficiency, and enables systematic monitoring of students' progress.	0,0	0,0	100,0	4,50
Average	10,0	1,4	88,6	4,36

** Do not agree (combined "strongly disagree" and "somewhat disagree"), %*
*** Neither agree nor disagree, %*
**** Agree (combined "strongly agree" and "somewhat agree"), %*

Figure 3: Curriculum and strategic framework – average level of agreement



5.3 Teaching methods and instruction

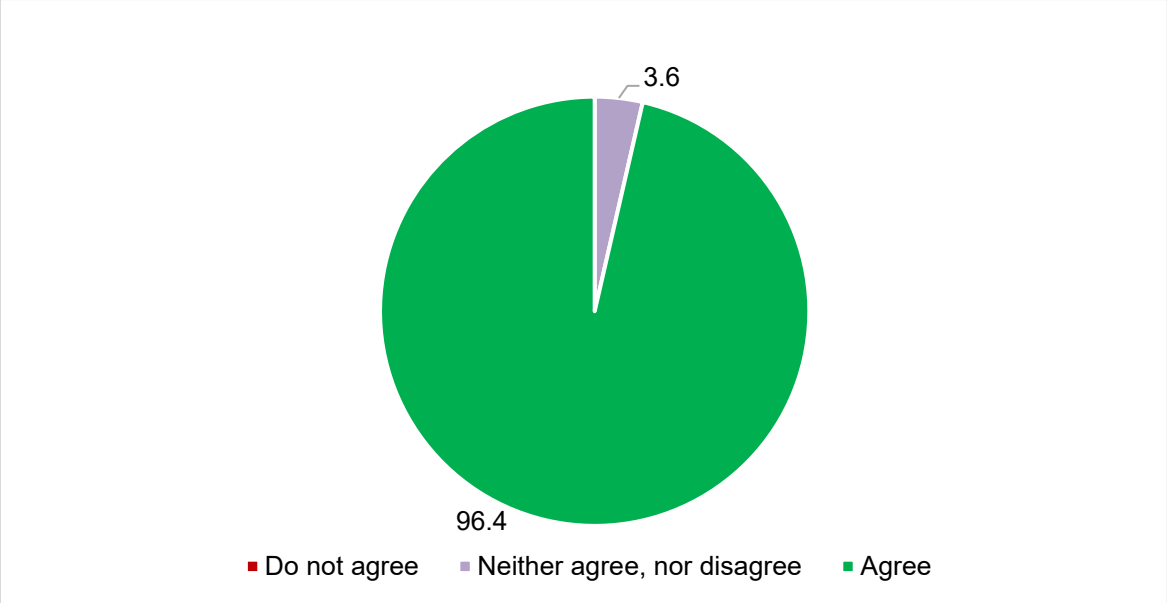
Participants expressed strong agreement that students acquire IL skills most effectively through concrete, problem-based, and project-based learning integrated into various subject areas. All 14 participants supported this approach. An identical level of agreement was recorded for the statement that IL instruction is most effective when students apply information in real, meaningful contexts, and for the view that the use of digital tools and gamification enhances students' motivation to engage with IL content. Slightly less agreement was observed regarding the use of student-generated content—such as blogs, videos, or podcasts—as a means of developing IL skills: 12 participants agreed, and two expressed a neutral stance. These findings are summarised in Table 5 and visualised in Figure 4.

Table 5: Participants' agreement on teaching methods and instructional approaches

	Do not agree*	Neither agree nor disagree**	Agree***	Mean
Students acquire IL skills most effectively through concrete tasks, problem-based learning, and project-based instruction within various school subject areas.	0,0	0,0	100,0	4,86
Activities that encourage students to apply information in real, meaningful contexts are the most effective for developing IL skills.	0,0	0,0	100,0	4,79
The use of digital tools and gamification further enhances students' motivation to develop IL.	0,0	0,0	100,0	4,50
Students should be encouraged to create content (e.g., blogs, videos, podcasts) as a means of developing IL skills.	0,0	14,3	85,7	4,36
Average	0,0	3,6	96,4	4,63

** Do not agree (combined "strongly disagree" and "somewhat disagree"), %*
*** Neither agree nor disagree, %*
**** Agree (combined "strongly agree" and "somewhat agree"), %*

Figure 4: Teaching methods and instruction – average level of agreement



5.4 Assessment

Participants demonstrated strong support for formative approaches to assessing IL. All 14 participants agreed that methods such as task-based work, feedback, and observation are the most effective for tracking students' IL progress. Similarly, 13 participants recognised self-assessment and peer evaluation as valuable tools for fostering students' metacognitive

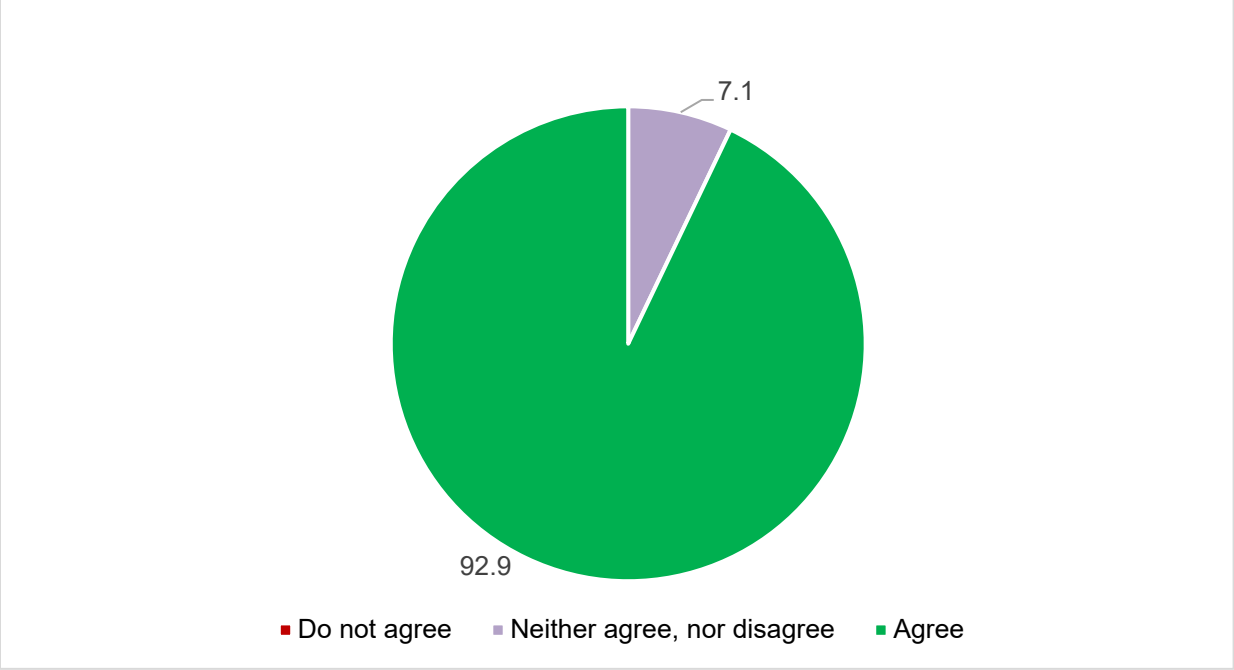
awareness, while one remained neutral. Slightly less agreement was observed regarding the process-oriented nature of IL assessment: 12 participants agreed that assessment should focus on ongoing development rather than final outcomes, and two expressed a neutral stance. These findings are summarised in Table 6 and illustrated in Figure 5.

Table 6: Participants' agreement on assessment methods in IL

	Do not agree*	Neither agree nor disagree**	Agree***	Mean
Formative assessment (e.g., task-based work, feedback, observation) is the most effective approach for evaluating progress in IL.	0,0	0,0	100,0	4,43
Self-assessment and peer evaluation are valuable tools for developing awareness of one's own IL skills.	0,0	7,1	92,9	4,43
The evaluation of IL should be continuous and focused on the process rather than solely on the outcome.	0,0	14,3	85,7	4,57
Average	0,0	7,1	92,9	4,48

** Do not agree (combined "strongly disagree" and "somewhat disagree"), %*
*** Neither agree nor disagree, %*
**** Agree (combined "strongly agree" and "somewhat agree"), %*

Figure 5: Assessment – average level of agreement



5.5 The role of librarians and the school library

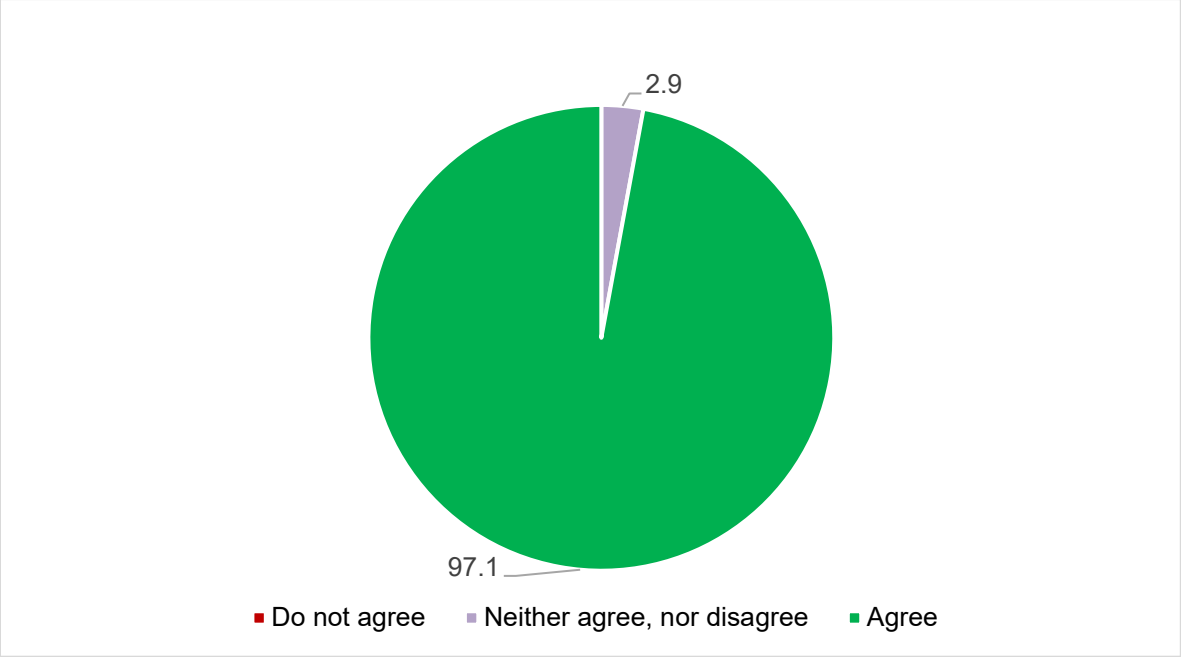
Participants expressed strong consensus regarding the central role of school librarians in fostering students' IL. All 14 participants agreed that effective collaboration between librarians and teachers is essential, and the same number supported the view that librarians should act as equal partners in planning and implementing lessons and school projects. Slightly lower, though still high, agreement was recorded for the broader educational role of librarians: 13 participants agreed that librarians should actively participate in educational processes beyond traditional roles such as lending books or organising cultural events, while one was neutral. In addition, all 14 participants affirmed the importance of the school library in educating students about the ethical and responsible use of AI tools. Similarly, 13 participants agreed that librarians should lead workshops on the benefits, limitations, and ethical aspects of AI, with one participant expressing a neutral stance. These findings are summarised in Table 7, and average agreement levels are presented in Figure 6.

Table 7: Participants' agreement on the role of school librarians and the school library

	Do not agree*	Neither agree nor disagree**	Agree***	Mean
Effective collaboration between librarians and teachers is essential for the development of students' IL.	0,0	0,0	100,0	4,79
Librarians should participate as equal partners in the planning and implementation of teaching and school projects.	0,0	0,0	100,0	4,79
The role of the school librarian should not be limited to lending required reading materials and organising cultural activities, but should include active involvement in educational processes.	0,0	7,1	92,9	4,86
The school library plays an important role in educating students about the ethical and responsible use of AI tools.	0,0	0,0	100,0	4,64
Librarians should organise workshops in which students explore the benefits, limitations, and ethical challenges of AI tools.	0,0	7,1	92,9	4,43
Average	0,0	2,9	97,1	4,70

** Do not agree (combined "strongly disagree" and "somewhat disagree"), %*
*** Neither agree nor disagree, %*
**** Agree (combined "strongly agree" and "somewhat agree"), %*

Figure 6: The role of librarians and the school library – average level of agreement



5.6 Challenges and necessary changes

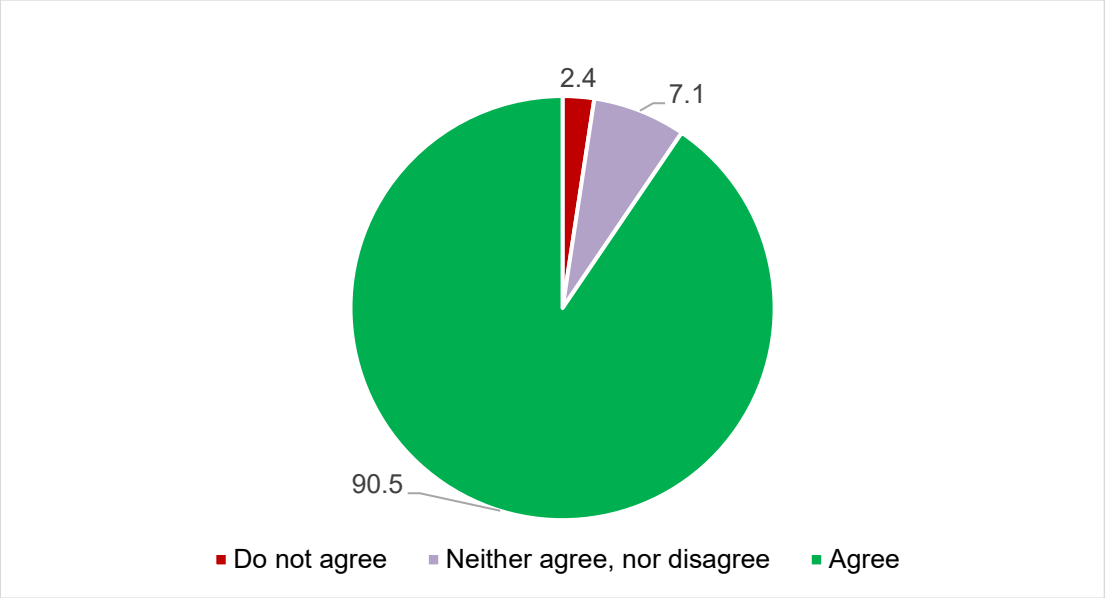
Participants identified multiple obstacles to the effective implementation of IL programmes in schools. All 14 participants agreed that the most significant barriers are organisational in nature, such as lack of time, structural support, and scheduling constraints. 12 participants agreed that poor technical equipment and limited access to digital tools hinder the implementation of IL instruction, while one participant was neutral and one disagreed—this was the only instance of disagreement recorded in this section. An identical pattern was observed regarding the insufficient recognition of the librarian's educational role: 12 participants agreed that it limits the development of IL in schools, and two were neutral. These findings are presented in Table 8, with average levels of agreement visualised in Figure 7.

Table 8: Participants' agreement on challenges and structural limitations in IL implementation

	Do not agree*	Neither agree nor disagree**	Agree***	Mean
The greatest challenges in implementing IL activities are organisational in nature (e.g., lack of time, support, and infrastructure).	0,0	0,0	100,0	4,64
Poor technical equipment and limited access to digital tools in schools hinder the implementation of IL programs.	7,1	7,1	85,7	4,50
The insufficient recognition of the librarian's role in teaching IL limits its development in schools.	0,0	14,3	85,7	4,43
Average	2,4	7,1	90,5	4,52

** Do not agree (combined "strongly disagree" and "somewhat disagree"), %*
*** Neither agree nor disagree, %*
**** Agree (combined "strongly agree" and "somewhat agree"), %*

Figure 7: Challenges and necessary changes – average level of agreement



5.7 AI and IL

Participants expressed concern about how students use AI tools such as ChatGPT. Nine out of 14 participants agreed that students often rely on these tools to complete school assignments without verifying the accuracy or credibility of the information, while five participants neither agreed nor disagreed. Similarly, ten participants agreed that students tend to passively adopt AI-generated content without engaging in critical analysis or deeper understanding, with four expressing a neutral stance. The same response pattern was observed regarding ethical awareness: ten participants agreed that students rarely reflect on ethical aspects of using AI tools, such as copyright, plagiarism, or disinformation, while four were neutral. Detailed

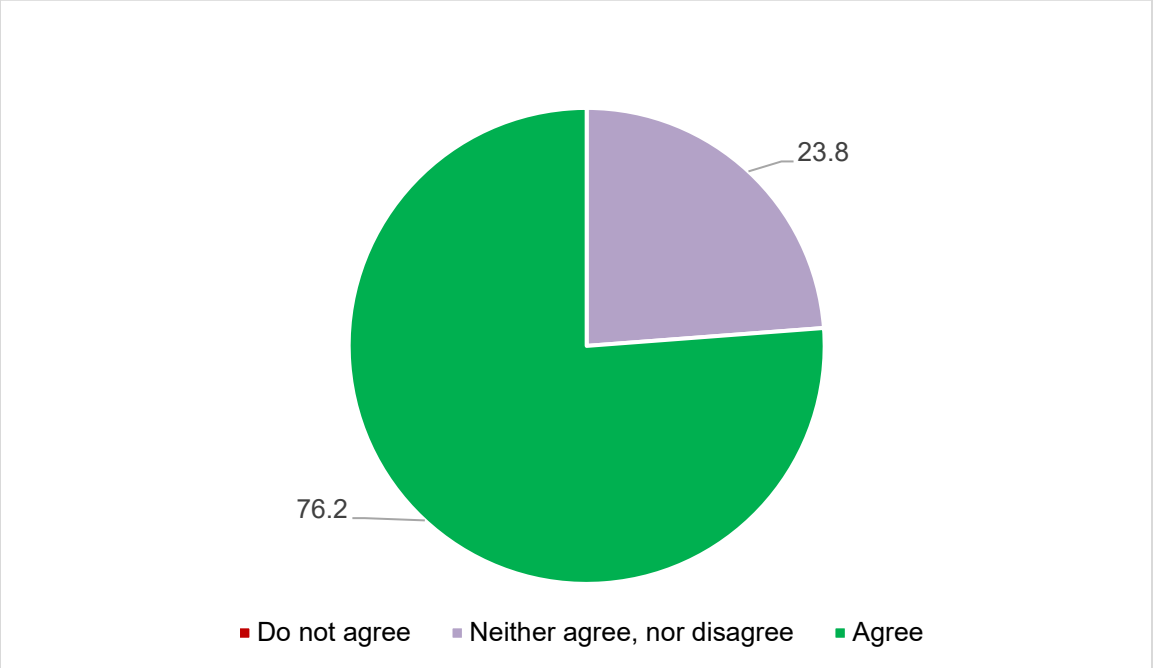
responses are summarised in Table 9, and the average levels of agreement are illustrated in Figure 8.

Table 9: Participants' agreement on students' use of AI tools in the context of IL

	Do not agree*	Neither agree nor disagree**	Agree***	Mean
Students often use ChatGPT and similar tools when completing school assignments without verifying the accuracy and credibility of the information.	0,0	28,6	71,4	4,00
When using AI tools, students often passively adopt content without understanding or critically analysing it.	0,0	21,4	78,6	4,21
Students rarely reflect on the ethical aspects of using AI tools (e.g., copyright, plagiarism, disinformation).	0,0	21,4	78,6	4,29
Average	0,0	23,8	76,2	4,17

** Do not agree (combined "strongly disagree" and "somewhat disagree"), %*
*** Neither agree nor disagree, %*
**** Agree (combined "strongly agree" and "somewhat agree"), %*

Figure 8: AI and IL – average level of agreement



6. Discussion

The findings of this two-round Delphi study underscore a robust consensus among Croatian school librarians regarding the need for a comprehensive, developmentally aligned, and cross-curricular approach to IL. This is particularly significant given the longstanding challenges of fragmented implementation and limited institutional support, which echo international concerns (Niwai, 2016; Ben Amram et al., 2020; Merga, 2019; Merga et al., 2021). To provide a clear analytical framework, the discussion is organised according to the study's three research questions (RQ1–RQ3), each addressing a specific dimension of IL in the school context.

RQ1: Which IL competencies and pedagogical approaches are considered essential by experts in school librarianship and education?
Participants consistently emphasised a progressive, developmentally oriented framework for IL acquisition. At the primary level, key competencies include recognising the need for information, distinguishing between reliable and unreliable sources, and developing basic digital safety. By the end of secondary school, students are expected to independently formulate research questions, apply advanced search strategies, critically evaluate information, and use it ethically and responsibly. This developmental continuum aligns with Bruce's (1997) "seven faces of information literacy," the Big6 model (Eisenberg & Berkowitz, 1990), and recent frameworks that advocate vertically integrated curricula across educational stages (Niwai, 2016). The emphasis on aligning IL competencies with national and European standards also reflects broader international policy directions (IFLA, 2015; Head et al., 2020). Recommended pedagogical approaches include project-based and inquiry-based learning, co-teaching, collaborative reflection, and student self-assessment methods that affirm constructivist theories and support metacognitive engagement (Andretta, 2024; Shenton, 2024). These findings reinforce the understanding of IL not merely as a technical skill but as a central cognitive and metacognitive competence that must be embedded across subjects and school-wide activities.

RQ2: To what extent is there consensus among experts on the role of school librarians, implementation challenges, and the impact of emerging technologies on IL?
The study reinforces the critical yet often under-recognised role of school librarians as both instructional partners and digital literacy leaders. Participants reported that librarians frequently initiate IL development through co-teaching, workshops, and interdisciplinary projects, but face systemic barriers such as lack of formal curricular support, insufficient staffing, and unclear institutional mandates. These findings mirror global challenges identified in Japan and Israel, where librarians similarly contend with structural underfunding and marginalisation (Niwai, 2016; Ben Amram at al., 2020). There was strong support for the formalisation of librarians' roles in IL instruction and curriculum design, reflecting international policy directions (IFLA/UNESCO, 2025; Son, 2024). Participants called for the development of national IL standards or formal frameworks like KIMOO, aligning with earlier proposals by Catts and Lau (2008) and UNESCO (2003). These frameworks are seen as essential for ensuring consistency, quality, and long-term sustainability of IL education. The emergence of generative AI tools, such as ChatGPT, further complicated the information landscape and intensified concern over students' passive consumption of content. Participants observed that such tools, while convenient, often replace traditional inquiry and critical thinking with superficial responses. These concerns echo recent scholarly warnings regarding algorithmic bias, ethical risks, and declining metacognitive engagement (Mhlanga, 2023; Merga et al., 2021; CILIP, 2018). In response, participants advocated for expanded definitions of IL to encompass critical AI literacy and algorithmic

awareness. This positions school libraries not only as instructional support centres but as ethical and reflective spaces for engagement with emerging technologies. Librarians are increasingly expected to guide students in navigating the complexities of automated systems, promoting ethical inquiry, digital resilience, and informed scepticism. As such, institutional reform is necessary to empower librarians and fully leverage their expertise within the evolving digital education ecosystem.

RQ3: How do school librarians perceive the obstacles and opportunities in fostering IL in the context of technological, organisational, and curricular limitations?
Participants pointed to a systemic gap between policy aspirations and everyday school practice. Key barriers included insufficient staffing – often in the form of part-time librarian appointments burdened with administrative tasks – lack of curricular clarity, and outdated infrastructure, such as obsolete hardware and poor internet access. These challenges are well documented in regional and international research highlighting the marginalisation of the librarian's instructional role and the absence of sustained structural support (Todd, 2008; Merga, 2019; Merga et al. 2021; Shenton, 2024; Zimmerman & Rose, 2024). Without a clearly defined institutional framework, participants cautioned that IL implementation remains fragmented and overly reliant on individual initiative. Nonetheless, librarians identified promising opportunities for progress: embedding IL through interdisciplinary cooperation, investing in teacher professional development, and establishing school libraries as digital and critical literacy hubs. These strategies resonate with the evolving concept of embedded librarianship and suggest a paradigm shift from isolated instruction to systemic, collaborative practice.

7. Conclusion

Although the importance of IL is recognised in strategic documents at both international (e.g., UNESCO, IFLA) and national levels, its implementation in schools remains inconsistent and fragmented. Despite formal inclusion in educational frameworks, IL development is rarely supported by systemic measures or institutional strategies. In many countries, including Croatia, there are no binding IL standards or monitoring mechanisms. As a result, implementation often depends on individual initiative rather than coordinated, school-wide planning. When such a foundational educational goal is left to chance or institutional inertia, the sustainable and equitable development of students' IL competencies becomes highly unlikely. This study reveals strong professional consensus among school librarians regarding the IL competencies students should develop throughout primary and secondary education. These range from basic skills, such as recognising information needs and evaluating sources to more advanced capacities, including independent inquiry, critical reflection, and ethical information use. School librarians are identified as key facilitators of this process, yet their efforts are hindered by structural limitations, a lack of time and resources, and limited collaboration with teaching staff.

The growing reliance on generative AI tools further raises concerns about superficial learning, diminished critical thinking, and ethical risks. These findings highlight the need to strengthen the metacognitive and ethical dimensions of IL and to adopt a more strategic, structured, and collaborative approach to its integration across the school system. By synthesising expert perspectives through the Delphi method, this study provides a credible foundation for informed policy development, enhanced teacher–librarian collaboration, and the long-term advancement of IL in formal education. Beyond the Croatian context, these findings offer insights that can inform broader educational policies aimed at integrating IL and digital ethics into formal

schooling. By underscoring the systemic role of school librarians, this study contributes to international discussions on embedding IL frameworks across curricula and supporting them through sustainable policy measures. In doing so, it offers practical implications for policymakers, curriculum designers, and educational leaders seeking to develop evidence-based strategies that bridge research and practice in the field of IL. The recommendations are particularly relevant to ministries of education, curriculum development agencies, and professional library associations engaged in advancing IL and digital ethics at national and international levels, and are intended to guide educational policymakers, curriculum authorities, and professional bodies responsible for school libraries and IL initiatives, while also informing global policy discussions on the integration of IL and digital ethics into formal education systems.

7.1 Recommendations

1. **Establishment of national IL standards**
   Develop clear and developmentally appropriate learning outcomes for IL that are integrated across all educational levels and subject areas. These standards should accompany students throughout their education, considering their cognitive and digital maturity.
2. **Systematic integration of IL into the curriculum**
   Integrate IL across all school subjects through cross-curricular themes such as *Learning to Learn*, *Use of ICT*, and *Civic Education*, with explicit collaboration between teachers and school librarians.
3. **Formal recognition and empowerment of school librarians' roles**
   Provide institutional support to strengthen the active role of school librarians in teaching, curriculum planning, and assessment of IL skills, including access to professional development and improved working conditions.
4. **Development of an assessment system for IL skills**
   Implement formative assessment practices - such as self-assessment, reflection, and project-based tasks - to monitor student progress and provide personalised guidance.
5. **Education on the responsible use of AI**
   Promote critical and digital literacy related to AI tools through school libraries, with a focus on ethics, data protection, plagiarism, and information accuracy.
6. **Increased access to resources and infrastructure**
   Modernise school information infrastructure (e.g., computers, internet connectivity, and digital tools) to enable students and librarians to effectively develop and apply IL skills.

Declarations

Ethics approval

Ethical review was not considered necessary in alignment with the University of Osijek's guidance on the conduct of ethical research.

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AI-generated content

AI tools, specifically ChatGPT (OpenAI), were used solely to support the refinement of language and structure in the drafting process. No AI tools were used to generate original content or data, nor to create images or figures. The author retains full responsibility for the originality, interpretation, and scholarly content of the manuscript.

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Standard editorial tools were used to support clarity and consistency of expression. The author is solely responsible for the originality, interpretation, and content of the manuscript.

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Appendix A: First-Round Delphi Questions

1. What IL skills should students acquire by the end of primary school, and which by the end of secondary school?
2. How can IL content be effectively integrated into existing school subjects and extracurricular activities, both in the classroom and the school library?
3. Within which school subjects or activities do you see the greatest potential for fostering students' IL?
4. Should IL be taught as a separate subject or integrated into existing curricular content?
5. What are effective models of collaboration between school librarians and teachers in developing and implementing IL-related activities?
6. Which methods, activities, and approaches do you consider most effective for developing students' IL?
7. Which evaluation methods do you consider most appropriate for monitoring students' progress in IL?
8. What are the biggest challenges you face in teaching IL (e.g., organisational, technical, staffing-related)?
9. How does access to AI tools (e.g., ChatGPT) change the way students approach information?
10. How can the school library support students in developing responsible and ethical use of AI tools?
11. What school-level measures or recommendations would most support the development of students' IL, considering the potential role of the school librarian in this process?

Appendix B: Second-Round Delphi Statements

1. Levels and development of skills

1. By the end of primary school, students should have acquired basic IL skills (e.g., recognising the need for information, searching, evaluating sources, citing).
2. By the end of secondary school, students should be able to independently formulate research questions, use advanced search strategies, and apply information responsibly.
3. IL skills should be developed from the earliest grades and progressively become more complex, in line with students' cognitive development and their ability to use information independently and critically.

2. Curriculum and strategic framework

1. IL should be integrated into all subjects, extracurricular activities, and library programs—not only into subjects that require research-based work.
2. IL is a cross-curricular theme that should be systematically developed in collaboration with teachers.
3. Since IL is not systematically defined in the curriculum, its introduction as a separate subject with clearly defined learning outcomes should be considered.
4. IL programs should be designed at the national level by expert working groups including librarians, teachers, and education professionals to ensure quality, consistency, and applicability in schools.
5. It is necessary to develop a national (or European) standard for IL that clearly defines competencies, proficiency levels, and enables systematic monitoring of student progress.

3. Methods and teaching

1. Students acquire IL skills most effectively through practical tasks, problem-based learning, and project-based learning within various subjects.
2. Activities that encourage students to apply information in real, meaningful contexts are the most effective for developing information skills.
3. The use of digital tools and gamification further increases student motivation for developing IL.
4. Students should be encouraged to create content (e.g., blogs, videos, podcasts) as a way to develop information skills.

4. Assessment

1. Formative assessment (e.g., task-based work, feedback, observation) is the most effective approach to evaluating progress in IL.
2. Self-assessment and peer assessment are useful tools for raising awareness of one's own information skills.
3. The evaluation of IL should be continuous and focused on the process rather than just the outcome.

5. The role of librarians and the school library

1. Effective collaboration between librarians and teachers is crucial for the development of students' IL.
2. Librarians should be equal participants in planning and delivering lessons and school projects.
3. The role of the school librarian should not be limited to lending books and cultural activities, but should include active participation in educational processes.
4. The school library plays an important role in educating students about ethical and responsible use of AI tools.
5. Librarians should organise workshops where students explore the benefits, limitations, and ethical challenges of AI tools.

6. Challenges and necessary changes

1. The greatest challenges in implementing IL activities are organisational (e.g., lack of time, support, infrastructure).
2. Poor technical equipment and limited access to digital tools in schools hinder the implementation of IL programs.
3. The insufficient recognition of the librarian's role in teaching IL limits its development in schools.

7. AI and IL

1. Students often use ChatGPT and similar tools when completing school assignments without checking the accuracy and credibility of the information.
2. When using AI tools, students often passively adopt content without understanding or critical analysis.
3. Students rarely reflect on the ethical aspects of using AI tools (e.g., copyright, plagiarism, misinformation).