DISCURSIVE FORMED TOPICS IN INFORMATION LITERACY: LITERATURE REVIEW AND HIGH SCHOOL STUDENTS' PERSPECTIVES

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Abstract

Information literacy is a critical topic in contemporary pedagogy and information science, it is ranked among the essential competencies for the 21st century, and in recent years, it has received increasing research interest. The problem, however, is that the research is focused mainly on primary and university (college) contexts and only rarely analyses secondary school settings. This paper, therefore, focuses on a group of high school students and on whether the literature's idea of their needs corresponds to their actual needs. Based on the analysis of 32 documents indexed in the Scopus and Web of Science databases, the paper identifies seven significant discursive areas addressed in the literature, both theoretically and empirically. These are the relationship of libraries and librarians to the development of information literacy, information evaluation, the relationship of information literacy and learning competencies, connection with other competencies, emphasis on constructivist approach, the social dimension of information literacy and its possible use for self-actualization. These topics form a specific research discourse, which they set out. In the second phase of the research, focus groups (8 groups in 4 schools, 41 students) on information literacy are studied through the seven essential discourses mentioned. Although our sample lacked reflections on the relationship between the library and high school students, the remaining six fundamental discourses appeared in the testimonies of high school students (Libraries and librarians, evaluation of information, learning competencies, connection with other literacy, constructivist approach, the social dimension of information literacy, information literacy as a means of self-actualization). The findings show that the main difference between literary discourse and student responses is in the perception of libraries as centres of information literacy development and that students prefer the school or their teachers in their place.
Keywords: *focus groups, information evaluation, information literacy, media literacy, overview study*

Introduction

Information literacy is an essential feature of pedagogy and librarianship. At the same time, it is an issue that is evolving relatively quickly. Nevertheless, considerable research attention is paid to it. The question is whether the needs of students correspond with the research findings (Pashkova-Balkenhol et al., 2019).

Pashkova-Balkenhol et al. (2019) refer to the fundamental problem of teaching information literacy - that the needs of students' interests differ from what the research discourse assumes and researches. Pilerot (2016) describes the differences and relationships between profound theory and very narrow basically practice in information literacy. For effective education in information literacy, it is essential to focus on topics and problems of interest to the students (Duffy, 2019), to be constructivist in the true sense of the word. Therefore, the goal of this paper is to examine the discourse outlined by relevant research in recent years and to determine whether the student is interested in these topics, and whether the assumption

is fulfilled that what is researched is also relevant to students. The research will examine this side of the implication (interest of literature => interest of students) and not whether there is anything among the interests of students that would not be included in the literature.

Studies show that students' interest and the opportunity to work with their preconceptions actively are essential pillars of effective secondary education in information literacy (Allen, 2008; Lloyd 2007). Worldwide, the problem of combining research and practice was pointed out by Pashkova-Balkenhol et al. (2019), though any in-depth research of information literacy and its structure in high school students is absent in the Czech environment, focusing either on the academic environment (Kovářová 2018; Kovářová & Šimková, 2014) or primary schools (Dobrovská et al., 2004; Mazáčová, 2017). Identification of possible differences is essential for the design of educational lessons (Pilerot, 2016) and the practical development of information literacy in secondary schools.

Information Literacy

Zurkowski first used the term information literacy in 1974 (Aharony, 2010) when he argued that an information literate person is someone that has: "learned techniques and skills for utilizing the wide range of information tools as well as primary sources in moulding information solutions to their problems." (Badke, 2010, p. 48; Zurkowski, 1974, p. 6). Modern technologies have gradually expanded this concept and introduced the topic of the use of ICT (information and communication technology). The following steps were the gradual specialization or profiling of this concept in other contexts.

In 1989, the ALA (American Library Association) pointed to the connection between information literacy and learning competence (ALA, 1989; Cheek & Doskatsch, 1998), representing a particular paradigmatic turn, as information literacy became a topic of school and extracurricular education. At the secondary school level, several competence frameworks appeared, such as Big6 (Eisenberg & Berkowitz, 1999), MIL (Media and Information Literacy) (Grizzle et al., 2014), AASL (American Association of School Librarians) framework (Farmer, 2013), ACRL (Association of College & Research Libraries) framework (Catalano, 2010), Seven Pillars of Information Literacy Core Model by SCONUL (Society of College, National and University Libraries) (Bent & Stubbings, 2011). Gradually, there came a belief that information literacy is a prerequisite for high school and university studies (Andrews & Saint Hilaire, 2018; Farmer & Phamle, 2021). Some researchers (Virkus 2011; Rockman, 2003; Campbell, 2008) rank it among the key competencies for the 21st century.

However, as Pashkova-Balkenhol et al. (2019) said, a gradually complex structured research discourse emerged, connected with, but at the same time, progressively separate from students' real needs. The aim of this study is not to show the needs of high school students, but to analyse the extent to which discourse (analysed through an overview study) set by theoretical studies reflects students' needs (qualitatively oriented research based on focus groups)?

This question is crucial because current research discourse (Duffy 2019; Ngo et al., 2019) clearly emphasises the need for an active constructivist approach to the development of information literacy (Allen, 2008; Carey, 1998; Johnson & Barrett, 2017; Lloyd, 2007). If teaching is not linked to the needs and interests of students, it cannot be successful in any way.

There have been literature reviews and differentiated studies on information literacy (Pashkova-Balkenhol et al., 2019; Pilerot, 2006), with some focused on a specific area (Ameen & Ullah, 2016; Kurbanoglu, 2004; Virkus, 2003, 2013), or on an approach (Vezzosi, 2006) or following a historical perspective (Behrens, 1994; Rader, 2002). However, it is clear from the list that there is a lack of a more systematic understanding of the secondary school environment, which compares the empirical and literature-shaped discourse. Therefore, this study follows this approach in the example of the Czech Republic.

Education System in the Czech Republic

To understand the reflection of information literacy in secondary schools, we want to briefly characterize the Czech educational system (Greger & Walterová, 2018). Primary education is compulsory, for 6-15-year-old students (nine years). After graduating from primary school (nine years), most transfer to secondary schools for three years (ending with an apprenticeship certificate) or four years associated with a high school diploma and the opportunity to study at a university. These four-year secondary schools are of the grammar school type (preparation for university, broad general education) or vocational in a specific field or profession (library, medical,…). In addition to this fundamental division, there are also eight-year grammar schools (entrance exams are from the 5th grade) or shorter (seventh or sixth years, six-year).

Czech education policy is highly decentralized and deregulated (Hornat, 2019). The state sets only general educational conditions and learning outcomes (Framework Educational Programs), and individual schools set their curriculum (School Educational Programs), which respond to the needs of the labour market, students, applicants, or founders. Therefore, even formally designated schools (e.g., gymnasiums) can have significantly different curricula. Furthermore, schools can connect subjects, create cross-sectional topics, insert their courses, or devote themselves to their outputs (Simonová, 2003).

At the level of the state curriculum, the topic of information literacy is perceived as marginal and very general, connected basically with the teaching of language (communication, argumentation) or informatics (information retrieval, creation of digital objects). Therefore, the actual development of information literacy is possible at the level of measures and educational policies of a particular school (Černý, 2019).

As in other countries, information literacy is divided between formal education in schools and usually non-formal education (or civic education) in libraries. However, at the level of secondary schools, the involvement of libraries in this area is already low, and primarily the development of information literacy in secondary schools is carried out either by the schools themselves or by non-profit organizations.

Research Methodology

The study was divided into two phases - the first offered a systematic review of the literature (Çalık & Wiyarsi, 2021; Goes et al., 2020) in information literacy and high schools in the last three years (2021-2017). The second compared the results of this review with the focus group conducted with high school students. The standard discourse of all analysed literature is unambiguous - information literacy is an important and socially significant topic, which is not appreciated in the secondary school environment and should be given more attention.

Phase 1: Literature Review

The study aimed to analyse the extent to which discourses and topics captured in the literature (studies in WoS and Scopus databases) coincide with the views and attitudes of high school students involved in our long-term project to develop information literacy. The aim of our literature review was to identify basic research areas or discourses that could be compared with how high school students talk about information literacy.

Therefore, the methodological approach was to perform a qualitatively oriented analysis of current studies (Galvan, 2006; Randolph, 2009). It was a content analysis in which information was found in the analysed texts related to critical topics focused on information literacy. Thus, not all aspects were followed, such as theoretical background, and individual observations, but instead, emerging issues from the documents were looked for.

Sample

To select articles, the WoS and Scopus databases were chosen, which contain relevant professional peer-reviewed resources. Their quality is guaranteed by explicit parameters for indexing, with the proviso that in this study, no predatory magazines or conferences were recorded (e check via beallslist.net was used and found to be a sufficient tool).

The following criteria were chosen for searching papers in both databases:
• Search terms "Information literacy" "high school";
• restricting results to English texts;
• limiting results to texts with some form of open access;
• restriction to documents from 2021-2016 (the current discourse was sought);
•restricting results to papers and conference papers (exclusion of editorials without research value).

In this way, a total of 33 documents were obtained and analysed. The search for texts took place on15th April 2021. Critical topics (7) from individual studies were then identified and are listed in Table 1.

Data Analysis

The corpus of documents were carefully read and then searched for certain common discourses in the category field. This led to seven thematic units in the form of the gradual merging of contents, which are described in Table 1. The goal was not to identify all the topics but rather to look for common denominators. Studies that can be downloaded for individual topics are presented in the discussion below the table with results.

Table 1
*Key Topics Obtained from the Literature Review are Shown*

Identified topic	Brief description
Libraries and librarians	Librarians and school libraries are crucial to the development of information literacy.
Evaluation of information	The crucial part of information literacy with which students have the most significant problems is the evaluation of information.
Learning competencies	There is a strong relationship between information literacy and learning competencies.
Connection with other literacy	Information literacy is not always separated from other literacy, especially computer, digital or media, but forms a unified whole.
Constructivist approach	An active constructivist approach is essential for the teaching of information literacy, which will emphasise students' usefulness and practicality in specific life situations.
The social dimension of information literacy	Information literacy is a personal competence and influences the formation of social ties and the ability to integrate into society successfully.
Information literacy as a means of self-actualisation	Information literacy is a means of profiling one's own identity and self-actualisation.

Table 2 is not a traditional factual analysis but gives the reader a basic overview of the subject of the article regarding the seven topics of discourse identified above. Therefore, it is not information obtained from the abstract but a brief expression of the aspect of the text related to our research problem.

In addition, the essential characteristics of the text (country of origin, date of publication, type of article) were monitored. In these parameters, the actual content of the text (type of article - theoretical, application, empirical; research design - qualitative, quantitative, mixed design, case studies, review studies, theoretical articles) were noted, as well as data from Scopus and Web of Science. The country is based on an affiliated institution listed in the Scopus database or the Web of Science.

The overall view of the work process in the first phase of the research is shown in Figure 1. Repeated reading serves as a tool to reduce the risk of overlooking certain information, especially in gradually gaining knowledge about the topic. We use this method in the same way as used, for example, in narrative analysis or interpretive phenomenological analysis (McCance et al., 2001; Oliver, 1998; Wagstaff et al., 2014).

Figure 1
Literature Review Process
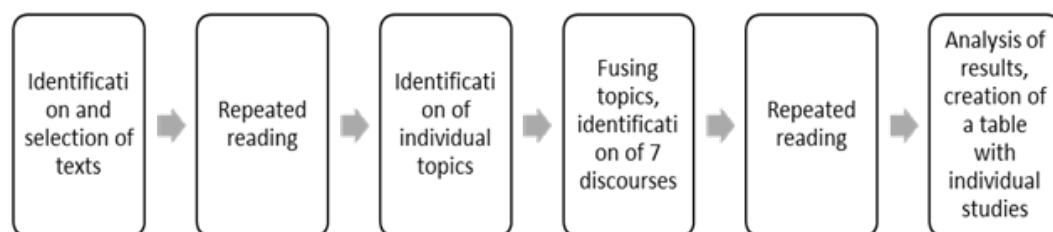
Phase 2: Focus Groups

The second part of the research was based on focus groups (Cohen et al., 2004; Williams & Katz, 2001). Their advantage is that students can interact with each other, complement each other, and the resulting recording of the conversation is usually more authentic, in that it better captures a particular social aspect of the topic. This approach seemed appropriate for the research (Kitzinger, 1994). University students conducted the focus group interviews in order to reduce the age and social barrier between respondents and researchers.

Eight focus groups were conducted with a total of 41 students at four secondary schools in Brno. The scope is, therefore, small scale research. In two cases, it was a gymnasium; the other two, a vocational school. The average length of the interviews was between 45-50 minutes. The structure of the questions was based on six areas defined by the AASL framework (Farmer, 2013). Still, based on topics analysed in the literature (Table 4), the transcripts were coded using closed-loop methods, meaning that the choice of code was determined by the seven issues obtained from the review study, (Mayer, 2009). The selection of the sample was given by a research project for which data were collected. As part of applied research, information literacy courses were created for selected schools in Brno. These schools participate in both needs research (which this study is a part of) and evaluation of course testing data. This is a fixed choice. This procedure can skew the results and contribute to lower representativeness. These are also schools that reflect the topic of information literacy as essential.

Data collection took place in the spring of 2019, i.e., before the onset of the COVID-19 epidemic and the closure of schools. In each school, data was collected with two groups of students.

The number of students was determined by the possibilities of the school and was set between 4 and 8 students. A total of 41 students participated in the research. Our research shows a substantial underrepresentation of males (14%), mainly because the schools in which the analysis was conducted are strongly gender unbalanced (e.g., no males study at a medical school). However, it would be good for more representative research to find groups of respondents with opposite gender profiles. These were 2nd-year high school students, which in the Czech system correspond to about 16-17 years.

Table 2

Focus Groups with Student Group Codes, Number of Students in the Group and Number of Males.[1]

| Type of high school	ID	Number of students	Males in group
Artistically profiled high school	S1	4	2
	S2	4	0
Generally profiled high school	S3	5	1
	S4	5	2
Vocational high school - profiled as a nurse	S5	8	0
	S6	6	0
Vocational high school - profiled as a librarian	S7	4	1
	S8	5	0

Data Analysis

The focus groups analysis did not aim to identify new proprietary topics but to analyse whether topics that were identified as necessary in the literature review have their image in students' testimonies. Thus, the aim was not to strive to create a new theory or to identify new research topics but for the compliance of the discourse of information literacy in literature with students' statements.

For this reason, there is no analysis of individual dialogues between students as is common in focus groups (Rabiee, 2004), instead only the topics described through the discourse outlined in the analysed documents. Thus, the focus groups were coded with only seven codes, which correspond to the categories listed in Table 1.

In Figure 1, it is possible to see the scheme of the whole research. In the first phase, an overview study is performed, which identifies the main topics (7) with descriptions used in the second phase of research for closed coding of data obtained from focus groups.

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1   ID identifies a focus group. This designation will be used in the results.

Figure 2
The Workflow Structure
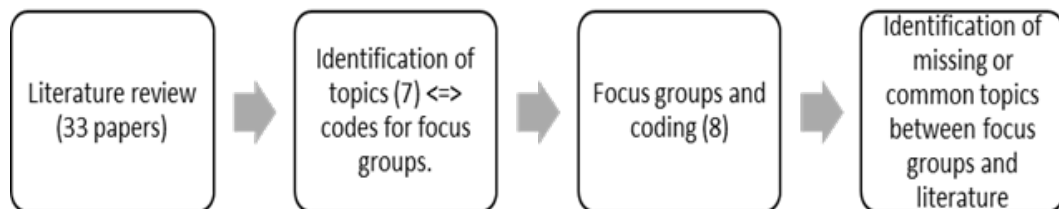
The practical procedure was such that interviews were conducted and from which an audio recording was made. In the second step, it was transcribed in individual groups. The distinction of speakers was preserved in these transcripts, but this is not essential for the discourse analysis. Subsequently, the interviews were repeatedly read, and statements were sought that would correspond to the thematic units set out in the literature analysis. Thus, the standard processing of speech acts in the form of closed coding (Stock, 1994). The codes correspond to the descriptions in Table 1. In this way, statements were obtained and then divided into seven groups, as shown in Table 1. From those, representative examples were selected for the overview of the results.

Research Limits and Ethics

As the data were obtained, it is impossible to proceed in a research way by adding other categories to the research discourse. This aspect is one of the critical limitations of this study. The second limit in part focused on working with focus groups is that the data are not generalizable to the whole population, which on the other hand, is one of the typical features of qualitative methodology. As already indicated, the underrepresentation of males in the research is a significant problem.

Students were informed that their speech acts would be recorded and used for research in the form of informed consent. There was triple anonymization:
1. Names were not recorded during transcription, only symbols (R1… Rn).
2. A whole set of students ($n = 8$-14) was worked with
3. Translation from Czech into English.

From the point of view of research ethics, all interests and anonymity of participants were protected. Furthermore, the schools that took part in the research were not explicitly named.

In the future, it would be possible to supplement the study with quantitative research generalizing the conclusions or, conversely, with a broader qualitative study looking at the possibility of constituting a new, more broadly understood discourse of information literacy.

Phase 1: Literature Review

This literature review study worked with a corpus of 32 documents. Keywords were exported from them and used to perform a fundamental analysis. A total of 167 keywords were analysed in 118 unique forms. Some texts (4) did not have keywords, so it was necessary to perceive the specific limited informative value of this analysis. The most frequent terms were "information literacy" (17) and "high school" (5), which corresponds to the assumption from the search query. The other frequent terms, "information" (4) and "students" (3), are general and relate to the first two. Other terms had a lower frequency (less than two occurrences).

The papers (Graph 1) were primarily empirical (29), theoretical studies were marginal (3). In terms of research design, there were 15 quantitative studies, 7 qualitative, 4 work with

mixed research, 1 meta study, 1 overview study, 1 was an evaluation of a tool, 2 case studies, and one reflection of the author's own experience. The individual studies that corresponded to the methodological filter are listed in the following table 2. The critical common themes identified following the thematic analysis are presented below.

Most studies are associated with the US environment (11), Indonesia (7), Japan (2), Sweden (2) and Thailand (2). Other states have one occurrence each.

Figure 3
Distribution of Types of Research Designs in the Analysed Studies
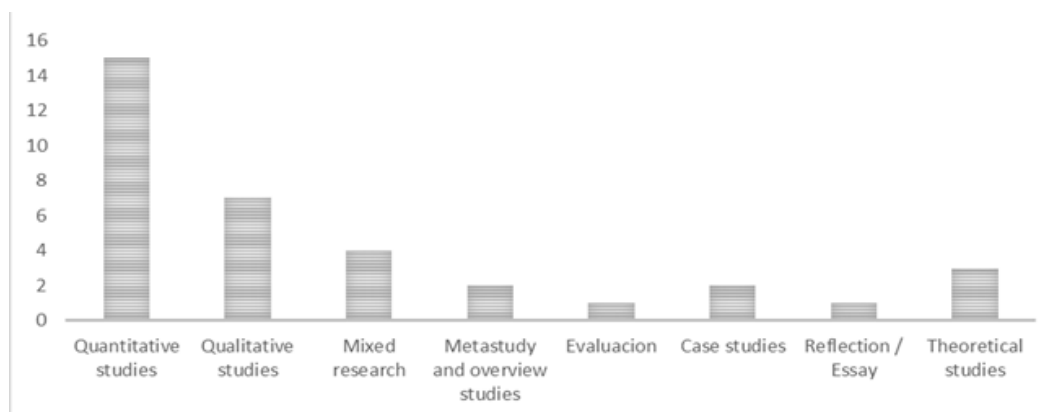
As seen from Table 2, a qualitative overview of individual studies is presented - references are taken from the research in the database - zero does not necessarily indicate zero references, only that the text is not indexed in the database. The indexing index in the relevant database is indicated by the + (is indexed) and - (not indexed) tags. The key findings relate to the issues under investigation and are therefore not an abstract but the researcher's analysis to identify key concepts in developing information literacy in secondary schools.

Figure 4
Distribution of Analysed Studies Per Years
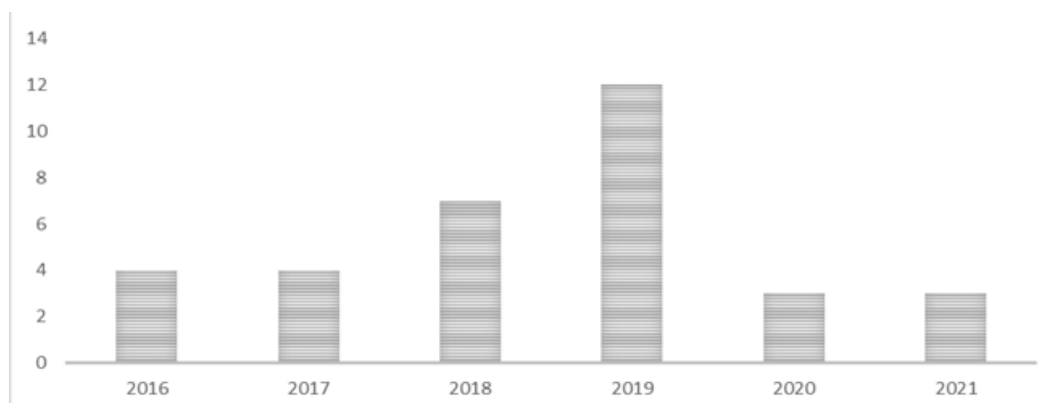
The abbreviation IL stands for Information Literacy. The order of documents in Table 2 is according to the number of citation references in databases (ascending - descending, from the highest to the lowest number of references.).

Table 2

Analysed Studies, their Citation Response and Indexing in Databases

Authors	Year	Key findings	Reference Scopus	Reference WoS	Scopus	WoS
Wijaya	2016	The study focused on the ability of students to apply IL in solving mathematical problems that were incomplete, or contained redundant information, etc. The study showed that students have significant issues with information literacy applied to mathematics, information needs analysis, search, and evaluation.	21	0	+	-
Johnson & Barrett	2017	The study focused on the importance of active learning and active work in the development of IL. The emphasis must be on activity and constructivist methods. The study also pointed to the extent of libraries in the development of IG.	12	0	+	+
Aillerie & McNicol	2018	The research in this study focused on social media as a source of information. Students use it daily to obtain information not only about the school, but also free time. They argued that the development of IL in this area is crucial both for students' daily lives and for their school success.	12	9	+	+
Hughes, Cooper, Flierl, Somerville & Chaudhary	2018	The study examined the importance of the library as an integration point in supporting internationalisation. The sample of English-speaking students showed that these are crucial places that students use during their study adaptation. IL plays a vital role in academic success, both for "regular" students and international students.	8	0	+	-
Moto, Ratanaolarn, Tuntiwongwanich & Pimdee	2018	The study assessed the literacy of high school students in computer, media and information literacy. These three literacies are integrated into one functional unit. Students filled out a questionnaire, which was further analysed. A separate set of questions was created for each sub competency.	6	2	+	+
Gummesson	2016	The study states that forms of education are essential for the transfer of information. IL can help in practical habits, occupational safety, and behaviour regulation, but it must be framed by the student's attractive forms and activated.	4	0	+	-

Ngo, Pickard & Walton	2019	There is a big difference in how students perceive their competencies and what they actually have. The study shows that high school students in Vietnam have a significant overestimation of their skills, and especially an overestimation of superficial knowledge. Students have substantial problems, especially with the evaluation of information and more advanced search strategies.	4	0	+	-
Yoshida	2018	The study showed that the social aspect of using technology is strongly underestimated in the Japanese curriculum and that the level of competence and trust in digital communications is worryingly low. It is necessary to change the educational approach and curriculum to devote more space to this area, not only in secondary schools.	3	0	+	+
Nishikawa & Izuta	2019	The study showed that the family environment significantly influences the highly advanced level of computer literacy (secondarily also IL) and that the development of essential competencies takes place outside of school, which can be a significant social problem.	2	0	+	-
Mendez, Pories, Cordova, Malki, Wiggins & Lee	2019	The authors pointed out the relationship between IG and health literacy. Thus, the development of IG can have a significant impact on the quality of life, health, and the change of other characteristics of both physical and social health.	2	0	+	-
Hani Syazillah, Kiran, & Chowdhury	2018	The paper dealt with the localisation, adaptation and standardisation of IL level measurement using the TRAILS-9 test. The authors emphasised that it was impossible to understand IL only in the Western context, but it can take very different forms and accents in different cultures.	2	0	+	-
Pashkova-Balkenhol, Lenker, Cox & Kocevar-Weidinger	2019	The researchers pointed out that the research discourse in IL's field may not meet students' real needs. I drew attention to the fact that many studies do not lead to improved practice but rather to the blurring of possible ways to improve real education. We need to find ways to find out from students what they need.	1	0	+	-

Author	Year	Description				
Camiling	2019	The paper pointed out a disproportion between competencies related to information retrieval (relatively developed) and their evaluation (significantly weaker). This topic is analysed on the subject of health literacy.	1	0	+	-
Dzula, Wuu, Luna, Cook & Chen	2020	The paper focused on the topic of education of future journalists, emphasising the possibilities of digital technologies in self-expression, but at the same time notes the need to build a safe space for education. It showed that a comprehensive IL is essential for journalists.	1	1	+	+
Perryman	2016	The study pointed to the relationship between IL and health literacy. The development of IL can help improve the quality of life, but at the same time, it can lead to anxiety. The role of the librarian in providing the information is irreplaceable but at the same time insufficiently used.	1	0	+	-
Ngo, Pickard & Walton	2019	Based on the interviews, the study's authors formed a constructivist model of education based on the AASL framework and places great emphasis on IL. IL must be developed systematically and respect the needs of specific communities, situations, and contexts.	0	4	+	+
Soysal, Coşkun, Alma	2021	The study perceives IL as a part of the competence equipment of medical schools because it allows them to critically evaluate and search for information, which leads to the management of complex situations, both in school and personal life.	0	0	-	+
Wahyuningrum, Bustari & Rahmawati	2019	The study showed the importance of the library for the development of information literacy. The information literacy of students is evaluated here as good in all researched areas.	0	0	-	+
Tarunasena, Rusman & Darmawan	2018	The study examined the relationship between information literacy and the attitude towards the territorial integrity of Indonesia. It works on the assumption that a higher IL level will lead to a greater understanding of territorial integrity. It is based on the analysis of textbooks and teaching texts.	0	0	-	+

Coşkun, Soysal & Alma	2017	While many studies highlight the necessary changes in school curricula, this study notes another problem - even where curricula are highly standardised. There are long-term structural differences between schools and regions. If this inequality is not eliminated, significant social problems can arise.	0	0	+	+
Saripudin, Budiyanto, Bagus; Reni	2021	The study analysed attention to the fact that students perceive IL as an essential part of education and that integrating education into broader units (STEM) leads to better applicability in life and solving problems of everyday life.	0	0	-	+
Rahmawati, Wulan & Utari	2018	The study showed that students have access to information but cannot evaluate it, perceive its ethical dimension, and use it effectively. Greater emphasis should be placed on these two skills in curriculum development.	0	0	-	+
Pereira & Gasque	2019	The study showed that the information flood, together with the lack of time, leads to decision-making and problem-solving problems. It is crucial to establish positive patterns and work on active training to improve this ability to work with information.	0	0	-	+
Oyediran-Tidings, Ondari-Okemwa & Nekhwevha	2019	The authors noted that the availability of information and the quality work of librarians during the development of IL is a necessary prerequisite not only for a democratic and socially coherent society. It is also an essential tool for building one's own authentic identity, if not just the petrification of social stereotypes.	0	0	+	+
Nzomo & Fehrmann	2020	According to the authors of the study, IL is an essential prerequisite for successful research. It connects learning competencies and IL. It draws attention to the fact that there is a disproportion between secondary and academic understandings of IL. At the same time, it emphasises the role of libraries in the effective adaptation process in the transition between levels of education.	0	0	+	-

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Heinström & Sormunen	2019	The study used Guided Inquiry Design to emphasise collaboration between librarians, teachers, and students. Data were collected at a high school in the United States. Respondents considered structured search and query, analysis of progress and use of specific tools and procedures. It emphasises the importance and functionality of IL in the systematic integration into the curriculum.	0	0	-	+
Farmer	2021	The study emphasised the importance of IL development in the transition between high school and university. At the same time, Farmer pointed out that there is a strong correlation between IL in schools with a librarian and those who do not. It is the librarian at school who is one of the important socially integrating actors in education.	0	0	+	-
Fairuz, Kaniawati & Sinaga	2019	The study argued that information literacy in the school environment can be effectively developed through work with complex objects. Information literacy is not an atomic one, on the contrary, synthesising a complex competence, to which the character of teaching materials should correspond.	0	0	-	+
Erich & Gorghiu	2017	The amount of information changes the number of documents, but also their availability. We need to look for ways to develop IL that will lead to the complete independence of users in all dimensions of working with information. Students need to obtain information that will allow them to choose the proper career development.	0	0	-	+
Duffy	2019	The study emphasised that even short-term educational activities aimed at developing information literacy can be practical if they respect the principles of active constructivist-oriented teaching, which saturates the specific needs of students.	0	0	+	-
El-Khayat	2016	A short essay pointed out that information education cannot be reduced to curricula or pre-defined procedures but must respond to the complex needs of students.	0	0	+	-

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Andrews & Saint Hilaire	2017	The authors of the study pointed out that there is a substantial disproportion between IL high school students (and high school IL students) and university requirements. Significant differences can be seen in the choice of resources, in the ability to work critically with information and a comprehensive approach to working with resources.	0	0	+	-

Many texts emphasise the role of the librarian or school library as one of the elements of information literacy development (Andrews & Saint Hilaire, 2017; Heinström & Sormunen, 2019; Hughes 2018; El-Khayat, 2016; Farmer & Phamle, 2021; Oyediran-Tidings et al. 2019; Perryman, 2016; Wahyuningrum et al. 2019). Nevertheless, it can be said that the concept of information literacy is changing in some respects. The emphasis on how information literacy is understood by the school and reflected in the curriculum (Heinström & Sormunen, 2019; Yoshida 2018) and learning not directly through libraries but rather in specific cooperation can be traced. Library practice itself is then also criticised (Pashkova-Balkenhol et al. 2019, El-Khayat 2016) because it is too fixed on its goals and not on students' real problems and needs. It is necessary to look for new forms of cooperation, mutual interaction between school and library, which will contribute to the development of information literacy. Today's students search for most information on the Internet (Erich & Gorghiu, 2017; Rahmawati et al., 2018), meaning that the library has not lost its essential role in developing information literacy.

The evaluation of information appears to be a crucial topic (Andrews & Saint Hilaire, 2017; Camiling, 2019; Rahmawati et al., 2018; Wijaya, 2016). According to these studies, students can find information, but their evaluation and use of said information are much more complicated. Although some studies emphasise the importance of information flooding for information literacy discourse (Erich & Gorghiu, 2017; Pereira & Gasque, 2019), evaluation seems to be the cornerstone of the topic.

Information literacy is generally associated with broader learning competencies, especially at the time of transition from high school to university (Farmer & Phamle, 2021; Nzomo & Fehrmann, 2020; Tarunasena et al., 2018), which, according to some (Mendez et al., 2019), relates to social and cultural capital. This clearly shows that this is a topic of paramount educational importance. However, Wijaya (2016) shows that the application of information literacy to the learning process can be problematic.

The very grasp of information literacy is ambiguous - it is often understood in connection with media or computer literacy (Yoshida, 2018; Moto, 2018; Saripudin et al., 2021). Although its importance grows both in independent studies and keywords, it is not easy to distinguish it from other literacy and competencies, even in strategic documents. There is a dual explanation (1) of some disagreement and thematic disagreement. Research often focuses on broader topics into which information literacy fits into a more comprehensive whole (Yoshida, 2018). This explanation is relatively straightforward in the studies that were analysed, but not the only one. (2) We can say that it is competence or literacy with a complex character with a broad context. Therefore, its definition and differentiation are not accessible (Djawad et al., 2018; Fairuz et al., 2019; Saripudin et al., 2021). Fairuz et al. (2019) emphasise that even their didactic methods cannot be focused on individual partial competencies of information literacy but must follow broader complex situations.

Information literacy is not a set of practices that can be quickly passed on through transmissive education or other passive forms of learning (Johnson & Barrett, 2017; Pereira & Gasque, 2019; Duffy, 2019). The need to actively try things, to find one's authentic needs in a complex world, and to respond to them makes information literacy a truly crucial competence

for the 21st century (Djawad et al., 2018; Yoshida, 2018). This particular active constructivist-oriented discourse (Gummesson, 2016; Ngo et al., 2019; Pashkova-Balkenhol et al., 2019) is essential for understanding this competence.

This declared discourse contradicts a substantial part of research methods, which often have the character of questionnaires or tests of a substantially objectivist positivist nature (Farmer & Phamle, 2021; Johnson & Barrett, 2017; Ngo et al., 2019; Wahyuningrum et al., 2019). On the other hand, there were no texts with a demanding research design of a qualitative kind or emphasising the complexity of cognition, its dynamism and social and situational anchorage.

It is necessary to also emphasise a broader social and lifelong dimension of information literacy. Studies emphasise the influence of information literacy on school and professional choices (Erich & Gorghiu, 2017; Oyediran-Tidings, 2019) on one's studies (Farmer & Phamle, 2021) and success in professional life (Nzomo & Fehrmann). Similarly, studies relating information literacy to health and health literacy (Camiling, 2019) or to the ability to solve real problems and situations in general (Djawad et al., 2018; Saripudin et al., 2021) were found. In other words, information literacy is an essential element for successful adaptation to a changing, dynamic and complex world, in all its dimensions - from work through social to study.

This puts a lot of pressure on the social perception of information literacy. Oyediran-Tidings et al. (2019) emphasised the importance of this competence for self-actualisation and self-determination. The possibility of a critical attitude to one's own identity also confirmed by Nishikawa and Izuta (2019). Thus, information literacy affects applicability in social roles and a source of one's integrity, which without good information literacy is more challenging to achieve.

Phase 2: Focus Groups Results and Analysis

The students reflected on the topic of the library very rarely. They did not touch on the role of the librarian at all. It has two exciting connotations typical of the Czech environment - the library hardly works with high school students and does not offer them any specific services.

S7: *More like when we did in the library at school, that was the last time, so we just worked with X. She was sitting at the computer searching, and maybe the girls and I were still looking for something on their cell phones.*
S8: *If, for example, we have a search, for instance, on that website, then we are in the library, everyone has to be at one computer, and we are looking. Maybe we have asked some questions, and we have to look for answers, so often everyone knows one as a different source.*

These statements reveal an interesting structure in that the school library, if present at the school, serves as a co-working centre where students can work together and solve problems in a team. In general, students themselves evaluate teamwork positively. However, it should be emphasised that these are librarians who should have a positive attitude towards the library independently.

The evaluation of information was one of the key topics that students emphasised in the research. It combined the general idea of the need to evaluate data with media literacy. At the same time, students realise that this is something they have a problem with.

S1: *In some avenues, I'll immediately tell myself which side I'm leaning towards, and that's probably the initial impulse from which side it is.*
S3: *Some avenues, some articles that may not be true at all ... and just bullshit.*
S1: *Lately, we have been taking a lot in Czech, for example, as I already have from the theoretical point of view, when teachers tell us how to look for it in that article, what to look at, what*

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information to focus on and so on, so I think my opinion is already influenced by the school, especially when we have instructions on how to do it, but before I didn't seem to deal with it much or I wasn't more interested in it.

S5: *Demagog* [Czech service for verifying the integrity of politicians' statements in the media] *is good. This is the page where their statements are, and it is discussed there whether it is true. ... Well, everyone just throws their version on the Internet.*

However, other students feel relatively strong in the evaluation of information. They give specific examples, although obviously, a particular intuitive concept prevails in them as well.

S1: *I don't know. I just think you see it right away when it's untrustworthy; just rough, or they write complete nonsense there. Or that even visually, it doesn't look good. You can't believe it, you tabloid it, you just know it visually - I don't know how to describe it, it doesn't occur to me that it's about a criterion.*

S1: *Just as we all know that if Aeronet [a disinformation website connected with pro-Russian propaganda] writes it in the Czech Republic, it will not be true, and if Sputnik* [almost content-identical website] *reports it, it is probably somewhere in the NKVD headquarters as a hacker wrote.*

S7: *I would write it to Google, for example, and what would go there, for instance, I would try to verify the information if it needs a trustworthy source.*

Thus, the evaluation of the information is not very connected with, for example, subjective usefulness, relevance, etc., but has the character of a particular media analysis to filter misinformation, hoaxes or fake news. We believe that this component should be significantly broader and more profound. This media discourse is generally robust in the Czech Republic. It points to a specific narrow understanding of information literacy as media, which can be problematic in students' other lives, especially concerning their academic skills.

In the social aspects of information literacy, our research did not and could not provide much impetus there, yet it reveals several critical structural relationships. One of the important topics is the generation gap perceived by students about seniors, which they consider less information-literate, less necessary and more vulnerable in society.

S1: *There's really a permanent war between me and my mother, her daughter and as a grandmother, as we keep stoking it, but I don't want to collide with my grandmother. Yes, as a grandmother, she is a competent woman, but it's just that you can see how big she is. The effect of this [misinformation] is that those retirees are not used to it. If they were used to the news for forty years, they were from the TASS agency, so the truth value is also doubtful, but they did not have to verify it and had anything else.*

S1: *I think it's worse than older people, but we younger people are already quite like brought up, but just that we are not, but we somehow try to find the truth in my opinion, but older people…*

These statements are engaging in the light of reports about the evaluation of information - the students themselves experience that they do not have ideal competencies in resource evaluation, but at the same time see that their parents and grandparents are much worse competently. This intergenerational centre in the field of information literacy can, on the one hand, be a challenge for educational programs, but at the same time, a threat to cohesion in society.

In their testimonies, students emphasise that being informed is a synonym for the knower, who has a specific education. Thus, they emphasise the state more than the procedural character. On the contrary, not having good information means becoming a socially unacceptable person, an ostracised ignoramus.

> S3: *In general, if the person is informed, as if the person is able to search for himself, such as when the people are having fun, and someone tells them something, then he may not know what it is. And the other one then says, how come you don't know it yet, like that, I don't know like someone wrote: "liška"* [a fox - In Czech, it is the knowledge of a 3rd-grade pupil] *with a hard y, it's such a stupid one, just like he's not informed that there's a soft I too. Clear, have you ever seen a fox with a hard y?*
>
> S1: *Even within the Basics of Social Sciences, we always solve some problems, and in fact, even if we have something, we [the teacher] solve it with us. Maybe he'll lead us on the way or tell us how it is, what he thinks it's because… He* [the teacher] *does not have an objective opinion either.*

It is necessary to emphasise the importance of the activity, the need for students to know something, to get some information, and/or to have an idea of the world. This awareness can occur in various ways, one of which is linked to the teacher's activity as a reliable guarantor of correctness. Working with information thus becomes a source for learning as such in this environment.

With regards to the learning process, we can say that students strongly emphasised the dimension of usefulness - they work with information. They want to develop their information literacy only when they feel a personal need, only if there is a reason or motivation for such action. Thus, information literacy cannot primarily occur in the environment of individual subjects (see the basics of social sciences or Czech above). Still, it relates to the needs of the student in a specific situation.

> S4: *What I'm not interested in, I'm not looking for, and I don't care, like politics, it's entirely beyond me.*
>
> S6: *So, I don't look much, only when there is some work, and I need it.*

At the same time, these statements show how important it is in developing information literacy to activate students and offer them something that will be important to them. In the Czech environment, working with information is not understood as a separate course but instead has an interdisciplinary (cross-sectional) character. On the one hand, this allows it to develop almost everywhere. On the other hand, it leads to a particular lower motivation of students to deal with it.

To return to another important aspect, namely the relationship between media and information literacy. We have already indicated that these are not easily separable areas. Students in the secondary school environment integrate both dimensions considerably in terms of resource evaluation and, more generally, the consumption of media content.

> S1: *Sometimes I read some news, and if I don't believe it, I click it and try to verify it or something like that.*
>
> S4: *Well, like some things, I know about them, but I'm not trying to look them up, like some details about how it will pass me somehow, and I don't perceive it as much.*
>
> S2: *Sometimes I do that I look directly at the news, for example, from different people, how they perceive it, and then form my own opinion, and maybe they have various references to what they drew from.*
>
> S2: *Overall, the overwhelmingness of the news, or an awful lot of news, claims this, and others say that. And you always have to find the article who wrote it then find out about it.*
>
> S7: *I'm not watching anyone much anymore, it's going to be all fake lately, and I don't know*

These statements may reveal a particular social dimension of information literacy. Students emphasise that the media space, which is a source of information about the world, is oversaturated, post-factual, challenging to verify, associated with opinions rather than easily accessible facts. It seems that the only way, albeit time-consuming, to understand is the

verification of sources, search, evaluation, comparison. Those who have these competencies will be significantly freer and more autonomous than others.

Discussion

From the above analysis, it is clear that students in the Czech environment basically lack the dimension of a librarian as a guarantor of information education or the development of information literacy. Czech students see mainly teachers, even though the research discourse is quite different in this respect. On the other hand, it is possible to mention studies (Merchant & Hepworth, 2002; Probert, 2009; Wen & Shih, 2008; Williams & Coles, 2007), which also deal with and accentuate the role of the teacher. However, it can be clearly stated that the ideal way would be cooperation between a librarian and a teacher (Kapitzke, 2001; Williams & Wavell, 2007). However, the research showed that the respondents themselves do not associate information literacy with the library too much, that they do not see it as a place of education but a suitable collaborative space. This finding has two sides - at the secondary schools in the Czech environment, information education is missing. On the other hand, at the primary school level, the student could experience IL, and so could also have an idea of its connection with the library.

There is also a lack of a broader understanding of the links between information literacy and society or the transition to university (Lanning & Mallek, 2017; Lwehabura, 2018; Salisbury & Karasmanis, 2011), which is understandable to respondents. However, the generational emphasis is interesting (Eriksson-Backa et al., 2012; Lu et al., 2016; Strong et al., 2012) and the very perceived importance of information literacy present in students. Thus, they do not analyse differences geographically (Coşkun et al., 2017) or educationally. However, generationally, there is a certain tension between young people that have competencies and older people who do not have information literacy. It is clear from the data that the student emphasizes the importance of information literacy for society, reflecting the present social discourse, emphasising this topic. It is intergenerational belonging (Mazáčová, 2017) that we perceive from our findings as an exciting moment. Competence is associated with a degree of responsibility for students (Akhtyan, 2018).

Related to this is the problematic understanding of one's level of information literacy (Kultawanich et al., 2015; Ladell-Thomas, 2012; Pinto, 2010). Students are not used to evaluating themselves too much in the Czech environment. In the competence of resource evaluation (García-Quismondo, 2010; Ngo et al., 2019; Orr & Wallin, 2001), which studies generally perceive as the most problematic. We see an evident hesitation between intuitive revaluation and gradual, reflective discovery that the issue is more complex than it might seem at first glance. At the same time, it is clear that they are aware of the importance of the topic, although they are not used to working with it often enough or with much intensity. As a positive - and at the same time hindering the development of this competence - phenomenon, it is possible to mention great confidence in the teacher, who will help with a potential epistemically confusing problem. In the Czech environment, the issue of "troll farms", disinformation campaigns, and many other topics are intensely discussed (Baqués-Quesada, & Colom-Piella, 2021; Mareš et al., 2020; Monsees, 2020). Therefore, it is also crucial for students (which is reflected in our research) not to succumb to this media manipulation. At the same time, we must say that there is no clear idea of information literacy separate from the media in this respect. It forms one unit for students.

Students also reflect on the relationship between learning competence and information literacy (Andretta et al., 2008; Bruce, 1995; Fitzgerald, 2004; Head, 2013). Here we can perceive a specific Czech narrative associated with the emphasis on the encyclopaedic concept of knowledge - the one who is informed is the one who knows. According to students,

knowledge and information literacy are closely related and at the same time contain a certain social corrective (Hoyer, 2011; Lloyd, 2009; Oyediran-Tidings et al., 2019) - information appears in the dialogue, in social ties, in communication. Being information literate is related to general education, intelligence, and knowledge. This dimension is significantly emphasized by students (exceptionally high school students); it seems that their education and information literacy are interrelated, which is a topic reflected by Rosmann et al. (2015) or Matteson (2014).

While Candy (2004) thought it is possible to work with different levels of information literacy as something natural because it is the same competence as many others, the research discourse looks pretty different. On the contrary, what Candy (2004, 2002) emphasises seems likely - that there is a strong relationship between learning competence and information literacy (Dolničar et al., 2020; Turusheva, 2009; Uzunboylu & Hürsen, 2011). Students also draw attention to this topic, returning to the relationship between education, intellect, and information literacy (Williams & Evans, 2008; Rockman, 2002, Albitz, 2007).

Why is information literacy important for everyone? Because it is valid (Nzomo & Fehrmann, 2020; Saripudin et al., 2021). This pragmatic aspect appears in students and, to some extent, integrates some not very accentuated previous features. Students realise that they find themselves in situations for which school knowledge cannot prepare them, in which students must be able to obtain, evaluate and use new information. That is why information literacy is crucial to them. The concept of practicality is referred to by studies related to the labour market (Gummesson, 2016) and the ability to solve specific complex tasks (Wijaya, 2016). At the same time, we can see in the literature a robust discourse combining information literacy and competence for the 21st century or success in the labour market (Leavitt, 2011; Hajdin & Sekovanić, 2020; Spitzer et al., 1998; Synowiec, 2020), of which students are understandably aware.

Therefore, there is no difference between different types of literacy (Mackey & Jacobson, 2011). Students work here with the narrative of competence, which affects all dimensions of their being (Janssen et al., 2013) - it is essential for school and education, work, personal life, and a certain social prestige. Therefore, the difference between these literacies is not significant from the students' perspective because it does not lead to the usefulness analysed above. On the contrary, a broad competence base (Cheetham & Chivers, 2005) is practical, with which students can work.

Research on the information needs of high school students in Nigeria has shown that students' primary information literacy needs are related to their studies (Adesoye & Amusa, 2011; Akinola et al., 2013), which force them to deal with complex, unexpected, poorly structured situations (El-Khayat, 2016; Wijaya, 2016). However, as Udofia (2012) points out, the level of information literacy is also closely related to the cultural environment or family background, as confirmed by other studies by Nishikawa and Izuta (2019). We have not been able to capture this feature in our interviews. Still, its variant is the generational discontinuity in understanding both information literacy itself and cultural and social facts.

Ribot and Peluso (2003), as well as Oyediran-Tidings et al. (2019), emphasise the right to information as a fundamental to equitable education (Saunders, 2017; Webber & Johnston, 2017). Students also do not accentuate this dimension because access to information in the Czech environment is entirely natural. Their barriers are not scarcity, but, on the contrary, an excess of information sources and the inability to evaluate them well (Camiling, 2019; Ngo et al., 2019). Jarvis (2007, 2009) emphasises the role of information literacy as an element preserving freedom in an information society full of information. Without information literacy, we cannot talk about a free functioning society or a socially cohesive society.

Students can be identified as having a sense of information overload or information overload (Bawden et al., 1999; Edmunds & Morris, 2000; O'Sullivan, 2002). On the one hand, there is an emphasis on information literacy itself, an awareness of the ambiguity of how to

evaluate information. Still, at the same time, we can see the narrative of inevitable fatigue. Information literacy has become a buzzword. Students are saturated with information. It seems that the topic of digital wellbeing (Feerrar, 2020; Gui et al., 2017) and the ability to filter and process information in some way will be among the topics that students will demand in the development of their information literacy. This topic is intensively developed in the literature and proves to be one of the keys for this target group (Monge Roffarello & De Russis, 2019; Todd & Medina, 2019; Waight & Holley, 2020). The topic of digital wellbeing is also one of the bridges between digital competencies and information literacy (Carretero et al., 2017; Moto et al., 2018; Waight & Holley, 2020). Again, it must be emphasised that the student does not distinguish between information, media, and digital literacy.

Cooperation is also an essential topic in our conversations. Here, our research is strongly influenced by our reliance on the AASL framework (Burns et al., 2019) emphasises collaboration (Nichols et al., 2005; Scales et al., 2005). This supports the essential feature of the constructivist-oriented approach of the students themselves. They must work together to address topics that are useful or crucial (El-Khayat, 2016). It can be argued that constructivism does not get into the teaching of information literacy through academic discourse but through student discourse, which we perceive as essential.

Conclusions

The study aimed to answer whether the research discourse overlaps with the needs and wishes of students, the answer to this question is yes, i.e., to the extent that relevant answers can be expected from a sample of high school students. Data from students suggest that the research gap does not exist here, i.e., at least at the level of research and literary discourse corresponding to students' reflection. The second part of the implication based on the needs of students was not examined. The findings show that the main difference is only in the perception of libraries as centres of information literacy development, and that students prefer the school or their teachers in their place.

This research has shown that information literacy is perceived in the Czech school environment as a particular marginal issue, which still does not receive full attention at research, theoretical reflections, and the curriculum. However, at the same time, students confirm that they perceive it as an integral part of their intellectual capital with its educational and social consequences.

Information literacy will continue to be one of the key research topics that can interestingly expand the field of classical pedagogy - they are located on the border between educational sciences and librarianship, which can be stimulating for both disciplines. We consider the general emphasis placed on the constructivist approach to teaching highly positive, which we will probably not find so strongly in other areas, both in organising students and in the whole research discourse. The research has confirmed that the academic environment is not going in the wrong direction in this area. Most research goes into relevant and exciting spaces for students, even if it does not cover the whole aspect of their interests and needs.

Research shows that the absence of courses and educational activities for high school students is problematic in the Czech environment - it is a topic that is important and interesting for this target group, but at the same time deals with very few projects or more comprehensive educational resources. We believe that our research will improve this situation.

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