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Innovating History Education for All Needs Assessment

Warszawa, May 2017.



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1. Introduction

Large-scale research on the use of ICT in schools conducted over the last several years quite unanimously showed that the level of accessibility, quality and mobility of ICT equipment available to teachers in schools across the EU countries keeps increasing¹. At the same time, there are heightened expectations of schools in the area of developing computer and information literacy, since the popular belief that people raised in the digital era would acquire these skills outside of school turned out to be false². Moreover, the prevalence of new technologies and their usefulness for many areas means that the old model, in which only ICT teachers were responsible for developing these skills, is today insufficient, or even anachronistic³. As a result, teachers of other subjects have to meet the challenge of using ICT during their lessons not only to present the material but also to develop students' skills of working with new technologies⁴. The objective of interrelating these two areas: enhancing subject skills and using ICT (developing skills while using the potential of ICT at the same time) still remains unattained.⁵ The research showed that using ICT during lessons does not necessarily result in higher quality education and a higher level of students' skills⁶. Therefore, there is a need to find methods and solutions which would create a link between these two processes in such a way that would lead to the development of students' subject attainment and ICT proficiency.

Consequently, it is necessary to develop adequate applications/tools for teachers of various subjects supporting effective development of subject skills and enhancing students' skills related to the use of ICT. Creating such a tool for history teachers would be especially appropriate, because during history lessons students develop a number of competencies useful in the world of universal access to information of various, often questionable, quality. These competencies include selecting and ranking information, synthesis of content, or drawing conclusions from analysed materials. At the same time, this universal access to information is quite strongly (depending on traditions of particular countries) influencing approaches to teaching history, shifting the focus from remembering facts towards competencies in the area of analysing sources. In this context, the fact that history teachers quite commonly use the internet to search for and prepare adequate (interesting, suitable in terms of language and topics) source materials for their students⁷ makes the idea of creating advanced tools supporting the use of ICT, not only at home but also in the classroom, even more appealing. It is one of the objectives of the IHEA project and this report summarises its first stage.

¹ Students, Computers and Learning. Making the connection, PISA, OECD Publishing, 2015, p. 33, 60.

² International Computer and Information Literacy Study (ICILS). Preparing for Life in a Digital Age. International Report. 2013, p. 5.

³ Assessing the effects of ICT in education, OECD, 2009, p. 6, 24.

⁴ International Computer and Information Literacy Study (ICILS). Preparing for Life in a Digital Age. International Report. 2013, p. 227.

⁵ Assessing the effects of ICT in education, OECD, 2009, pp. 70–72.

⁶ Students, Computers and Learning. Making the connection, PISA, OECD Publishing, 2015, p. 190.

⁷ International Computer and Information Literacy Study (ICILS). Preparing for Life in a Digital Age. International Report. 2013, p. 222, 224.

2. What was the aim of the study?

The main goals of the IHEA Needs Assessment include:

- **Identification of ICT needs of educators** related to advancing history teaching and learning. The aim of the Needs Assessment report was to present the outcomes of survey/FGIs and IDIs to describe what kind of on-line tools history teachers need while preparing or conducting lessons, which areas of student historical skills they would like to develop with the help of new tools, what type of content they would be interested in, and to what extent they are ready to use English while using the tools developed within the project.
- **Setting priorities for the development of tools and exemplar learning activities.** Teachers proficient in ICT are capable of using new information and communication technologies at all stages of lesson planning: finding source materials, adapting and processing materials etc. However, the report identifies parts of the teaching process that can be best supported by ICT tools in order to include teachers who do not feel so confident in working with computers. The analysis covers such elements of teaching as developing work to meet individual student need, searching for sources and the development of related lesson materials, engaging students, communication between teachers and cooperation in creating lesson materials.
- **Gathering appropriate and sufficient data that will help address the history educator's requirements.** The Needs Assessment budget did not allow for a comprehensive and representative analysis of the needs of European history educators. However, based on a series of interviews and surveys, a set of data was gathered allowing for identification of the general trends among history educators.

The report presents the results of analyses concerning these areas.

3. Structure of the study

Needs assessment stages

The study employed five methods – a preliminary survey, focus group interviews (FGIs), the main survey, individual in-depth Interviews (IDIs) and two short online surveys. The objective of the preliminary survey was to select participants for FGIs. The FGIs served as the basis for creating the main survey, whereas the objective of the IDIs was to elaborate on the most interesting results of the main survey. The two short surveys were carried out already during the work on online tools and were aimed at finding answers to questions that turned out to be important while working on the development of specific tools. This structure allowed for a quantitative approach to the research data (even though the project did not assume that any part of the study was based on a representative sample) and also a qualitative perspective. The data collected during the FGIs and IDIs were qualitative in nature. The data collected from the main survey were summarised and analysed using statistical methods.

Participants of the needs assessment

The needs assessment was based on the data gathered from history educators working and living in different EU countries. The group included primary and secondary school teachers, as well as other

participants professionally engaged in history education, such as curriculum developers, textbook (and other teaching tools) authors, teacher pre-service and in-service trainers, assessment experts, advisers and inspectors, educational staff in museums and institutes, board members of member associations and trainee teachers. The people involved in the needs assessment part of the IHEA project (questionnaire, focus groups, interviews, surveys) represented a diverse group in terms of geographical spread, age, gender, years of teaching experience, but were all professionally engaged in history education.

The sample for the qualitative part of the study can be described as purposive or judgmental sample. Obtaining a representative sample would be very expensive and difficult, considering the number of countries included in the study. Judgmental sampling also seems justified from the perspective of effective tool development in the project. Such sampling allowed for selecting respondents characterised by greater awareness of the research subject. As such, they are also potential recipients of the tools which are to be developed in the subsequent stages. The main survey's sample could be described as a convenience sample. Any person having a connection to teaching history - teachers, teacher trainers, textbook authors - was invited to participate.

The collected data are not representative, but they do provide a relatively coherent overview of people participating in the study and of potential recipients of the developed tools.

The next part of the report describes each stage of the study, including its function, sample and the nature of the gathered data and materials.

A. Preliminary survey

The aim of the survey was to select no more than 20 history educators for FGIs (see below). Invitations to participate in the preliminary survey were sent to the participants of the annual EUROCLIO conference, which took place in mid-April 2015. The questions were designed in a way which facilitated selecting the conference participants who corresponded to the FGI participant profile outlined below. The participants of the preliminary survey answered questions concerning software, the frequency of using ICT in the classroom and their involvement in social media. The survey was conducted in English. It contained close-ended and open-ended questions. Completion of the survey took about 10 minutes.

B. Focus Group Interview

In order to obtain balanced and representative opinions and meet the project goals, it has been assumed that the products developed within the project will be flexible and adaptable to the needs, habits and practice of the majority of participating teachers. Overly innovative and complex tools requiring extensive ICT knowledge and skills may be daunting for most teachers.

Therefore, two types of participants were invited to take part in the FGIs (these two groups partly overlapped).

- **An experienced history educator.** The tools which will be developed within the project are primarily designed to support the teaching of history. Thus, it was vital that the participants had significant experience in teaching history, knew the goals of historical education in their country and what skills should be developed in the classroom. The selection of such teachers for interviews was intended to ensure that the gathered information would be useful for the creators of the tools.

- **A competent computer and internet user.** The recent, dynamic changes relating to the emergence of web 2.0, social networks development and better access to broadband internet mean that the skills necessary for using a stand-alone computer are not sufficient. The future of ICT in education depends on computers with internet access. Thus, the boundary between programmes installed locally and web applications (tools) operating in the browser environment is obliterated. While developing the needs assessment tools, it is important to ensure that the study subjects are aware of the possibilities offered by web 2.0. On the other hand, it seems that the people who have very advanced knowledge of new applications/software (for example, who are competent in using the possibilities offered by cloud computing, that allow for synchronisation of data between various types of devices) are still a minority and are not representative for our study. In his recent book Terry Haydn presents “a model for progression in the use of ICT applications”⁸. The author distinguished four levels of teachers’ proficiency in ICT. Teachers at the first level are only aware of the existence of applications which could enhance their teaching of history. Those assigned to the second level can use them outside of the classroom and are aware of their advantages. Only at the third level do teachers know how to use ICT in the classroom with students. At the fourth and highest level, the teacher allows students to work autonomously (independently or in groups) and the teacher role is limited to coordinating their work. It seems that teachers with competence levels 2 and 3 should be the preferred participants of the study.

Eventually a group of 18 people was selected and invited to participate in the FGIs. The date and the location of the interviews depended to a large extent on the organisers of the EUROCLIO conference. The invitations were sent two weeks prior to the conference. 12 out of 18 respondents agreed to participate in the interviews. The remaining six were unable to participate for various reasons. During the conference in Denmark, one day before the scheduled FGIs, the interviewers learnt that four more participants could not attend the sessions. Consequently they were forced to replace them with other conference participants who met the predetermined criteria. The focus group interviews were conducted by two moderators on 22 April 2015 and recorded (audio and video). The interviews were conducted in English.

The first interview was attended by representatives of the Czech Republic, the Netherlands (two people), Iceland, Italy, Macedonia, Denmark and Cyprus; the second by representatives from Finland, Bulgaria, the Netherlands, Iceland and Latvia. This selection ensured the diversity of participants in terms of their approach to history teaching.

Each interview lasted 80 minutes and consisted of two parts. Workshop methods were used during the interviews. Such methods both engaged the participants and allowed for a relatively quick overview of the opinions of individual participants on the topics, as well as eliciting relevant comments. During the first part the conversation focused upon the challenges and the nature of history teaching in respondents’ respective countries. The participants were asked to comment on the major problems in everyday school practice, the main tasks of teachers, the key skills developed during history lessons and the most popular topics discussed during lessons in each of the respondents’ countries. The interviewers also tried to find out more about the use of historical sources in lessons and the most popular methods of working with these in everyday school practice.

The second part of the interview was devoted to the use of ICT; the experience of individual participants in working with ICT and the possibilities of using ICT tools in the future. The interviewers’ focus remained primarily on identifying the software the respondents used both at home and in

⁸ T. Haydn, *Using new technologies to enhance teaching and learning in History*, 2013, p. 8

the school. It was also important to identify the reasons for using specific ICT solutions in school practice. The interviews also explored opinions about the opportunities and problems arising from the use of ICT in everyday school practice.

The data collected from FGIs were used in two ways. They provided valuable suggestions concerning the questions for the main survey by pointing to areas of importance from the perspective of the project objectives. Secondly, they revealed a number of interesting ideas and opinions to which we will return later in the report.

C. Main survey

The main survey data which serve as the basis for the needs assessment created the structure we have used to present our research findings in this report.

The survey consisted of 25 questions. In accordance with the adopted research framework, responses to these questions provided quantitative data concerning the areas discussed during the focus interviews. The questions for the main survey were developed based on the conclusions drawn from the focus group interviews. The aim of this stage was to accept or reject the preliminary findings gathered earlier.

The first section of the survey dealt with the frequency of the use of ICT in school practice by teachers and their students. The next set of questions were concerned with teacher practices relating to the search for materials to be used in the classroom. The next group of questions dealt with the frequency of using sources in the classroom, the methods of searching for source materials and the ways of archiving source materials, followed by questions concerning problems encountered by teachers in the classroom: text analysis skills, comparing sources, relating events discussed in the classroom to the contemporary world, the topics discussed with students in most detail, the biggest challenges in professional practice and the ability of students to understand sources in English. The closing section was intended to help the collection of demographic and work-related background data.

The main survey questions were written in English. With the help of the members of EUROCLIO, the survey was then translated into 18 languages (Croatian, Czech, Danish, Dutch, Finnish, French, German, Greek, Hungarian, Icelandic, Italian, Latvian, Macedonian, Norwegian, Polish, Serbian, Slovak and Spanish). Thanks to the support of all the volunteer translators the first iteration of the process was finished in less than six days. Only one of the items raised queries from the translators and required some consultation. Surprisingly, the concept of “chronological thinking” was understood in contrasting ways.

The survey was available on-line from 24 August 2015 and the data collection process ended on 4 October 2015⁹.

In order to reach the widest possible number of potential respondents, the link to the multilingual survey was distributed among EUROCLIO members. The information about the active survey was also published on a dedicated Facebook group page. Thus, the sample selected can be best described as a convenience sample.

⁹ After 4 October (to 16 November 2015) the survey was accessed by 176 respondents and completed by 26 of them. These responses were not included the report. However, their analysis shows that they would not significantly impact the needs assessment conclusions.

3. Structure of the study

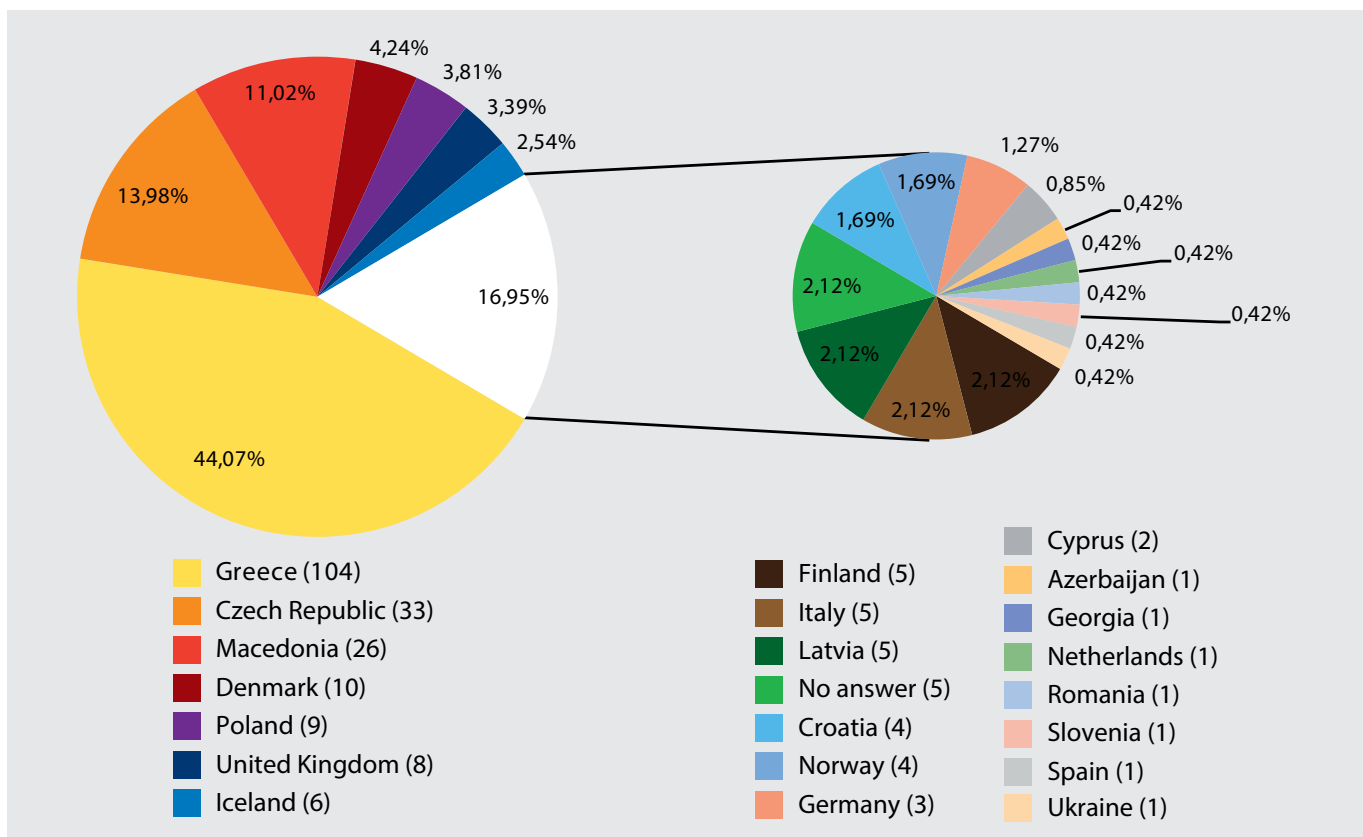
The survey was conducted through an advanced on-line survey system - Limesurvey - installed on the IBE (Educational Research Institute) server in Warsaw. A local database (MySQL) was used in order to assure the confidentiality of gathered data. Access to Limesurvey was encrypted for security purposes (HTTPS, TLS 1.2, AES_128_GCM).

The survey was opened by 841 respondents. That means that it was viewed, and possibly even completed, but the respondent did not click the "Submit" button and their responses were not stored in the database. The survey was fully completed and submitted by 235 respondents. The data they provided became the basis for the conclusions presented in this report. The minimum expected number of responses was 100, thus the final number of respondents is satisfactory.

The period during which the survey was accessible (the end of the school holidays and the beginning of the school year) could have adversely influenced the number of responses. We can infer that most teachers had a lot of work to do in schools and could not fully engage with completing the survey. The database records indicate that many people opened the survey and closed it after a short while, which may suggest that the topic did not seem interesting enough, or that the length of the survey seemed intimidating.

It should be emphasised once more that even though the data collected from the survey were analysed using quantitative methods, the results cannot be perceived as representative for all European history teachers; they were based on convenience and not representative sample. The sample included teachers from many countries but it was impossible to select the number of respondents to be representative of all history teachers in these countries. Therefore, the analysis of differences between countries was also impossible. The graph below illustrates the number of respondents from individual countries taking part in the survey; from one to over 100 per country (Greece).

Graph 1. The share of respondents from various countries



We should keep in mind that only teachers who found the information about the survey, expressed interest in its subject matter and decided to spend some time responding to all the questions, participated in the study. The survey was only available on-line, so all the respondents had to have at least basic ICT skills and access to the internet to take part.

However, these reservations do not lower the explorative value of the conclusions based on the needs assessment. The collected data represent the group of potential users and advocates of the applications to be developed in the project; that is, teachers interested in ICT.

D. Individual In-Depth Interviews

The respondents who, based on the results of the Surveys/FGIs, showed breadth of perspective, original ideas and the ability to look creatively at the problem of using ICT tools in history teaching were asked to take part in the last part of the needs assessment analysis: in-depth interviews (IDI). In addition, the IDI participant group included the teachers/educators identified by the project partners who matched the educator's profile. The interviews were primarily aimed at gaining an in-depth perspective on selected problems. The interviews focused on the discussion of and commenting on the conclusions drawn after the prior stages. The interviews in second part of 2016 and first part of 2017 also included questions from the project partners who would be working on the development of tools and exemplar learning activities. The responses to these questions could thus help in the process of development. During the whole project 27 interviews were done.

The interviews were conducted in English and in Polish.

E. Short surveys

In addition, two short surveys were also carried out. The general purpose of the surveys was to find answers to practical questions which appeared while developing IHEA tools. Both surveys were in English.

The first was carried out in May and June 2016, involving 23 people from 20 countries, of which $\frac{2}{3}$ were history teachers, and $\frac{1}{3}$ were those involved in the education of history teachers. The respondents answered eight questions concerning their work with online tools, related both to practical issues (such as initiating and documenting activities), as well as technical matters (e.g. widespread access to specific devices).

The second survey took place in October 2016. It also involved 23 participants (almost exclusively history teachers), but this time from 8 countries. Participants answered 10 questions that focused primarily on the use of ICT when working with primary sources, namely the methods used, as well as expectations regarding source collections (number of materials, topics).

Both surveys were intervening in nature: their goal was to quickly gather data necessary at a specific stage of the tool development work. For this reason, persons deeply involved in a given issue were primarily invited to participate in the surveys. Therefore, the collected data should be analysed rather qualitatively, rather than quantitatively. At the same time, the goals set for these mini-surveys mean that some of the data collected - due to their strictly technical nature - do not actually fall within the scope of this report. For this reason, the conclusions based on some questions have been omitted (e.g. answers to questions about the optimal - from the teacher's point of view - ways of tagging source materials on the Internet, etc.).

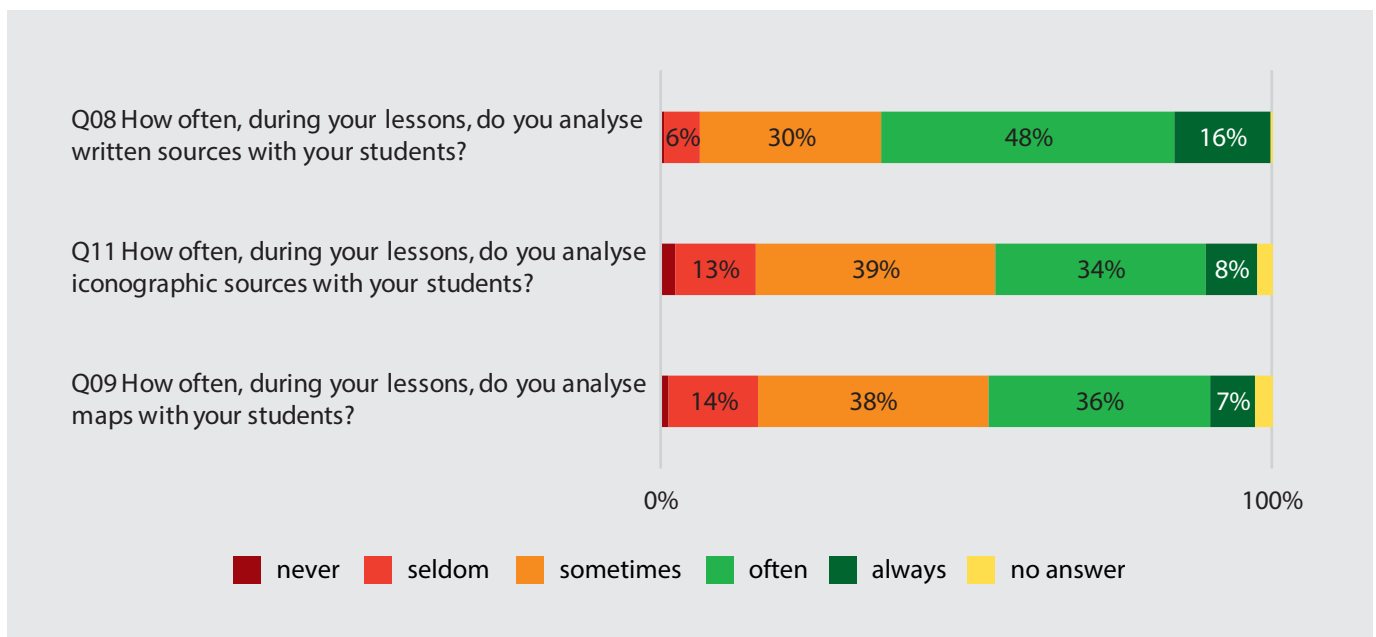
4. Results of the study

This part of the report covers the main research findings. The analysis is based on the main survey results supplemented by the data gathered during the focus groups, individual interviews and two short surveys. The results are divided into four parts. The first one discusses respondent comments concerning the skills developed during history lessons. The second part discusses the findings related to using ICT during history lessons. The third part analyses selected correlations between answers to the questions concerning developing certain skills and using ICT during lessons. The last part includes several other important issues which facilitate adequate profiling of the teaching aids which are being prepared to match the needs and aspirations of history teachers who participated in the study.

4.1. Skills developed during history lessons

Based on the respondent answers/comments from the focus group interviews, it is clear that **teachers use a great variety of sources**. Consequently, the main survey included questions about the frequency of working with the materials that were mentioned most often: written sources, visual sources and historical maps. The respondents declared that they used written texts most frequently. Responding to the question “How often during your lessons, do you analyse written sources with your students?” “always” and “often” were indicated by 64% of respondents and 30% indicated “sometimes”. The survey confirmed that the potential recipients of the project’s development outcomes most often work with source materials.

Graph 2. Materials used during lessons

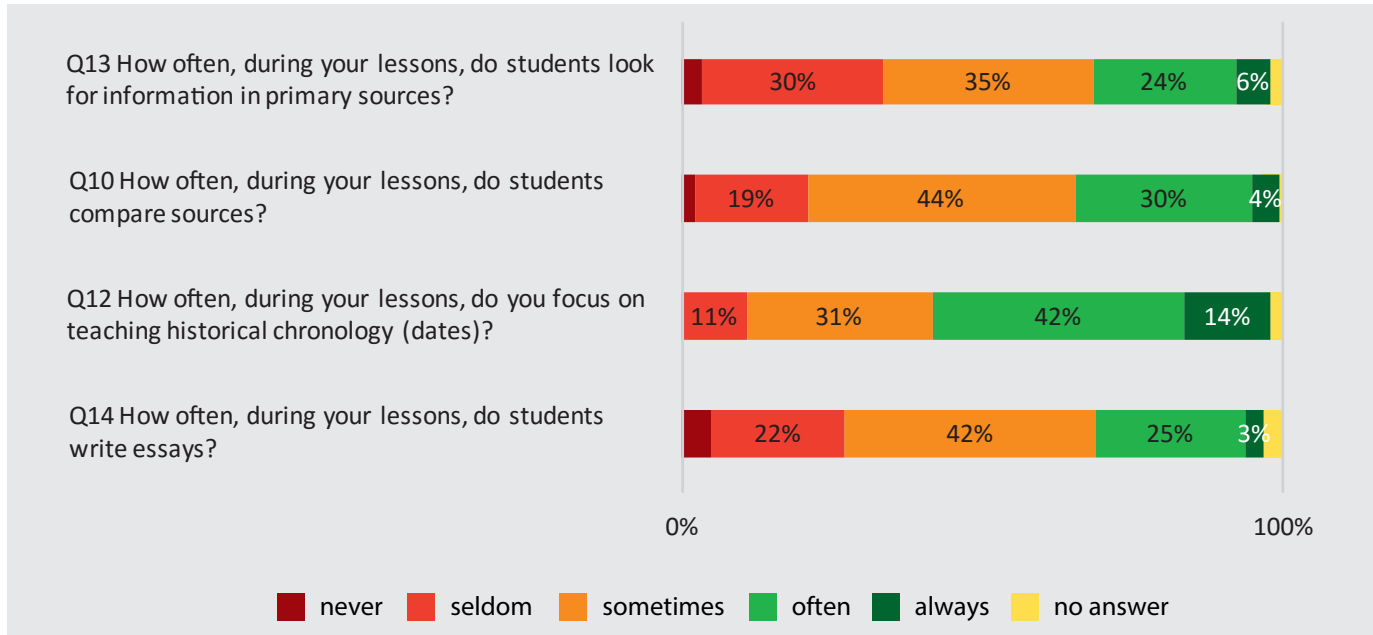


Visual sources and historical maps were slightly less popular than written materials. 42% and 43% of respondents indicated “often” and “always”, and nearly 40% declared that they used such materials “sometimes”. Even though maps and visual sources are slightly less frequently used than written

sources, it seems that on-line tools containing such materials would be readily used by history teachers (by over 80% of potential users).

The questions concerning the skills developed during history lessons constituted a separate group. This area is influenced by the requirements formulated in the respective national core curricula.

Graph 3. Skills developed during lessons



Many respondents indicated the important role of chronology in their teaching practice. 57% of respondents “often” and “always” focus on chronology and there were no respondents who declared that they “never” focus on chronology. Developing chronological thinking is, therefore, an important element of teaching practice among the potential users of the materials to be developed in the IHEA project and nearly 90% of them expressed interests in obtaining teaching aids which would help them to achieve this objective efficiently. The importance of teaching chronological thinking and related competencies during history lessons was emphasised during the FGIs. It is also mentioned in the literature on the subject¹⁰.

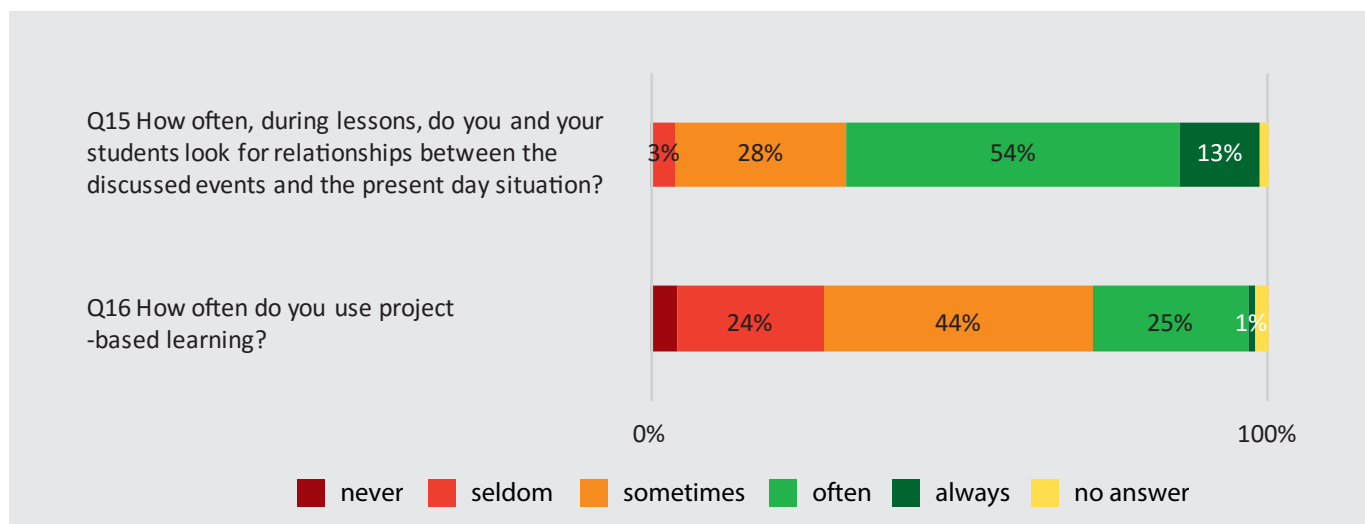
Various activities connected with primary source analysis were also mentioned during the FGIs. The participants agreed that there was no predominant way of working with sources that can be easily identified. At the same time, they indicated that students’ work was too often limited to searching for simple information in the teacher-provided materials; development of sourcing and historical reasoning skills was less frequent. The FGIs’ participants indicated two basic activities related to working with primary sources: searching for information and comparing different materials. The authors of the study decided to include in the main survey a question concerning the frequency of these two types of activities. The questions related to historical reasoning skills were dropped, as the meaning of this term was found to be so diverse among countries. Exploring this topic in detail would require a separate survey.

¹⁰ J. Lorenc, K. Mrozowski, A. Oniszczyk, J. Staniszewski and K. Starczynowska, How is chronological thinking tested?, *EDUKACJA Quarterly*, 123(3) (2013), pp. 86–97; for the latest literature on the subject see J. G. Galán, Historical and Chronological Time in Education a New Theoretical Framework, *European Journal of Science and Theology*, October 2015, Vol.11, No.5, pp. 77–86.

One-third of the survey respondents expect their students to find information in primary sources “always” or “often” and another 35% - “sometimes”. Therefore, ICT tools facilitating such activities would interest two-thirds of potential users. Comparing primary sources together with students was even more frequent among the respondents - 34% of them indicated “always” and “often”, another 44% indicated “sometimes”. It can therefore be assumed that tools designed for more efficient comparison of materials or which facilitate the search for materials for comparison would interest as much as 78% of potential users.

One of the survey questions concerned students writing a historical essay. Bearing in mind that this activity is very time-consuming and requires from both teachers and students a high degree of lesson organisation, it is worth noting that 28% of teachers regularly work on developing these competencies and 42% develop them “sometimes”. It seems that designing ICT tools facilitating the development of students’ writing skills, in particular in relation to longer essays, would also benefit the respondents.

Graph 4. Project based learning and relationships between present and past



Based on the results of the FGIs, the main survey also included questions concerning the frequency of project-based learning and the search for relationships between the topic of the lesson and the contemporary world. As many as 67% of respondents declared that they often and always referred to the present day situation and only 3% never did. These data suggest that emphasising relationships between past events and the contemporary world is especially important for potential users of the ICT tools to be developed as part of the project. The respondents would most probably appreciate the development of on-line tools facilitating such comparisons.

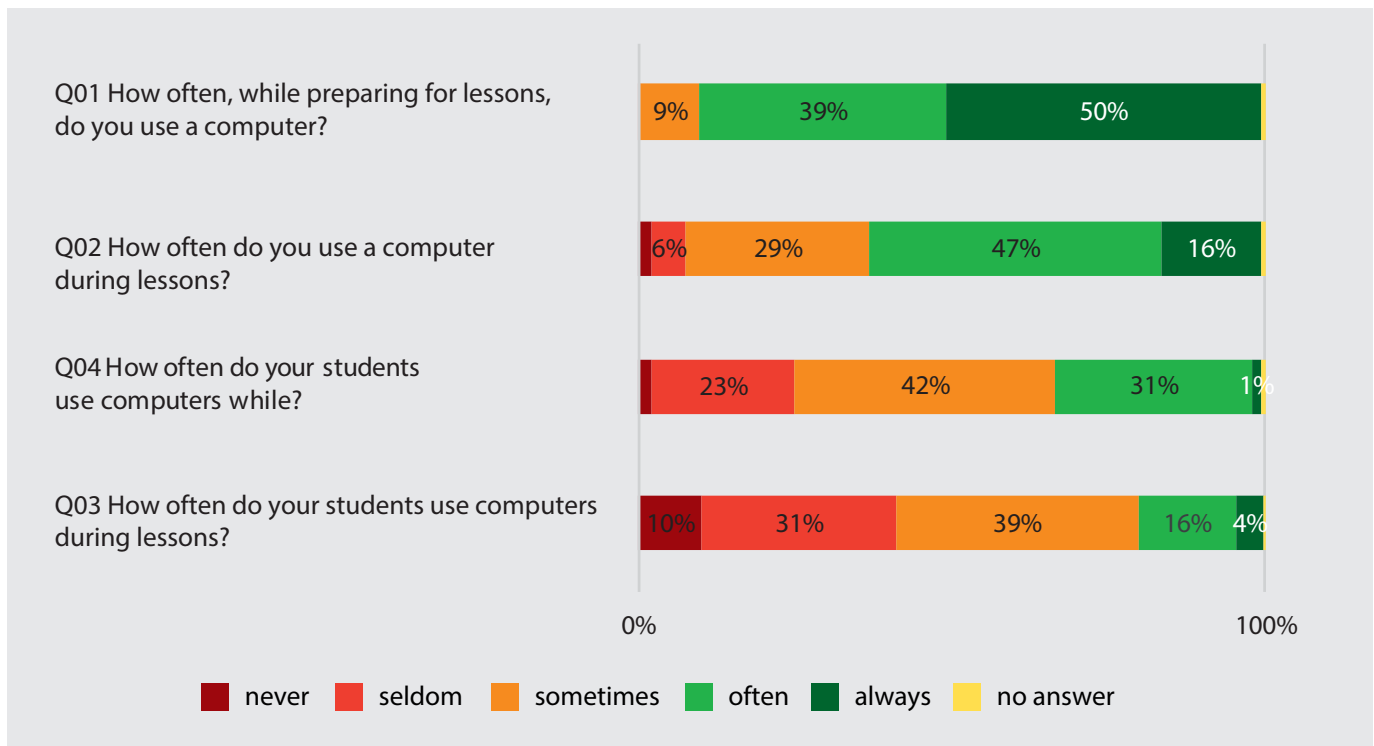
At the same time, the use of project-based learning unexpectedly turned out to be less common than suggested in the FGIs. Only one in four teachers “always” and “often” used this method. It seems that the potential audience of ICT tools designed to facilitate planning, conducting and summarising historical projects is not as wide as in the audience for teaching tools related to working with source materials, developing chronological skills and making connections between the past and the contemporary world. However, it should be remembered that using project-based learning methods requires special lesson organisation. The potential reach of ICT tools facilitating the use of a project-based learning method may also be inferred from the number of “sometimes” responses; “sometimes” was indicated by 44% of respondents.

To sum up the data gathered and the discussion in this section, it should be emphasised that the activities most frequently undertaken during history lessons include looking for relationships between past events and the contemporary world (67% of the respondents indicate “always” and “often”), working with source texts (64% - “always” and “often”) and developing chronological skills (56% “always” and “often”). Consequently, teachers would probably be most interested in teaching tools related to these areas. Map analysis (43% - “always” and “often”) and visual sources analysis (42% - “always” and “often”), as well as the comparison of source materials (34% - “always” and “often”) were ranked next highest. Applications related to the simple search of information in texts (30% - “always” and “often”), writing essays (27% - “always” and “often”) and project-based learning (26% - “always” and “often”) would be less interesting for teachers.

4.2. Use of ICT by history teachers

The basic issues related to the use of ICT by history teachers can be divided into several issues identified during FGI. First of all, participants indicated the importance of free access by teachers (both at home and in the school classroom) to a computer (or other device) with internet access. This was followed by the readiness to exploit the potential offered by ICT strongly related to a sense of proficiency in using ICT devices¹¹. A separate issue mentioned during the FGIs and related to the use of ICT in the teaching process was availability of ICT equipment to students¹².

Graph 5. Frequency of using computer



As a result, a number of questions, concerning the availability of ICT equipment and its use by the respondents, were included in the main survey. The participant responses suggest that the computer

¹¹ Survey of Schools: ICT in Education, 2013, 100–103.

¹² Teacher ICT skills Evaluation of the Information and Communication Technology (ICT) Knowledge and Skills Levels of Western Australian Government School Teachers, 2013, pp. 44–45; Students, Computers and Learning. Making the connection, PISA, OECD Publishing, 2015, pp. 18, 31–35.

is their basic tool: half of the respondents “always” used it for lesson preparation,¹³ another 40% used it “often” and 10% “sometimes” (only one respondent indicated “seldom” and nobody indicated “never”).¹⁴ Similar declarations were common among the FGIs participants. The resulting image adequately refers to the participants of the study, but we should keep in mind that because of the tool used for collecting the data such a result was to be expected. Both the on-line survey and the FGIs participant profile excluded teachers who used computers less frequently or simply had lower levels of ICT skills. On the other hand, the OECD data show the rapidly growing availability of computers and the internet in the EU countries over the last several years and we can assume that lack of internet access in most member states is rare¹⁵.

The belief expressed by the respondents that their students use computers much less frequently than teachers while preparing for their history lessons (“often” - was indicated by 31%; only 1% of the respondent indicated “always”) is in this context especially interesting. It seems that in this case the respondents had in mind the frequency of situations in which student assignments directly required use of the internet rather than their more usual/traditional forms of doing homework.

The way computers were used during lessons is another important issue. The FGIs revealed that computers and ICT tools were mainly used to present content but not to engage students. Teachers tend to use engaging tools with caution, fearing technical problems in the classroom environment¹⁶. Based on these findings, the survey explored these issues in more detail. The data collected confirmed that both teachers and students used ICT much less frequently during lessons than at home¹⁷. Moreover, the respondent declarations clearly showed that school practice was dominated by the model in which a teacher was the only one using a computer. Based on the FGIs’ data we can assume that it is mostly used for content presentation or displaying source materials¹⁸. Lessons where students use ICT devices are much less frequent; as many as 10% of the respondents declared that this never happened during their lessons and another 31% - that such situations were rare.

¹³ Survey of Schools: ICT in Education, 2013, p. 134.

¹⁴ Survey of Schools: ICT in Education, 2013, pp. 80–82: Frequency of teachers’ ICT based activities with the class; Computer-assisted lesson planning is as a matter of fact, limited to two types of activities: most often, teachers use the Internet in order to find sources, which they can use in the classroom. This activity is very common for history teachers, for whom proper selection of source materials seems particularly important. International Computer and Information Literacy Study (ICILS). Preparing for Life in a Digital Age. International Report. 2013, p. 222.

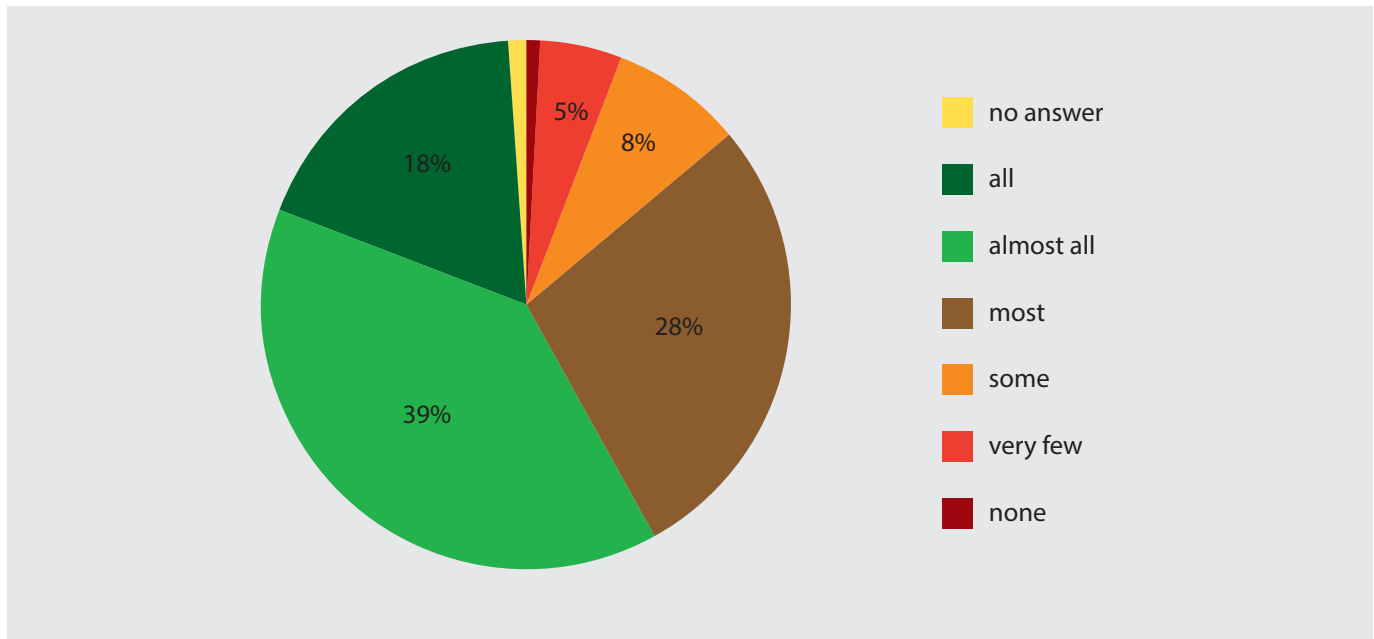
¹⁵ Students, Computers and Learning. Making the connection, PISA, OECD Publishing, 2015, p. 33: PISA data show that in a majority of participating countries, access to computers had, by 2012, become nearly universal. However, important between-country differences exist in the quantity and quality of devices accessible, and in the experience acquired in using them.

¹⁶ They [i.e. teachers] also pointed out that using computers in the classroom involved high risk of technical problems which may potentially be very frustrating. Unexpected network failures or computer malfunctions may undermine prior planning; International Computer and Information Literacy Study (ICILS). Preparing for Life in a Digital Age. International Report. 2013, p. 200.

¹⁷ Teachers use computers mostly at home, while planning lessons. The use of computers during lessons is much less frequent; International Computer and Information Literacy Study (ICILS). Preparing for Life in a Digital Age. International Report. 2013, p. 224.

¹⁸ Computer-assisted lesson planning was, in fact, limited to two types of activities: (...). The second type of activities was making multimedia presentations; International Computer and Information Literacy Study (ICILS). Preparing for Life in a Digital Age. International Report. 2013, p. 222.

Graph 6. Do your students own ICT devices (smartphones, iPads, notebook computers) with Internet access? (Q05)



This rare use of ICT during lessons could easily be explained by the lack of adequate equipment, for example, by the fact that history classrooms are equipped with only one (if any at all) computer connected to a multimedia projector controlled, naturally, by the teacher¹⁹. However, it should be noted that, according to teacher declarations, students often have their own devices with internet access which could easily be used for working with mobile apps. Over half of the respondents declared that “all” or “almost all” their students owned such devices and another 28% indicated that “most” students in their classes owned them. It is therefore advisable that if tools developed for history teachers are to be used during lessons, they should be prepared mainly in the form of mobile apps (perhaps for the most popular platforms: Android, iOS and Windows).

In order to clarify this data, the first short survey included a question about the type of computer devices most easily available to students. This question was important in the context of the optimal adaptation of the developed tools to the equipment on which they are to be used. Most respondents pointed to the personal computer as the most frequently used equipment during lessons and most common in students’ homes. Smartphones are also popular, while students are less likely to have access to tablets.

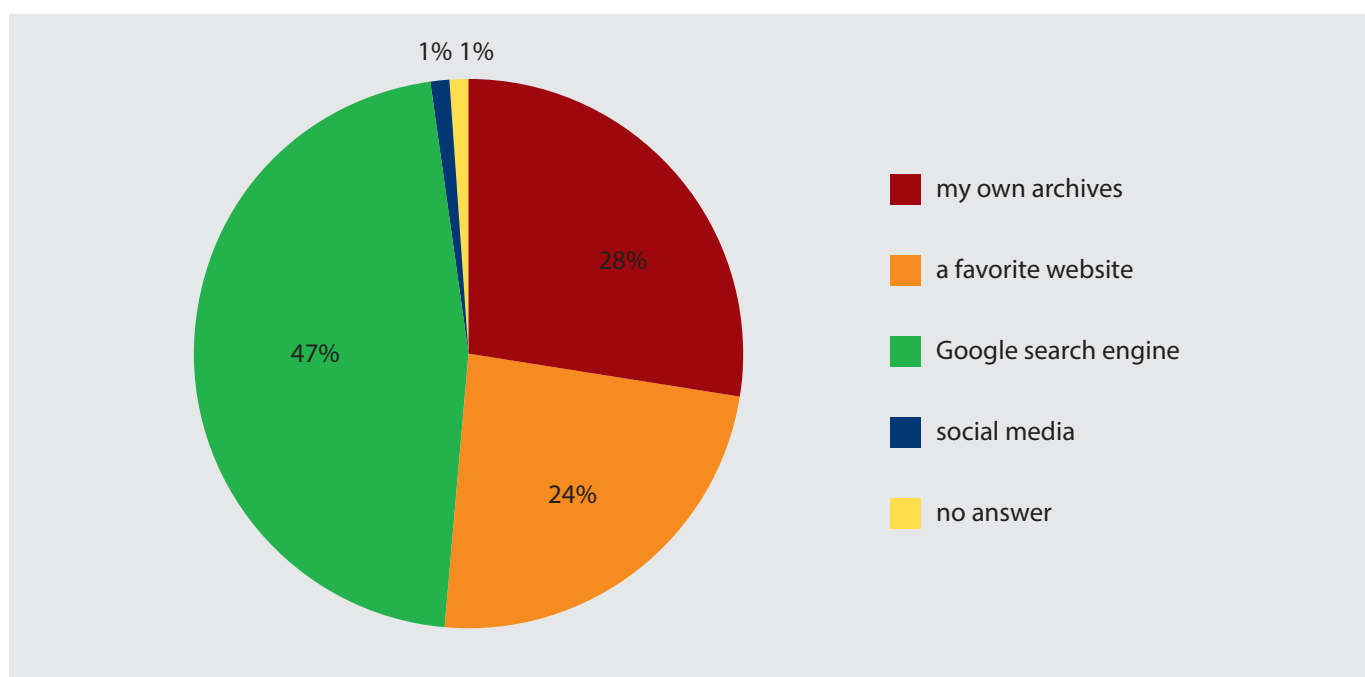
At the same time, teachers pointed out that students relatively often - where possible - perform the assigned tasks on different devices. So, for example, they start work on a school tablet and finish at home on a personal computer. It seems, therefore, that the developed tools should take these situations into account and allow students to make such changes.

The next set of the Main Survey questions moved away from school practice and explored the ways in which history teachers search for source materials for their lessons and how they store them. These two issues seem especially important, since (as was shown above) source materials are commonly used during history lessons and their quality and appeal to students greatly influence the success of each lesson. The FGIs revealed that teachers usually use commonly available tools rather

¹⁹ Students, Computers and Learning. Making the connection, PISA, OECD Publishing, 2015, p. 67: Whether students can access computers in their classrooms or only in separate computer labs or at the school library makes a big difference in teachers’ willingness to use computers in their teaching. Laptop and tablet computers offer much greater flexibility than desktop computers, and PISA data show that more and more schools have opted for these mobile computing solutions. (...)

than those dedicated to teachers in general or to history teachers in particular. According to the survey data, while searching for lesson materials, teachers use mainly the easiest, but at the same time the most useful tools such as internet search engines and Google tools - this is how 47% of respondents start their search. A much smaller group (28%) starts with their own archives. From the point of view of the study objective, the group of teachers who start their query with opening their favourite website is the most significant discovery. This group is relatively large, it includes almost a quarter of teachers. It seems that they are the most promising target group for the ICT tools to be developed within the IHEA project. Encouraging these teachers to switch to the new ICT teaching tools website would probably be successful.

Graph 7. Where do you usually start looking for source materials? (Q06)



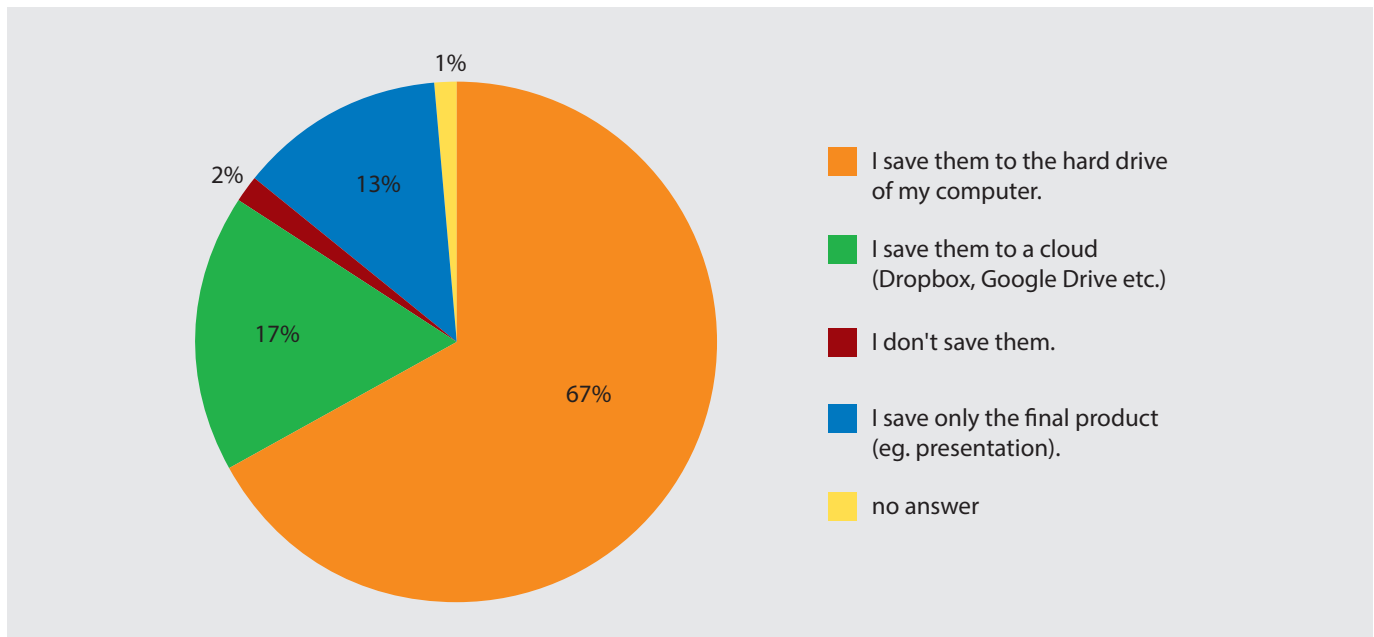
Teachers, asked in one of the short surveys about key problems related to the use of online sources collections, pointed to quite diverse issues. First of all, it seems that the most useful sources collections are local (national) sources, which contain sources closely related to the history of the region and which are created or described in a language the students use to communicate with the teacher on a daily basis. Therefore, some teachers pointed out that the biggest problem with online sources collections remains the lack of a source database with their country's history. On the other hand, when using sites presenting sources covering a wider area - especially those of an international nature - the biggest problems concerned the language. It seems that this problem affects - depending on the country - both teachers and students. In the case of the latter, an additional limitation is the inadequacy of the level of the linguistic content of materials devoted to a given issue to the age of the students. Therefore, when preparing a similar sources database for teachers, it would be reasonable to differentiate the materials with regard to the level of the students' language proficiency. So that a given issue could be discussed in different countries with students of all ages (according to the local model, the core curriculum or teaching itinerary).

It should also be noted that teachers often have difficulty in finding materials that are actually useful in teaching. For example, it is difficult for them to find sources showing similar events in different parts of Europe. Sometimes, in the flood of materials, really important or simply very interesting sources are lost. A solution to these problems could be tagging the materials with labels indicating

not only their subject matter, but also their origins and language level (on a scale from A1 to C2). In addition, it is worthwhile to include both lesser known sources, as well canonical sources in particular databases.

The large number of source materials used by history teachers requires, at least to some extent, their storage in a way that facilitates finding relevant information and the effective use of gathered material. Here teachers declare the use of rather traditional forms of saving data. As many as 67% of the respondents save materials found on-line to the hard drive, a visibly smaller group (17%) save them to a cloud. This issue also appeared during the FGIs. However, the data from the survey demonstrated that the scale of using cloud storage is rather small.

Graph 8. How do you archive source materials? (Q07)



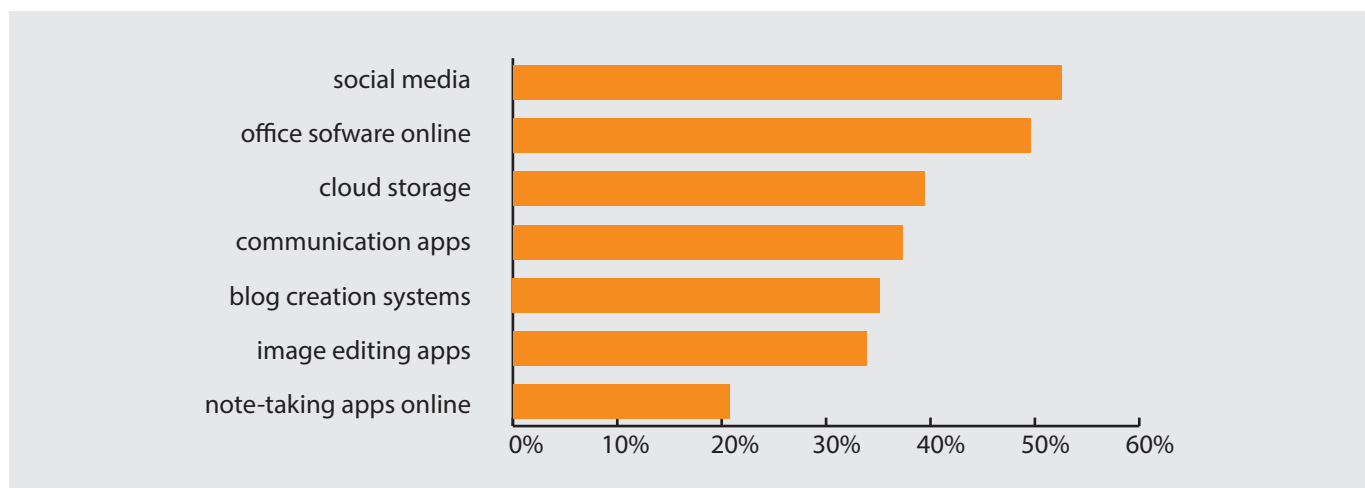
These responses can be used for designing ICT tools for teachers in two ways. Firstly, the process of importing source materials into the tools should be simplified. Secondly, the source material database for these tools should be kept to a minimum, since teachers would probably prefer their own materials aligned with their core curricula, and matching their style of teaching and lesson organisation.

The general picture of survey respondents' proficiency in using on-line tools can be completed by the graph below showing which apps they use most frequently. The fact that over half of the respondents use social media means that the tools developed in the project should allow users to log in using their social media accounts (simplified registration process, easy sharing of content between students and teachers or exchanging good practice between teachers).²⁰ On the other hand, the popularity of applications designed for preparing materials of different types (texts, images, video) indicates that teachers should not have problems using the corresponding functions of the tools developed within the project (they should easily manage to perform simple tasks, such as

²⁰ The Horizon Report Europe: 2014 Schools Edition examines trends, challenges, and technologies for their potential impact on and use in teaching, learning, and creative inquiry, 2014, p. 10: For schools, social media provides a way to encourage feedback and suggestions, even as it enables two-way dialogues between students, parents, teachers, and the institution that are less formal than other means.

scaling iconographic materials to appropriate size, editing texts, etc.).²¹ This familiarity with popular web apps should also help move their working environment from their own computer (which, as was shown earlier, still dominates) to on-line.

Graph 9. Online tools that teachers use (Q20)



Summing up this part of the report, it should be noted that computers are commonly used by teachers, but more often at home than in the classroom environment. However, lack of classroom use is not caused by the lack of equipment, which is available in most schools, but, rather, psychological and technological barriers. Two possible strategies for creating new tools for teachers emerge: either developing better tools for working at home, which would, at the very least, expand the scale of their use; or creating applications which would help overcome the observed reservations towards using ICT in the classroom and encourage teachers to be more confident users.

This second strategy could also involve encouraging history teachers to include the development of students' ICT skills into the sphere of their interest. Currently history teachers do not seem to be actively engaged in developing these skills and in view of contemporary cultural changes this may soon become necessary. The applications should therefore support the development of not only skills related to history education but also the skills related to working with new technologies.

Based on the collected data there are several other suggestions for authors/designers of the ICT tools to be developed within the project. The interviewed teachers commonly use social media, so, as it was stated above, it is advisable to integrate the new tools with social media in order to facilitate exchange of ideas and good practice between users. The enormous popularity of the generic tools for searching and archiving source materials may mean that it will be difficult to convince students to start using new tools to replace the tools they know and like. Consequently, integration with existing systems (export, import, sharing etc.) is more important than inventing the tools anew.

²¹ Teacher ICT skills Evaluation of the Information and Communication Technology (ICT) Knowledge and Skills Levels of Western Australian Government School Teachers, 2013, 20: Item map for ICT competence (skills & knowledge); But: The Teaching Skills Initiative recognised that there was little point in putting computers in schools unless teachers were trained in their use – ICT in Schools PROMOTING THE QUALITY OF LEARNING. Inspectorate Evaluation Studies, 2008, Dublin [JAKIEŚ STRONY?].

4.3. Correlations between questions from the first and second group

The data collected in the main survey were subjected to statistical analysis in order to explore correlations between responses to particular questions.

The analysis was performed using SOFASStats 1.4.5²², a statistical package based on the well-known and widely used SciPy Python library²³. Because of the low precision of measurement (ordinal scale) and relatively limited number of observations, the strength of the relationship between the values of variables for questions 1-5, 8-16 and 19 was determined using Spearman's rank correlation coefficient .

The analysis consisted in generating scatterplots which enabled visual assessment of the relationship between variables, calculating p-value which helps to define the statistical significance of the relationship and calculating the strength of the relationship - R interpreted according to the following scale.

- 0.00-0.19 "very weak"
- 0.20-0.39 "weak"
- 0.40-0.59 "moderate"
- 0.60-0.79 "strong"
- 0.80-1.0 "very strong"

In the case of questions 1-5, 8-16 and 19, observations were ranked in the following way:

Questions 1-4, 8-16

value for the variable	rank
never	1
seldom	2
sometimes	3
often	4
always	5

²² <http://www.sofastatistics.com/home.php>

²³ <https://www.scipy.org/>

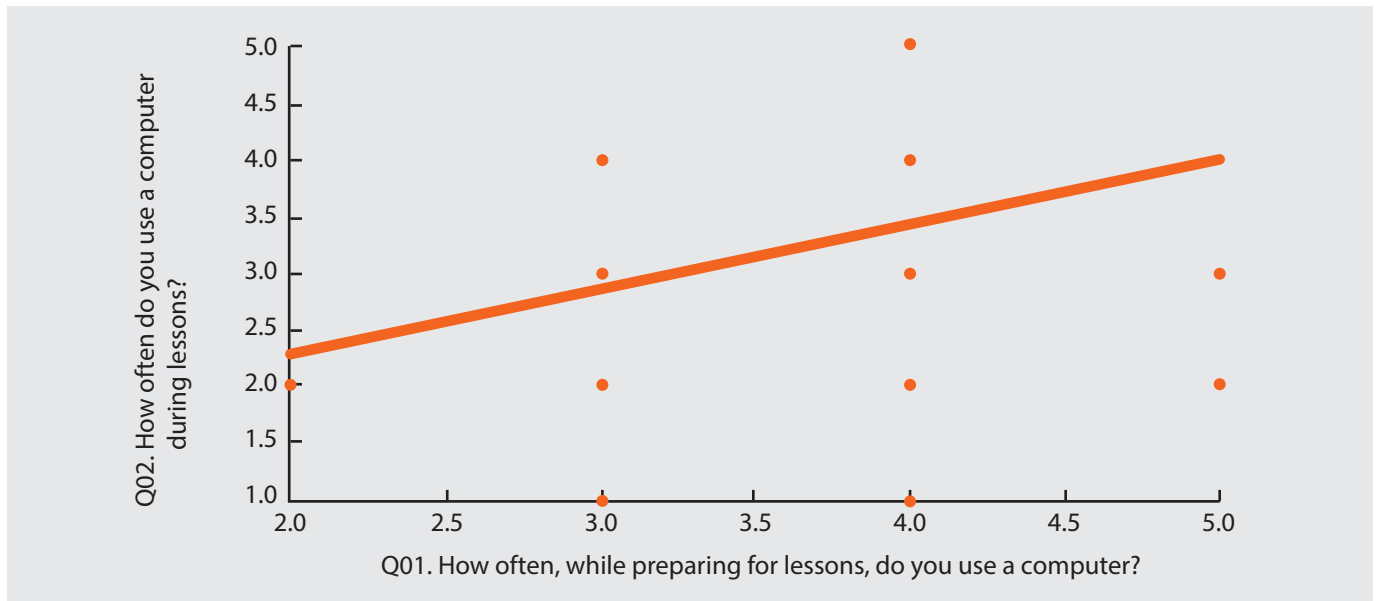
Questions 5, 19

value for the variable	rank
none	1
very few	2
some	3
most	4
almost all	5
all	6

These analyses revealed strong relationships between the responses given by teachers in two groups of questions. The first concerned the frequency of using computers by the respondents and their students and the second concerned the use of different source materials during lessons. The observed correlations have rather intuitive character. The clearest relationships were observed between the frequency of using computers for lesson preparation by teachers and their willingness to use ICT equipment during lessons (see graph 10). Also, the more often teachers use computers in the classroom, the more often their students do (see graph 11). In other words, both physical availability of computers and the level of teacher proficiency in using ICT equipment are directly related to the use of these devices by students.²⁴

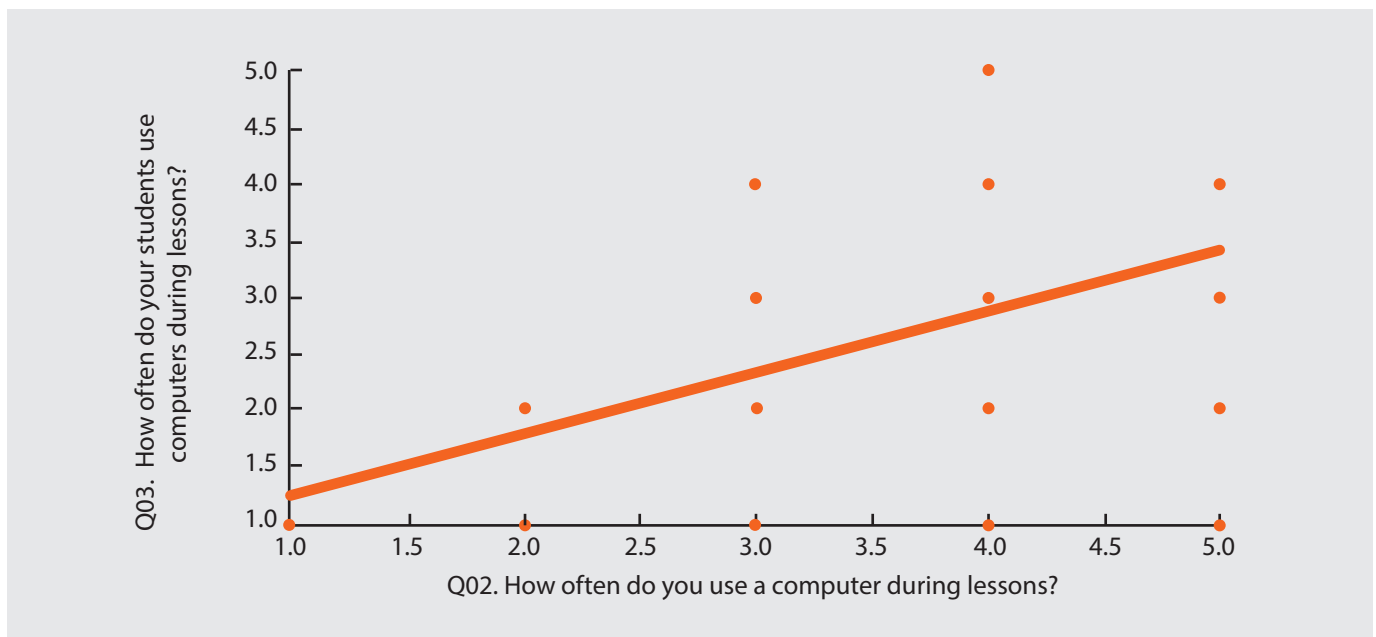
²⁴ Survey of Schools: ICT in Education; <https://ec.europa.eu/digital-agenda/sites/digital-agenda/files/KK-31-13-401-EN-N.pdf>, p. 14: The Survey shows indeed that students have the highest frequency of ICT use during lessons when they are taught by teachers with high confidence in their own ICT operational a On average across the EU countries covered by the Survey, between 20–25% of students are taught by digitally confident and supportive teachers having high access to ICT and facing low obstacles to their use at school. p. 103.

Graph 10. Correlation between Q02 and Q01



p-value: < 0.001
Spearman's R statistic: 0.506

Graph 11. Correlation between Q03 and Q02



p-value: < 0.001
Spearman's R statistic: 0.54

If we compare the responses concerning the frequency of using source materials, we can observe a similarly strong relationship. The strong correlations between these data clearly show that teachers who focus on working with primary sources make an effort to develop their students' skills beyond textual analysis; they work with maps or visual sources. At the same time, written sources are most frequently used by teachers who focus on comparing materials, writing essays or doing simple primary source analysis with their students.

Table 1. Correlations between questions concerning the use of different materials

		How often, during your lessons do you analyse written sources with your students? Q8	How often, during your lessons do you analyse maps with your students? Q9	How often, during your lessons do students compare sources? Q10	How often, during your lessons do you analyse iconographic sources with your students? Q11	How often, during your lessons do you focus on teaching historical chronology (dates)? Q12	How often, during your lessons do students look for information in primary sources? Q13	How often, during your lessons do students write essays? Q14
How often, during your lessons do you analyse written sources with your students? Q8	x		0,467	0,605	0,499	0,35	0,467	0,444
How often, during your lessons do you analyse maps with your students? Q9	0,467	x		0,498	0,529	0,416	0,498	0,29
How often, during your lessons do students compare sources? Q10	0,605	0,498	x		0,537	0,43	0,591	0,392
How often, during your lessons do you analyse iconographic sources with your students? Q11	0,499	0,529	0,537	x		0,226	0,362	0,358
How often, during your lessons do you focus on teaching historical chronology (dates)? Q12	0,35	0,416	0,43	0,226	x		0,33	0,31
How often, during your lessons do students look for information in primary sources? Q13	0,467	0,498	0,591	0,362		x		0,351
How often, during your lessons do students write essays? Q14	0,444	0,29	0,392	0,358	0,31	0,351	x	

green - strong correlation; orange - moderate correlation; yellow - weak correlation

The strongest correlation was observed between the question concerning the frequency of analysing written sources and the question concerning the frequency of making comparisons between sources. The correlation between the frequency of looking for information in primary sources and comparing sources is almost equally strong. Therefore, it seems advisable to develop ICT tools that would support teachers in doing all these things at once; analysing written sources by looking for information and comparing the collected data with other sources.

Interestingly, this model of teaching that is focused on working with sources is not directly or clearly related to the frequency of using computers at home or in school by teachers. The table below explicitly demonstrates that the presence of ICT during history lessons still depends more on the availability of equipment and the competencies or attitude of teachers than their teaching methods or objectives.

Table 2. Correlations between the questions concerning the frequency of using computers and working with different materials

	Q01. How often, while preparing for lessons, do you use a computer?	Q02. How often do you use a computer during lessons?
Q02. How often do you use a computer during lessons?	p-value: < 0.001 Spearman's R statistic: 0.54	x
Q03. How often do your students use computers during lessons?	p-value: < 0.001 Spearman's R statistic: 0.266	p-value: < 0.001 Spearman's R statistic: 0.506
Q04. How often do your students use computers while preparing for lessons?	p-value: < 0.001 Spearman's R statistic: 0.253	p-value: < 0.001 Spearman's R statistic: 0.265
Q05. Do your students own ICT devices (smartphones, ipads, notebook computers) with internet?	p-value: < 0.001 Spearman's R statistic: 0.282	p-value: < 0.001 Spearman's R statistic: 0.254
Q08 How often during your lessons do you analyse written sources with your students?	p-value: < 0.001 Spearman's R statistic: 0.259	p-value: 0.079 Spearman's R statistic: 0.115
Q09 how often during your lessons, do you analyse maps with your students?	p-value: 0.002 Spearman's R statistic: 0.203	p-value: 0.020 Spearman's R statistic: 0.154
Q10. How often during your lessons, do students compare sources?	p-value: < 0.001 Spearman's R statistic: 0.263	p-value: < 0.001 Spearman's R statistic: 0.291
Q11. How often during your lessons, do you analyse iconographic sources with your students?	p-value: < 0.001 Spearman's R statistic: 0.25	p-value: 0.003 Spearman's R statistic: 0.194
Q12. How often during your lessons, do you focus on teaching historical chronology (dates)?	p-value: 0.001 Spearman's R statistic: 0.213	p-value: 0.009 Spearman's R statistic: 0.171
Q13. How often during your lessons, do students look for information in primary sources?	p-value: < 0.001 Spearman's R statistic: 0.22	p-value: < 0.001 Spearman's R statistic: 0.302
Q14. How often during your lessons, do students write essays?	p-value: 0.002 Spearman's R statistic: 0.203	p-value: 0.018 Spearman's R statistic: 0.157
Q15. How often during lessons, do you and your students look for relationships between the dis...?	p-value: 0.029 Spearman's R statistic: 0.144	p-value: 0.002 Spearman's R statistic: 0.199
Q16. How often do you use project based learning?	p-value: < 0.001 Spearman's R statistic: 0.271	p-value: < 0.001 Spearman's R statistic: 0.363
Q23. Work experience (years)	p-value: 0.094 Spearman's R statistic: 0.111	p-value: 0.179 Spearman's R statistic: 0.089

orange moderate correlation; yellow - weak correlation; grey - very weak correlation

4.4. Content, languages, online feedback and biggest challenges

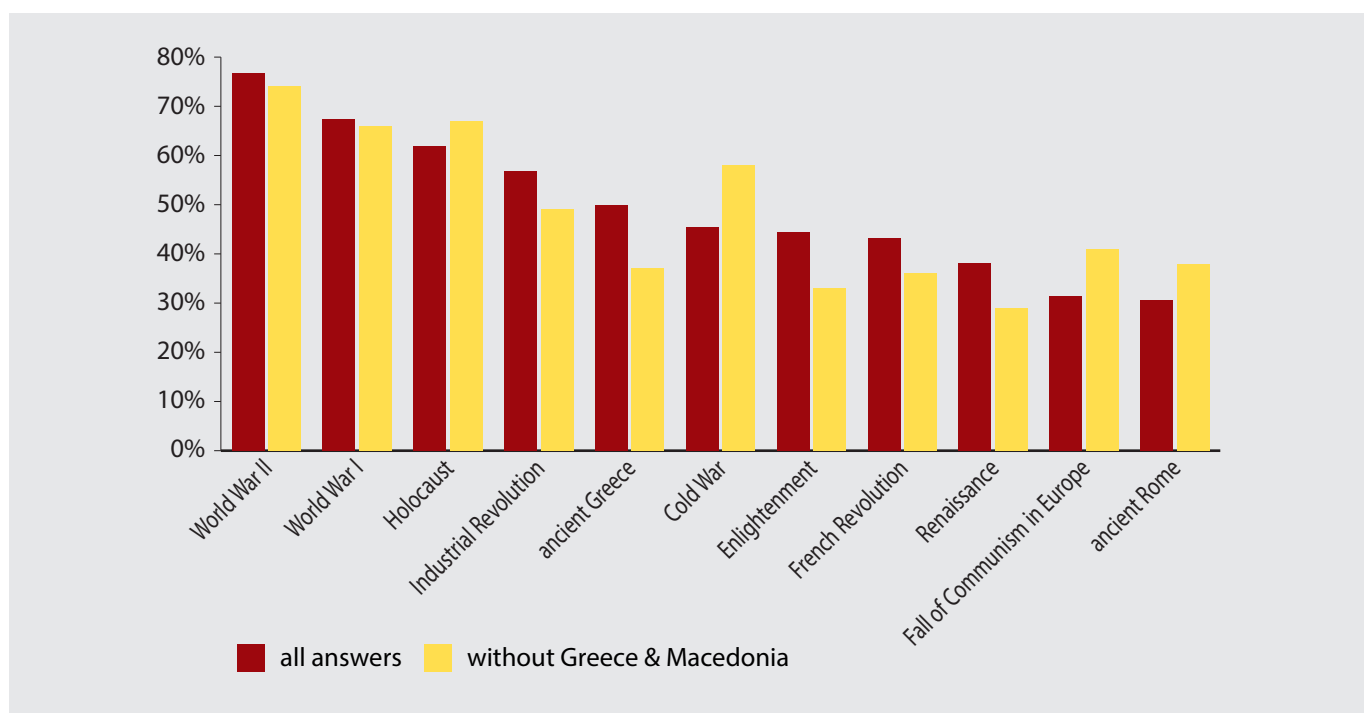
The last part of the report focuses on analysing several loosely-related questions included in the main survey and the short surveys, which seem to be important for a future developer of ICT tools for history teachers. We shall start with the preferred topics to be included in the materials designed for the tools and the findings relating to the preferred languages of the tools. We shall then discuss the findings related to teachers' feedback provided to students with the use of ICT. The final remarks concern the biggest challenges in everyday teaching practice declared by the survey respondents.

Content

The topics covered during history lessons in the majority or all EU countries were a matter of interest in both the FGIs and in the main survey. The participants of the FGIs pointed to two chronological areas covered in the vast majority of the countries: antiquity and modernity. The topics discussed during lessons were related to the culture of Ancient Greece and World War II (in particular the Holocaust and totalitarian regimes). The main survey approached the issue from a quantitative perspective.

The topics discussed during lessons were closely related to local traditions and prevailing national narratives. The core curriculum also plays a key role, because, depending on the country, it requires teachers to cover certain topics or allows for autonomy in this respect. As a result, the responses to the question concerning the topics discussed during lessons can easily be distorted if respondents of some nationalities are overrepresented. This happened in the main survey. As was mentioned before, the respondents included the highest number of history teachers from Greece and Macedonia (104 and 26, respectively) This could significantly influence the results for the question concerning Ancient Greece, naturally more present in the historical narratives of these two countries. Therefore, we decided to present responses to these questions in two versions; in full and excluding teachers from Greece and Macedonia. The change in the frequency of responses demonstrating the popularity of some topics, not only Ancient Greece, but also the Industrial Revolution or the Enlightenment confirmed the validity of this approach. After removing the Greek and Macedonian teachers from the sample the popularity of these topics decreased.

Graph 12. Topics the teachers discuss with students in more detail (Q17)



It seems that if the sample materials developed for the ICT tools are to be universally useful across Europe, they should cover topics related mainly to World War I and II. In the case of WWII, the most frequently mentioned topic was the Holocaust. It seems that materials concerning this topic should be included in the first set of sample materials to be used for demonstration.

Materials related to the Industrial Revolution, the Cold War and Ancient Greece should be next in line. Other topics, selected by lower number of respondents were the Enlightenment, the French Revolution, the Renaissance, the Fall of Communism and Ancient Rome. It is worth noting that the last two topics increased in popularity after removing Greek and Macedonian responses from the data.

The second short survey was intended to provide, among other things, more detailed information on the topics that should be covered in the primary sources included in the developed tools. Respondents were asked to indicate three topics they would like to have sources to within the source collections. Their answers allow us to formulate more accurate conclusions on this subject. First of all, in the case of these data, the 20th and 19th century, as well as antiquity, were indicated as the most popular periods.

Exemplary topics are not always precise. Many of them focus on national history. Even if the topic sounds as if it was related to the history of Europe (like WW1 or WW2), we can assume that teachers need sources that present the national perspective (as in the case of Norway presented below). However, the list of specific subjects provided by the respondents could be categorised as follows:

20th century:

- ideologies and totalitarian regimes in Europe (answers like: the totalitarian regimes in Europe; totalitarianism; life in Germany during Hitler's reign; ideologies; political ideologies)
- World War I (answers like: the Second World War; WW I; about world war; War and Post-war sources; wars in the 20th century; first and second world war)
- World War II (answers like: the First World War; WW1; WW II, about world war; wars in the 20th century; first and second world war)
- the Cold War (answers like: an outside view of Norway after the second world war; the Cold war; cold war)

Other responses: Israel/Palestine conflict; Russian revolution; decolonization; post 1990-history.

19th century:

- Industrial revolution (answers like: industrialization, Industrial revolution; Industrial revolution)
- Political history of the 19th century (answers like: Napoleon Bonaparte in France; Napoleonic wars; Maps of borders; Balkan states (Bulgaria, Serbia, Greece and Albania); the Berlin Congress 1878)
- Imperialism and colonialism (answers like: imperialism, colony and Victorian Times)

Other answers: Maps of borders; nationalism; Russification and Germanization in Poland, Polish uprisings

It seems that in the case of the 19th century, it would be useful to develop materials concerning the political situation based on historical maps.

Antiquity:

- History of Rome (answers like: Foundation of Rome; Punic wars; life in the Roman Republic; Romanization, the fall of Roman Empire; antiquity and citizenship; Greece and Rome - culture)
- Ancient culture (answers like: culture and philosophy of ancient Greece, Greek and Roman culture; Ancient Egypt)
- Citizenship in antiquity (answers like: Democracy in Athens; antiquity and citizenship)

Other answers: Hellenism; Macedonia in the time of Alexander the Great.

Other popular topics from other periods include: the Crusades; the French Revolution and the Enlightenment.

In the second short survey, teachers also answered the question about the number of sources that should be included in a given source collection, so that it would actually be useful and easy to use during the lesson. They believe it should be no more than 10, but not less than 5 sources. Such a number would allow teachers to select the sources and at the same time not to lose the general overview of the topic. On the other hand, teachers seem to need not only the sources, which are recognized as crucial for the subject, but also a wide range of different sources which present different aspects of the analysed problem. Another important aspect stressed by the teachers was the possibility of choosing sources most suitable for a specific context (age, local conditions, language etc.).

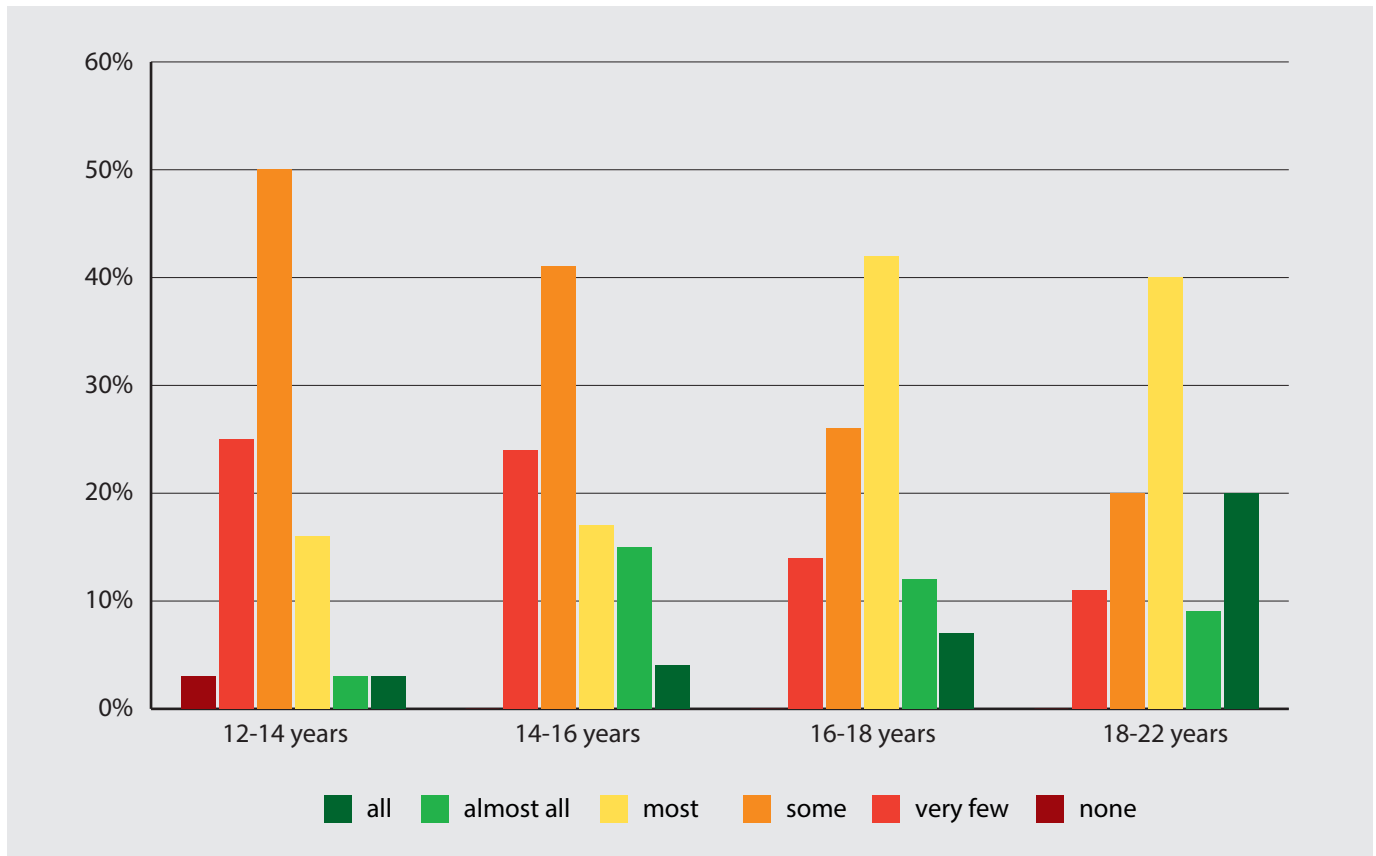
At the same time, it should be emphasised that a greater variety of topics and historical periods would encourage wider use of the ICT tools developed within the project

Language

Another issue important from the perspective of material development for use in EU countries is the language in which they should be published. The fundamental question to be answered by the developers of the tools is whether they should be addressed principally to people with sufficient command of English or rather designed with various language versions in mind.²⁵ To establish the level of potential language barriers in the first case, the respondents were asked to describe their students' level of English language skills (more precisely, the English language skills of the oldest students they taught). The responses are presented on the graph below.

²⁵ The Horizon Report Europe: 2014 Schools Edition examines trends, challenges, and technologies for their potential impact on and use in teaching, learning, and creative inquiry, 2014, p. 26–27.

Graph 13. Students language abilities (Q19: Would the students you teach be able to read and understand a text in English?)



It is worth noting that, as expected, students' language skills were explicitly related to their age. It seems that only students aged 16 and above have sufficient command of English for working with materials in this language. We should, however, keep in mind the fact the teachers' English language proficiency may be another barrier for using English materials. In many of the countries of Eastern and Southern Europe teachers' command of English could be worse than their students. Consequently, using only one language version in the ICT tools may significantly lower their usefulness. It seems that preparing various language options, or the possibility of providing one's own translations by, for example, importing a set of language templates, for the application interface would encourage wider use of the tools by teachers with lower levels of English language skills and potentially enable the development of a source materials and topics database by including country-specific content.

Online feedback

An interesting problem related to the use of ICT by history teachers is the issue of assessing students' work online. This issue appeared both during the FGI, as well as individual interviews. Also in one of the mini surveys, teachers were asked about ICT-related problems in the context of evaluating student work.

The respondents noted that some ICT tools can facilitate their assessment of students' progress in developing longer, written works, allowing, for example, for a simple comparison of subsequent versions of the work. At the same time, however, teachers see a number of limitations in assessing students' work with online tools. First of all, the preparation of such an assessment - especially if the assessment concerns a longer written work - is extremely time consuming for teachers - much more than the preparation of such feedback in the traditional form. It has been suggested that it is much more convenient to correct such works by hand. In addition, some teachers suggest that a descriptive assessment prepared in this way may not convey all the comments in an appropriate or

unambiguous manner. In their opinion, it is easier to convey guidance or opinions to the students in a direct conversation. Finally, the effectiveness of such contact with students remains a significant issue. Some teachers expressed concern that students may simply not read the evaluation of their work or fail to fully understand the guidance given by the teachers. It should be noted that the last comments also concern feedback provided in the traditional form.

It seems that these difficulties could be overcome with tools that would allow teachers to prepare the evaluation of students' work in an easy and intuitive manner, close to the traditional method of checking students' work

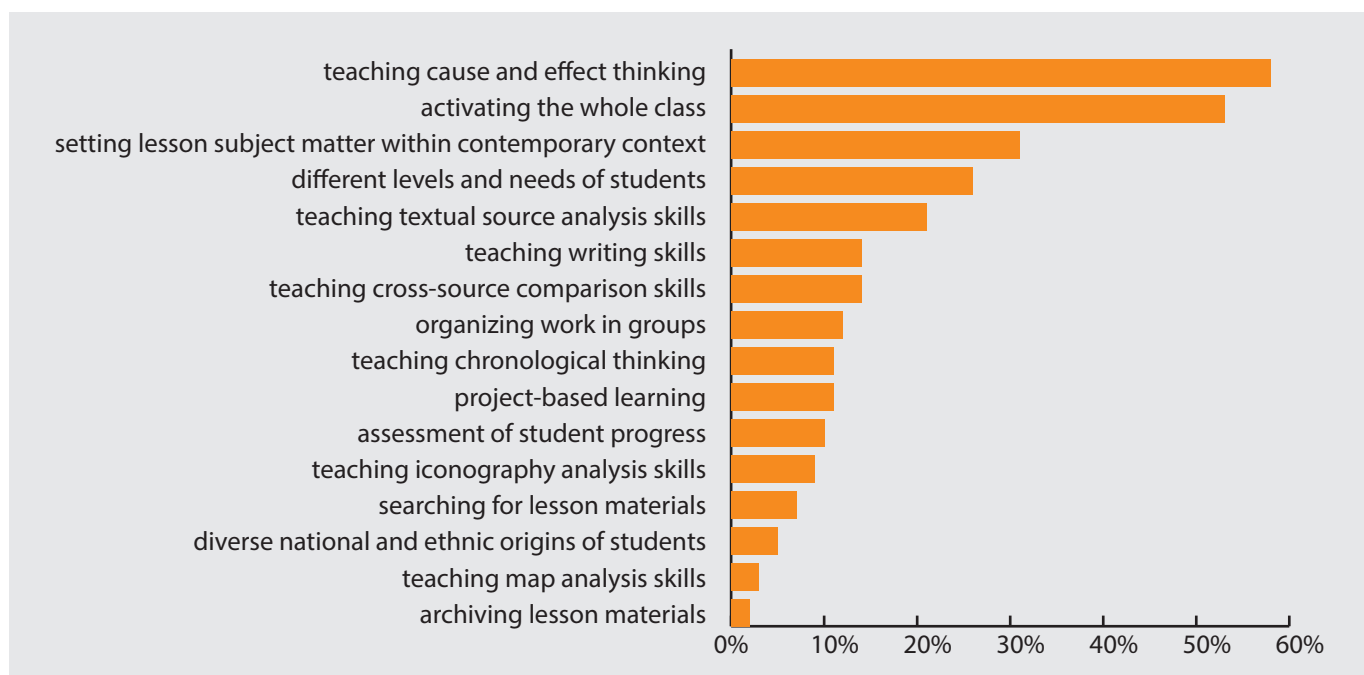
Challenges²⁶

From the perspective of the research objectives, one of the key questions was the biggest challenge respondents meet in their teaching practice. The respondents could select up to three issues from the list. The list was created based on the responses to a corresponding question during the FGIs.

We can distinguish two groups of responses. The first group focused on the issues important for history teaching ("teaching causal thinking" - almost 60%, "setting lesson subject matter within a contemporary context" - approximately 30%) and the second group referred to general issues not limited to history teaching (such as "engaging the whole class" - over 50%, "different levels and needs of students" - nearly 30%).

It seems that the developers of the tools should pay special attention to the needs related specifically to history teaching, especially the challenges connected with teaching causal thinking or setting historical topics within their contemporary context; the importance of which was also stressed during the FGIs.

Graph 14. The biggest challenges in teachers professional practice (Q18)



Issues related to the teaching of textual source analysis skills (indicated as one of the top challenges) and the teaching of cross-source comparison skills (indicated less frequently) also deserve

²⁶ The Horizon Report Europe: 2014 Schools Edition examines trends, challenges, and technologies for their potential impact on and use in teaching, learning, and creative inquiry, 2014, p. 2.

special attention. They should be taken into account while preparing materials for teachers; many of them declared that teaching these skills was very important.. Teaching chronological thinking skills was selected by a relatively small number of respondents, even though the participants of the FGLs strongly emphasised students' problems with understanding the concept of time. Therefore, we can assume that if they could select four issues, this would be their fourth choice.

To sum up the issues discussed in this part of the report, it should be underlined that even though most students over 16 should be able to work with texts in English, in order to increase the usefulness of the materials available in the ICT tools they should also be available in other languages.

They should also cover a variety of topics. It seems that materials concerning World Wars I and II would be most popular in many European countries, followed by the topics from Antiquity.

Finally, in terms of needs assessment objectives, the biggest challenges indicated by the respondents are teaching causal reasoning, engaging the whole class, making references to the contemporary context and teaching textual source analysis skills.

5. Conclusions

The data collected during the study allows for the formulation of several conclusions regarding the ways and forms of working with ICT typical for the participating teachers, as well as for determining the desired features of the ICT tools for history teachers developed within the project.

First of all, it should be noted that teachers seem to use computers in a rather traditional way. They search for source materials on the internet and store them on their hard drives, they use social media and they use ICT in the classroom much less frequently than at home. This situation may result from various factors, two of which could be teachers' limited trust in their own competencies and issues with the reliability of classroom equipment. Therefore, it is important that the tools developed within the project should be accompanied by well-prepared training (if only in the form of online tutorials) aimed at enhancing teachers' self-confidence concerning their own ICT skills.

Moreover, social media should be used for developing teachers' skills in working with the tools. The vast majority of teachers learnt about the main survey through such channels, which suggests that they are relatively often used by teachers interested in new technologies and new teaching ideas. Therefore, the platform for exchanging interesting ideas and good practice should be integrated with social media systems.

The observed tendency to store gathered materials on their own computers clearly shows that teachers prefer to select lesson materials by themselves. In other words, excessive investment in complex universal sets of sources is pointless. Providing intuitive and quick tools for importing selected materials into the application seems more important.

As for the desired features of the tools themselves, as identified in the study, they should work not only on PCs, but also on devices owned by students. Teachers point to the wide availability and relative usefulness of student-owned devices during lessons. Additionally, it seems that wider adaptability of the tools by teachers would favour the development of different language versions; poor knowledge of English would not then create a barrier for students or teachers. In addition, it seems important that the applications should be written in a way that would allow students to complete the work started on one platform with the use of another.

As for the topics for exemplary materials useful for the widest group of teachers, materials related to World War I and II, and Antiquity would have the biggest chance of gaining popularity in various European countries.

As for the most important challenges declared by respondents in their teaching practice and for which the tools could potentially provide solutions, four issues should be taken into account:

- Firstly, teachers reported problems with engaging the whole class.
- Secondly, teachers might be interested in tools facilitating the development of student skills in the area of source material analysis (searching for information, comparison of various sources) if they were engaging for students.

- Thirdly, chronological thinking skills development should be supported by tools helping students observe and understand not only the sequence of events in time, but also causal relations between them.
- And finally, the last area reported by the respondents as challenging was observing and understanding relationship between past events and the contemporary world.

6. Literature

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