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CHANGES IN HISTORY TEACHERS' VIEWS ON TEACHING PRACTICE AND DIGITAL PEDAGOGY, WITH SPECIAL ATTENTION TO EXPERIENCES OF THE DIGITAL WORKING MODE

Theses of doctoral (Ph.D.) dissertation

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Topic and structure of the dissertation

The emergence of the COVID-19 virus in 2020 brought significant changes to Hungarian public education. In this extraordinary situation, it became necessary for the state textbook publisher, operating within the structure of the Education Office, to make one of the most significant digital curriculum developments of recent years available for free: the so-called “Smart Textbooks,” accessible on the National Public Education Portal. These are enhanced versions of the new-generation printed textbooks, supplemented with audio-visual media elements and interactive tasks. Between 2014 and 2018, the predecessor organization, the Institute for Educational Research and Development (OFI), launched this new approach to curriculum development as part of the TÁMOP 3.1.2-B/13 project. This process included the creation of both experimental and new-generation textbook series for every subject and grade in public education, and — in line with international trends in educational technology — the development of an integrated online platform also began.

Prior to the pandemic, two key terms were prevalent in the academic literature on educational technology and organization: the inevitable rise of digital pedagogy was described by experts as "digital transition" and "digital transformation" (Racsko, 2017; Prievara & Nádori, 2018). Hungary's Digital Education Strategy, issued by the national education administration in 2016, clearly outlined the conditions, components, and essential steps for the successful implementation of digital education, emphasizing the availability of high-quality educational materials (DOS, 2016). The first version of the European Union’s Digital Education Action Plan in 2018 provided the framework for necessary changes at the national policy level. Later, reflecting on the lessons learned from the pandemic, a new version of the Digital Education Action Plan was released, outlining goals for the 2020-2027 period, with a focus on promoting the development of a high-performance digital education ecosystem (European Commission, 2021).

These strategic documents generally identify four key factors that are essential for the success and timing of the digital transition:

- The availability of infrastructure (ICT),
- The development of digital skills and literacy (DigComp2.1),
- Teachers' methodological training and the openness of school leadership, and
- The availability of digital curriculum materials.

In the years leading up to the pandemic, significant programs were launched using domestic and EU funds to develop the first three factors and bring them in line with international expectations. However, there was no modern and freely accessible digital curriculum available for teachers and students.

The global pandemic accelerated the policy and technological processes related to digital transition, as national education systems had to be made capable of operating in a digital working mode almost overnight. The National Public Education Portal (NKP), which became available nationwide in March 2020, met many of the basic requirements for providing educational materials necessary for the digital transition. It became freely accessible to teachers and students, generating 80,000-100,000 daily visits to the platform. Moreover, it aligned with current content regulations (the 2020 National Core Curriculum and the framework curriculum), providing professionally and linguistically reviewed materials for participants in public education.

Additionally, an important consideration is that the online platform is capable of fostering basic digital pedagogical skills among Hungarian teachers, who had largely not taken advantage of new technological and methodological opportunities in the period leading up to the pandemic.

At the Program and Curriculum Development Center of the National Institute of Public Education, a large-scale research project was initiated more than two decades ago, in 2001, aimed at exploring the current state of various subjects. The detailed results and conclusions of this investigation were published in 2004 in a dedicated study volume titled Contents and Methods in Schools at the Turn of the Millennium (Kerber & Győri, 2004). In 2001, the study began with the examination of sixteen subject areas to assess the impact of the content regulation and modernization efforts of the 1990s on teaching practices in each subject, focusing initially on the 10-14 age group. Additionally, it sought to evaluate the further developmental needs of the national subject system. As part of this survey, the current state of history teaching was also assessed, though no similarly large-scale study has been conducted since then.

The original goal of the research was to assess the current state of history education and teaching practices, with a focus on comparing these with two previous subject area studies and particularly on exploring the role of printed textbooks (Kamp, 2024). Alongside the

modernization of traditional textbooks at the state textbook publisher, recent developments in digital curriculum offered an opportunity to examine the use of new types of educational tools, specifically the third-generation digital materials known as "Smart Textbooks." As a result, the objectives of the research were expanded during the planning phase and ultimately covered three distinct yet interconnected areas:

- Exploring the current state of history education through teachers' perspectives,
- Understanding history teachers' views on digital pedagogy,
- Evaluating the effectiveness of the NKP history Smart Textbooks.

However, the outbreak of the pandemic in early 2020 significantly altered the initial conditions of the study. What had been a supplementary digital methodology for traditional face-to-face education suddenly became the exclusive tool for communication for teachers. Consequently, mastering the basics of digital competence became both inevitable and accelerated for most educators. This forced transition to digital methods also revealed contradictions in the previously perceived innovative methodologies, as the lack of preparedness led to significant difficulties in application, which also had to replace personal interaction.

Theoretical background of the research

The aim of this study is to explore history teachers' views on pedagogical methods and digital pedagogy before the pandemic, after the introduction of digital working modes, and based on several years of experiences with remote education. Since this research fundamentally seeks to assess history teachers' attitudes towards pedagogical methods and digital pedagogy, I reviewed the development of research on pedagogical perspectives in recent decades within the field of education science. Numerous domestic and international studies have examined the concept, content, and variability of pedagogical views, revealing various characteristics of teachers' perspectives (Richardson, 1996). The Hungarian literature extensively covers studies related to teachers' and educators' views and their particularities (Falus, 2001; Kálmán, 2013).

Recent Hungarian literature, however, sporadically addresses attitudes and views related to history teaching. To uncover the theoretical framework, we primarily utilized the database of the National Pedagogical Library and Museum, which has established the Hun-

garian Pedagogical Subject Headings to support effective research in education science. Studies tagged with the keywords 'history teaching' and 'attitude' in the subject headings examined, on the one hand, the views of teachers and teacher candidates and, on the other hand, the perspectives of students related to methodological questions of the subject (Kósa, 2021; Albert, 2023).

International research on the subject reports that, in the context of history education, teachers' views, subject attitudes, knowledge, and professional identity are crucial for the effectiveness of teaching and for students' fundamental attitudes towards the subject (Köse, 2017; Michala, Chaliamalia, Kiprianos, & Lavidas, 2023).

In addition to reviewing the study of pedagogical views, previous subject area surveys also played a crucial role in defining the theoretical framework and methodology of my research. During the subject observation in 2001, alongside document analyses, a questionnaire survey was conducted in early 2002 among teachers of upper primary school grades. The results of this survey were incorporated into the analytical studies prepared. The questionnaire covered topics such as textbooks, teaching tools, methodological issues, the use of information and communication technologies, coordination between subjects, in-service training, applicable knowledge, and cross-curricular aspects (National Institute of Public Education, 2002).

Observational experiences related to the situation and developmental tasks of the history subject were summarized in a study by Ágnes Ranschburg, who coordinated the exploratory research on history teaching. This research included two questionnaire surveys: one in 2002 among upper primary school teachers and another in 2003 among secondary school teachers (Csala Istvánné Ranschburg, 2002).

Two modernization efforts significantly influenced the theory and practice of history teaching after the change of regime. One was the curriculum reform of the 1990s, which resulted in the introduction of the first National Core Curriculum (NAT) and the related framework curricula. The other was the reform of the secondary school leaving examination, which culminated in the introduction of a two-tier examination system in 2005. This reform aimed to innovate not only the examination system but also the teaching practices of the subject.

József Kaposi, who actively participated in the modernization of history teaching as a staff member of OKI and later as the head of OFI since the change of regime, summarized and interpreted the challenges faced by history teaching and the corresponding reflections of

history teachers over the previous two to three decades in his 2010 study, *Széljegyzetek a történelemtanítás gyakorlatának alakulásáról* (Margin Notes on the Evolution of History Teaching Practice) (Kaposi, 2010). In the second part of the article, he presents the results of a small-scale research study aimed at exploring the effects of the new history graduation exam introduced in 2005 on teachers' and students' activities during lessons. Kaposi also contributed to the development of the new history exam concept and implementation, and in the autumn of 2009, he aimed to gather the experiences of history teachers who had participated in the reform of the examination.

Questions and hypotheses of the research

Based on the conclusions from the literature review and the research objectives, the following five research themes were identified for the investigation:

A) Key Components of History Teaching Methodology

a. Characteristics of Textbook and Teaching Tool Use

b. Frequency of Subject-Specific Processing Methods in the Classroom

c. Student Work Formats and Didactic Methods Applied

d. Opinions on the Development Goals of the Framework Curriculum (2012) and Teacher Preparedness

e. Trends in Professional Methodological Training Needs

B) Personal Digital Experiences in Teaching

a. Goals and Frequency of Digital Tool Use

b. Application of Digital Tools in Supported Methodologies

c. Utilization of Online Applications, Platforms, and Auxiliary Materials

d. Self-Assessment of Digital Competence

e. Opinions on Digital Transition

f. Identification of ICT Training Needs

C) Experiences with Digital Teaching Outside the Classroom

a. Use of Learning Management Platforms and Educational Applications

b. Application of Pedagogical Methods Supported by Digital Tools

c. Experiences with Digital Content Development and Online Assessment

D) Testing of National Public Education Portal (NKP) Digital Materials

a. Testing the Content Delivery Functions of Smart Textbooks

b. Evaluation of the Suitability of Digital Teaching Materials

c. Experiences with the Learning Management Functions of NKP

d. Feedback on the Use and Further Development of NKP in Classrooms

E) Digital Experiences of History Advisors and Research Teachers (at the End of Remote Learning)

a. Self-Assessment of Digital Competence

b. Use of Digital Pedagogical Work Forms and Methods

c. Opinions on Digital Transition

d. Experiences with NKP

The research questions based on these themes are presented in detail in the thesis.

Research Questions and Hypotheses Regarding History Teaching Methodology

Q1: What role do teaching tools play in history lessons?

Q2: What educational methods and how frequently do history teachers use them in the classroom, and to what extent do they engage students?

Q3: What types of student work formats and products do history teachers use for practice and assessment?

Q4: Do history teachers utilize curricula and examination requirements in their teaching, and do they agree with the modifications in historical periods outlined in the curriculum frameworks?

Q5: How important do history teachers consider subject-specific qualifications and pedagogical-methodological preparedness in their teaching?

Q6: How do history teachers evaluate the special developmental goals of the subject (e.g., fostering democracy) and the realization of general pedagogical goals (e.g., developing cooperation skills)?

Q7: Is there a correlation between the amount of teaching experience (time spent in the profession) and the use of teaching tools and subject matter processing methods?

H1: The practice of history teaching for most teachers is fundamentally textbook-based, as textbooks provide examples for all necessary tasks related to developmental goals, leading to limited use of other teaching tools.

H2: History teaching predominantly follows a content-centered, frontal work organization where teachers actively present the material, and students are passive recipients.

H3: The use of source analysis methods in history teaching has become a daily practice due to the introduction of the 2005 examination and textbooks containing source analysis tasks.

H4: Among the fundamental teaching goals of history teachers, transmitting historical thinking and knowledge is a stronger factor than implementing complex skill development aligned with students' needs.

H5: It is hypothesized that the amount of teaching experience affects the use of teaching tools in the classroom, meaning that those who frequently use traditional teaching tools have more teaching experience, while those who use digital materials more frequently are younger and have less teaching experience.

H6: It is hypothesized that there are differences in the frequency of using various subject matter processing methods based on teaching experience. Teachers who apply specific methodological techniques more frequently are expected to have more teaching experience.

The answers to these research questions and related hypotheses (H1-H6) will be detailed in sections 7.1, 7.2, 7.3, and 7.4 of the dissertation, utilizing data analysis.

Research Questions and Hypotheses Regarding Personal Digital Experiences

Q8: What ICT tools do history teachers use during their teaching, and for what pedagogical purposes?

Q9: What digital methodological solutions do history teachers need, and what do they actually use?

Q10: How frequently do history teachers use student work formats supported by digital tools?

Q11: What is the level of digital competence of history teachers in basic digital activities?

H7: Most history teachers use free ready-made digital teaching materials and multimedia elements available on the internet in their lessons, which align with frontal teaching methods.

H8: Most history teachers have basic or intermediate levels of digital proficiency.

The answers to these research questions and the associated hypotheses (H7-H8) will be detailed in section 8.1 of the dissertation, utilizing data analysis.

Research Questions and Hypotheses Regarding Experiences with Remote Digital Education

Q12: Which platforms and educational applications did history teachers use in online education?

Q13: What teaching methods and work formats did history teachers successfully use in remote education during online lessons?

Q14: What were the primary pedagogical objectives of history teachers in online education, and were they able to differentiate instruction?

Q15: Under the conditions of remote education, did teachers have the opportunity to provide differentiated assignments, and how did they manage assessment?

H9: In the forced digital learning environment, teachers primarily favored video presentations and teacher explanations that fit the frontal teaching format, as well as online demonstration methods.

The answers to these research questions and the associated hypothesis (H9) will be detailed in section 8.2 of the dissertation, utilizing data analysis.

Research Questions and Hypotheses Regarding the Use of NKP Digital Learning Materials

Q16: Which content delivery components of the Smartbooks did history teachers try, and what were the outcomes?

Q17: Which learning organization features available through the NKP Dashboard did history teachers try?

Q18: Did history teachers undertake the creation of their own educational content using the task editor?

Q19: How do history teachers evaluate the usability of the NKP platform?

H10: During the dial learning period, NKP digital learning materials provided significant support to subject teachers, who actively used both content creation and learning organization functions.

The answers to these research questions and the associated hypothesis (H10) will be detailed in section 8.3 of the dissertation, based on data analysis.

Research Questions and Hypotheses Regarding Digital Experiences of Subject Advisors and Research Teachers

Q20: What online applications do history teachers frequently use in their teaching, and for what pedagogical purposes?

Q21: How can the use of digital tools and methods support the achievement of the development goals in history teaching?

Q22: What advantages and new methodological solutions does the use of Smartbooks offer in the teaching process?

Q23: What do teachers feel is lacking, and how could the features of the platform be further developed?

Q24: What are the potential benefits of the digital transition for both students and teachers?

The answers to these research questions will be provided in Section 8.4, based on thematic content analysis results.

Research Methodology

In planning and conducting the research, we considered the empirical results of three attitude studies fundamental to the subject, aligning with the methodology for observing the history subject. We took into account the basic measurement tools used in previous research, particularly the questionnaires, and adapted them where possible. Thus, one aspect of the paper involves comparing the conclusions of previous studies with our own results. Among the two focal points indicated in the title, the status of the history subject was assessed at the beginning of the 2000s through a national subject observation using questionnaires, the results of which were summarized by Istvánné Csala and Ágnes Ranschburg (Csala Istvánné Ranschburg, 2002).

Following this subject observation, József Kaposi conducted another subject study in 2009 with a narrower sample, utilizing the questionnaires used during the observation, primarily highlighting the conclusions of the introduction of the 2005 matriculation (Kaposi, 2010). Thus, the present research aims to provide a comprehensive picture of the current challenges of the history subject and changes in its pedagogical components after another decade.

Regarding the other focal point, the digital pedagogical views and digital competence of educators, in 2018, the Digital Pedagogical Methodological Center conducted a nationwide attitude survey within the framework of the EFOP-3.2.15-VEKOP-17-2017-00001 project (Measurement, evaluation, and digital developments related to the framework of public education, development of innovative educational organization procedures). The survey did not

publish data specific to history teachers. However, the questionnaire was provided by the DPMK, allowing it to be used as a measured tool for examining the digital transition opinions of history teachers.

In our research, we employed a mixed methodology, combining quantitative and qualitative methods. The empirical part of the dissertation consists of four research units: the quantitative part includes two questionnaire surveys and a log file analysis, while the qualitative part comprises two online interview studies with mixed-method analysis. The research was conducted according to the schedule outlined in the table below for the 2019/2020 academic year and at the end of the 2022 academic year. We also summarized the methods used, associated tools, and examined samples in the report. Due to the pandemic situation, all data collection, including interviews, was carried out online.

METHOD	SAMPLE	TOOL	TOPIC	SCHEDULING	PROCESSING
Quantitative measurement	national distribution to Institutions 613 people	online questionnaire	subject didactics digital pedagogy digital competence	2019. beginning of the school year	SPSS
Quantitative measurement	distribution to previous sample 191 people	online questionnaire	testing of NKP digital working mode digital methodology	2020. end of the school year	SPSS
Quantitative measurement	the registered from the previous sample	log file data analysis	viewing lessons testing tasks creating tasks	one-year data	SPSS
Quantitative-Qualitative measurement	history subject advisors 17 people	online interview	testing of NKP digital working mode	2022. end of the school year	thematic content analysis
Quantitative-Qualitative measurement	history research teachers 8 people	online interview	testing of NKP digital working mode	2022. end of the school year	thematic content analysis

Theses

1. Thesis

The practice of history teaching for the majority of teachers is fundamentally based on textbook-centered methodology, but various other teaching tools also belong to the history teachers' toolkit.

Since previous research has highlighted the central role of textbooks in the teaching of the subject in Hungary, this tool was examined in detail. More than two-thirds (72.2%) of the subject teachers primarily teach based on the textbook but supplement it with other materials (e.g., images, videos, online resources). One-fifth (20.3%) of teachers primarily use other teaching materials but also utilize certain parts of the textbook in their classroom activities (e.g., images, diagrams, maps, tasks). The remaining respondents do not use the textbook at all, instead relying on other teaching materials (e.g., personal notes, prepared online materials). Only a very small minority (1%) organizes classroom activities exclusively based on the textbook and rarely uses supplements (e.g., workbooks, maps).

The survey results indicate that among other teaching tools, the use of maps is the most common in the classroom, with almost every respondent indicating its application. Additionally, textbooks, digital supplementary materials, and control worksheets are used by more than 80% of teachers. However, the inclusion of workbooks and task collections in classroom activities does not exceed 50% of responses, and around 40% of respondents do not incorporate these tools into the learning process. The data suggest that tools related to teaching activities (maps, textbooks, control worksheets) are predominant, while tools conducive to student activity (workbooks, task collections) are used by only half of the teachers. Thus, a content-centered approach to lesson organization is more typical than an activity-centered one. (Szabó, 2014)

Based on the analysis of teaching tool usage data, our first hypothesis is partially fulfilled, as although more than two-thirds of history teachers organize their lessons based on the textbook, it is not true that teachers use fewer supplementary materials. On the contrary, they often utilize various other tools for demonstration purposes.

2. Thesis

In history teaching, a content-centered, frontal organization of work prevails, in which teachers actively present the material and students are passive recipients.

We examined the presence of various didactic procedures required for teaching history from three aspects: firstly, the application of teaching methods and work formats; secondly, the specific methods for processing subject-specific content; and finally, the products used by students during the learning process.

Based on the data, the most common methods used by history teachers either in every lesson or frequently, considering the aggregation of their values, are demonstration (96% overall), teacher explanation (84% overall), and teacher presentation (83% overall). Following these are individual student work (65% overall) and group work (53% overall), which are used frequently by two-thirds to half of the teachers. These are followed by discussions (47% overall) and student presentations (40% overall). With these methods, students can actively engage in classroom work, and group work also provides opportunities for student collaboration. Cooperative learning forms that are less aligned with traditional teaching methods (such as competitions, debates, projects, and role-playing) are incorporated regularly into lessons by only 10-15% of subject teachers. (Dr. Gaál & Dr. Jászi, 2015, p. 47)

Evaluation of data on products used by students suggests that there is limited opportunity for students to actively participate during the short duration of lessons. Student tasks primarily occur in individual, independent work, and few teachers still allocate time for pair or group work in lessons. Students are most active in traditional forms of task completion related to assessing learning outcomes (oral or written responses, essays, tests), while they rarely receive other, more creative tasks that develop multiple competencies (research work, homework, project work, complex online tasks, artistic or technical creations). The results of the survey on classroom activities and teaching methods show that in history teaching, the content-centered, frontal organization of work still predominates, with student engagement primarily appearing in independent task completion and to a lesser extent in group work.

3. Thesis

In history teaching, the use of source analysis methods has become a daily practice as a result of the 2005 matriculation exams and textbooks containing source analysis tasks.

We examined subject-specific content processing methods based on their frequency of use in history lessons. According to this, the most common methods are map use (96% overall) and image or diagram analysis (92% overall), followed by task solving (79% overall) and source analysis (76% overall). This is followed by the use of online materials (57% overall) and the screening of documentary films in class (47% overall). Among other methods, museum visits and inviting external speakers do not show significant usage, though their relevance within the classroom context may be questionable.

The frequent use of subject-specific methods suggests that the 2005 matriculation exams and the source analysis methodology have been fully integrated into the daily routines of history teachers. It is worth questioning whether map, diagram, and source analysis are used solely as teacher activities during lessons or if they actively involve students, thus effectively preparing them for matriculation requirements. Task solving clearly requires active student participation, and the use of online materials also shows significant use, but this feedback does not specify whether it is related to demonstration or practice. Given that films are easily accessible online via video-sharing platforms today, the use of documentary film footage also appears to be significant.

4. Thesis

Among the fundamental teaching goals of history teachers, the requirement for imparting cultural knowledge is a very strong factor, but there is also significant demand for the implementation of complex skill development.

For history teachers, an important theoretical issue with each new curriculum implementation is the designation of the historical periods within the curricula, meaning which periods should be taught and in what proportion. The 2012 curriculum pushed the historical periods to later years for all grades in primary and secondary education, which most teachers experienced as having to cover more content within a single year, despite the fact that the amount of content—and the number of textbook lessons—was adjusted to match the yearly class hours as before. In 2019, we examined whether teachers agreed with the new periodization recommended in the 2012 history curriculum for the content of various grades. The survey revealed that 50% of respondents disagreed with the new period boundaries because the previous periodization allowed more time for teaching the ancient and medieval periods, thus providing students with more time to acquire historical knowledge. Conversely, 31% of teachers agreed with the modification, as the new periodization offers more time to explore recent history (the 19th and 20th centuries) and contemporary issues, and provides opportunities to teach social, civic, and economic knowledge, which helps students better address contemporary questions by understanding recent history. Most teachers in the survey preferred to reject the new periodization and suggested reducing the amount of content as a solution.

In a separate question group, we examined the opinions of subject teachers regarding long-standing development goals and requirements related to the teaching of the subject, which are also present in the curricula. Among the development goals, many prioritized categories such as: *Developing students into curious, informed individuals; Enhancing students' thinking skills (critical and problem-solving skills); Developing the ability to question and think critically; Fostering a broad range of student interests; Establishing a sense of responsibility and action for the community; and Developing cooperative skills*. Therefore, alongside traditional developmental goals in history education, the development of students' thinking skills and cooperation is prioritized in teachers' values.

5. Thesis

The extent of teaching experience influences the use of teaching materials in the classroom.

In examining methodological issues in history teaching, we were also interested in whether there is a significant relationship between the frequency of use of teaching materials and the number of years of teaching experience (i.e., the time spent in the profession). We conducted the correlation analyses using SPSS software.

According to the results of the t-test, there is a significant difference ($t(610) = -2.589$, $p > 0.05$) in the extent of teaching experience between respondents who use textbooks in class (n=530, M=21.66, SD=11.023) and those who do not (n=82, M=18.28, SD=10.800). The direction of the difference is indicated by the average teaching experience: those who use textbooks have an average of 21.66 years of experience, while those who do not use textbooks have an average of 18.28 years. Thus, the hypothesis is confirmed.

The results of the t-test also show a significant difference ($t(610) = -1.986$, $p > 0.05$) in the extent of teaching experience between respondents who use maps in class (n=593, M=21.36, SD=10.996) and those who do not (n=19, M=16.26, SD=11.751). The direction of the difference is indicated by the average teaching experience: those who use maps have an average of 21.36 years of experience, while those who do not use maps have an average of 16.26 years. Thus, the hypothesis is confirmed in this case as well

A rather unusual result emerged in the examination of the use of digital teaching materials compared to the previous traditional teaching materials. The t-test results show a significant difference ($t(610) = -2.467$, $p > 0.05$) in the extent of teaching experience between respondents who use digital teaching materials in class (n=553, M=21.56, SD=11.064) and those who do not (n=59, M=17.85, SD=10.370). The direction of the difference is indicated by the average teaching experience: those who use digital teaching materials have an average of 21.56 years of experience, while those who do not use digital materials have an average of 17.85 years.

We also found a significant relationship for the use of task collections, indicating that there is a connection between teaching practice duration and the use of textbooks, maps, digital materials, and task collections. However, for workbooks and assessment worksheets, the results did not show a significant relationship with the time spent in the profession, meaning the hypothesis was not confirmed for these two teaching materials.

6. Thesis

The extent of teaching experience impacts the frequency of use of instructional methods during lessons.

In examining methodological issues in history teaching, we also aimed to determine whether there is a significant relationship between the use of various instructional methods (such as lectures, explanations, demonstrations, debates, discussions, student presentations, role-plays, projects, individual work, group work, and competitions) and the number of years of teaching experience. We performed correlation analyses using ANOVA, considering each method as a four-level variable (never, rarely, often, always).

For the analysis of lectures, the Levene test confirmed the assumption of homogeneity of variances ($p > 0.05$). The sample sizes for each group vary significantly: those who never use lectures are the smallest group (N=14, M=30.43, SD=7.387), those who use lectures rarely are more numerous (N=86, M=25.63, SD=10.6), while those who use lectures often (N=266, M=21.2, SD=11.14) or always (N=242, M=19.07, SD=10.56) constitute the larger portion of the sample. The ANOVA F-test results show a significant difference between the groups ($F(3)=11.4$, $p < 0.05$). The effect size, according to Eta squared, is medium ($\eta 2=0.05$). The Tukey HSD post-hoc test results reveal that those who never use lectures have significantly higher teaching experience than those who use lectures often ($p < 0.05$) or always ($p < 0.05$). Therefore, the hypothesis was not confirmed, and the relationship between the two variables is reversed.

Regarding the use of debates, the sample sizes exhibit a peculiar distribution: the number of respondents who use debates every lesson is negligible (N=3, M=12.67, SD=16.743), those who use debates rarely constitute the majority, about two-thirds of the respondents (N=416, M=21.31, SD=10.994), while the numbers for those who never (N=96, M=19.07, SD=10.898) or often (N=92, M=23.52, SD=11.043) use debates are quite similar, approximately 15% each. The F-test results indicate a significant difference between groups ($F(3)=3.168$, $p < 0.05$), with a weak effect size ($\eta 2=0.016$). Tukey HSD post-hoc test results show a significant relationship for two groups: those who use debates often ($p < 0.05$) have significantly more teaching experience than those who never use debates ($p < 0.05$). Thus, the hypothesis was confirmed only for these two groups, but it is also evident that most history teachers use this method only rarely.

For role-plays and project methods, the F-test results show a significant difference in teaching experience across the response groups (never, rarely, often, always) ($p < 0.05$). According to the tabulated data, those who frequently use role-plays and project methods, which actively involve students, have significantly more teaching experience compared to those who never use these methods. However, it is noted that more than half of the history teachers use these complex developmental methods rarely, and about two-thirds never use them.

For other instructional methods such as teacher explanations, demonstrations, discussions, student presentations, individual work, group work, and competitions, the ANOVA F-test results indicate no significant differences in the frequency of use (never, rarely, often, always) relative to the duration of teaching experience.

7. Thesis

Most history teachers primarily use free, pre-prepared digital resources and multimedia elements available on the internet during lessons, which aligns with traditional front-of-the-class instruction.

In our survey of history teachers, we explored their use of digital tools and their views on digital pedagogy. We asked about the use of digital methodologies (applications, platforms, auxiliary materials) in teaching.

A very small percentage of teachers use ICT-supported solutions daily (0.8% to 3.8%). Among those who use digital methods weekly, gamified solutions (19.5%) are the most popular. This does not imply a gamification system for evaluation, which would require daily usage. In this category, quiz games similar to Kahoot are the most well-known. Next in frequency are student presentations (17.9%) and online homework (11.6%), which are not considered high-level digital methods.

Monthly digital methods also include student presentations (70%), gamified quizzes (51.7%), and online homework (37.9%). More complex, cooperative work formats (online out-of-class and group work) occur monthly for 20.1% to 26.5% of teachers. The least used method is online test-taking, with 83.3% of teachers never using it. This is likely due to the lack of necessary infrastructure (student digital devices, internet), making home assignments more popular.

We developed a broader category system to assess the use of digital methods among history teachers, incorporating common tools, platforms, and digital learning organization

procedures, as well as specific history-related solutions. The feedback indicates that the use of digital solutions is fundamentally guided by subject-specific methodological logic. The most frequently used solutions are visual multimedia elements (96.5%), similar-function presentations (76.2%), pre-made online materials (74.8%), educational content sharing programs (60.8%), and digital demonstrations (59.6%). More complex activities requiring advanced digital skills (test creation, complex material development, learning organization programs, digital storytelling) are less known and less likely to be used. Effective integration of these more advanced methods into teachers' repertoires would be significantly facilitated by supportive training programs.

8. Thesis

Most history teachers possess basic or intermediate levels of digital proficiency.

Survey results on the use of digital methodologies indicate that educators predominantly use digital solutions for presenting and illustrating content. They mainly rely on freely available pre-made digital resources for teaching and infrequently assign complex, digitally-supported learning tasks that require advanced digital organization. This suggests that while digital tools are utilized to enhance traditional instruction, more sophisticated digital learning strategies are rarely employed by teachers.

9. Thesis

During the compulsory digital shift, teachers widely used developmental tasks suitable for individual home study, but lacked the conditions necessary for differentiated assignment.

The digital shift introduced in March 2020 placed educational institutions in an extremely challenging situation. Previous research has clearly shown that institutions lacked the infrastructure needed for digital transition, and the majority of educators did not possess the digital competencies required for a successful radical shift (DOS, 2016).

In the context of digital instruction, history teachers were asked about their pedagogical goals. The most frequently cited goals were providing interesting tasks for students (85.3%) and assigning independent work (61.1%). However, distance education was difficult to implement for students due to their developmental stages, which made self-regulated learning less feasible and increased the need for frequent feedback. Providing the complete curriculum, engaging students, and conducting online classes were also significant goals (39-45%), while prepared video content (17.9%) and online group work (12.6%) were seen

as less feasible during this period.

One major challenge of online education was the evaluation of student work in a less controllable learning environment. Teachers tried to assign clear, independently manageable tasks and evaluated based on completed work (82.1%) or provided easily assessable test tasks (78.9%). A smaller group of teachers (42.6%) used a gamified point-based assessment method, while some relied on previous grades to assess students (15.3%).

The compulsory digital shift did not support a key pedagogical goal of differentiation, which has long been emphasized but difficult to achieve. History teachers mostly assigned uniform tasks to students (86.3%) and only a small proportion (13.2%) practiced differentiated assignment and assessment. During this increased workload period, teachers lacked the necessary curriculum structure and methodological practice for effective differentiation.

10. Thesis

During the digital work arrangement, NKP's digital learning materials provided effective support for subject teachers, who primarily utilized the ready-made content modules offered by these materials.

In the original research plan, subject teachers who volunteered for testing were expected to summarize their experiences with the history Smart Textbooks after a year of use. However, due to the digital work arrangement introduced in March 2020, the entire educational system was forced onto online platforms, making previously test-phase Smart Textbooks freely accessible.

Approximately two-thirds of the participating teachers (65.9%) took advantage of all three features of the digital textbook: content available in the browser, multimedia supplementary elements, and interactive tasks. Multimedia supplements, such as videos, interactive maps, animations, and simulations, primarily support teachers in visualization. Among these, online maps containing multi-layered information play a crucial role in history education (Fekete, 2022). Interactive tasks aid in concept acquisition through practice and enable more complex logical operations (organization, categorization, connections, and identifying differences).

From April 2020, teachers also gained access to NKP's learning management features, allowing them to create tasks tailored to their student groups in addition to consuming content. Another significant innovation was the ability to create student groups, enabling the

distribution of smart tasks within these closed groups, with feedback available for both students and teachers on student performance. However, survey data indicate that three-quarters of history teachers (75.4%) did not utilize the higher-level digital pedagogical capabilities of the portal. This is likely not due to resistance to new technology but rather the difficulties of adapting to the digital work arrangement, as all research indicates that the unprepared digital transition imposed a significant burden on all educational participants, drastically reducing necessary face-to-face interactions for education.

In the learning management module, a smaller portion of teachers managed to use lesson plans (13.7%) and created interactive tasks and exercises (7.5%), some of which were used for knowledge assessment as unit tests. About a third of teachers (29.1%) used the student group creation feature, but the innovative point-based evaluation was scarcely applied (3.4%).

The survey also assessed user experience related to the portal, revealing that nearly two-thirds of users (62.1%) could easily access content elements and functions without assistance, which is a positive feedback for developers. The next group (26.4%) required some help, facilitating knowledge sharing and collaboration. A smaller group (4%) used video and text guides, and relatively few (5.7%) reported difficulty navigating the site. It is reassuring that no one reported negative feedback about the site's logic or navigation.

11. Thesis

Based on their experiences with digital work arrangements, history teachers reject solely online learning organization and view blended learning as a more feasible long-term solution.

At the end of the 2021/2022 academic year, we conducted online interviews with history researchers and subject advisors to gather their opinions on the experiences of distance education, the conditions of digital transition, and impressions of the Smart Textbooks. The responses collected from this primary research were aggregated and analyzed thematically to uncover teachers' views. This research method allows for the analysis of observations in a way that considers a broad range of components, including non-typical ones, and delves into the deeper layers of content to reveal hidden connections (Sántha, 2022).

When asked about the advantages of digital transition, teachers articulated several positive aspects resulting from digital transformation related to history teaching and useful applications of the Smart Textbook (e.g., differentiation, personalized feedback, bridging

gaps for absent students, development of digital competencies, opportunities for independent learning, increased motivation, more engaging teaching and learning, and effective knowledge sharing). However, they also expressed significant criticisms and identified major issues, providing an important counterpoint to the form of digital transition experienced during the pandemic, where digital technology became a sole means of connection (e.g., lack of socialization, absence of personal interactions, decline in performance).

The interpretation of the concept of digital transition was significantly distorted by the fact that the transition did not occur as a natural development, attractive alternative, or gradual process during the pandemic. Instead, it abruptly impacted nearly every educational system worldwide, removing most educational participants from the positive aspects of technology. Consequently, some teachers advocate for blended learning or hybrid educational formats as a long-term solution. These terms have become key interpretative categories in the academic literature regarding the experiences of the pandemic period and future directions (Istek, Hakan, & Muhammet, 2023).

12. Thesis

The NKP requires further development to fully leverage personalized learning software capabilities, including a structured task bank and a gamified feedback system.

In examining the Smart Textbooks (NKP) alongside a highly popular Anglophone educational platform, IXL (ixl.com), we see a notable contrast in the educational approaches and functionalities of these platforms. IXL represents decades of experience in educational technology, emphasizing a personalized learning model that contrasts with NKP's more content-centric approach.

The NKP is primarily a modern tool for implementing a curriculum-centered learning model. Its homepage features a library-like search function for published textbooks, while supplementary multimedia elements and interactive tasks are available through separate searches. These resources are not designed with a comprehensive pedagogical skill development concept but rather to enrich textbook content. Thus, NKP predominantly offers a static, recipient role for students—reading, viewing, or listening—while providing limited and irregular opportunities for more active learning through interactive tasks (Engel, Enikő, & Fekete, 2023).

In contrast, IXL positions itself as a fundamental tool for "personalized learning" on its homepage. The platform includes diagnostic tasks for each subject area that not only

measure final outcomes but also provide detailed error analysis for incorrect responses. IXL's methodology emphasizes developmental assessment rather than summative evaluation. This approach involves frequent, interactive assessments to support the learning process, helping both teachers and students track progress toward learning goals.

The comparative analysis reveals that NKP focuses on content delivery with a gradual enhancement of static materials, addressing the immediate problem of online access to educational resources exacerbated by the COVID-19 pandemic. However, to fully exploit the possibilities of personalized learning software, NKP's learning management module requires further development, including the creation of a structured task bank. Conversely, IXL represents a newer generation of online educational platforms where learning management is central, leveraging interactive tasks for content delivery and maximizing the use of measurement and evaluation tools, including machine learning. The incorporation of gamified elements allows students to continuously monitor their progress in a playful manner, which can enhance engagement and contribute to the success of the learning process (Ho, Hung, & Kwan, 2022).

Summary

The primary aim of our research was to provide a comprehensive overview of the current state of history education, with a particular focus on the implementation of subject-specific and digital methodologies in the classroom. The results are intended to contribute to the enrichment of the information base of domestic history didactics and to support the further development of the National Core Curriculum (NCC) history textbooks. It is important to note that the majority of the data used originates from the 2019-2020 academic year, with a smaller portion from the 2022 academic year, making the applicability to post-pandemic classroom practices only indirect.

Throughout the research, not only the conclusions drawn from quantitative results but also the procedural and research experiences gained hold significant value. Through engagement with educational science, I acquired a broader theoretical framework that assisted in contextualizing practical and developmental experiences. This knowledge expansion was notably facilitated by participation in conferences and the presentation of the research to the professional community.

By understanding both domestic and international trends in history didactics, I was able to identify points of connection for the continuation and extension of scientific work. The enhancement of prior research tools allowed for the creation of a digital measurement instrument, which can be utilized for longitudinal measurement of changes and follow-up assessments in the future.

The methodology developed during the testing of the NCC serves as an effective feedback tool for evaluating the efficacy of new educational resources, and this approach could be extended to other subjects. The development of digital learning environments requires a new methodology, involving a broader range of experts.

The research also provided valuable insights into the possibilities for presenting state digital developments in teacher training, scientific conferences, and school settings, which can aid in the implementation of digital educational tools.

The research established an interdisciplinary approach encompassing history, didactics, digital pedagogy, and educational technology, which can effectively support the development of 21st-century learning conditions. However, new learning procedures supported by modern technology raise several issues in both classroom and home settings. Unresolved problems include the regulation of artificial intelligence and the personality-damaging effects of screen addiction associated with digital devices.

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