

FACTORS INFLUENCING DIGITAL TEXT CREATION SKILLS IN DANCE-RELATED HIGHER EDUCATION*

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Abstract

This study investigates the factors influencing digital text creation skills among dance students in higher education. The COVID-19 pandemic highlighted the importance of digitalization in dance education, a field traditionally less impacted by technology. Despite the increased use of digital tools and AI, improvements in writing and text creation skills are not automatic. This research aims to identify the underlying causes of low-quality written work among dance students, hypothesizing that factors such as vocational art education background, the demands of elite dance training, the fast-paced nature of digital culture, and the uncritical use of technology contribute to poor writing performance. An online questionnaire was administered to 170 graduate students, revealing challenges in time management, understanding thesis requirements, and the need for basic word processing and reference management skills. The findings suggest that integrating writing skill development into theoretical courses and providing targeted support can enhance students' academic writing abilities. The study underscores the need for a comprehensive educational development plan to address these issues.

Keywords: writing skill development, text creation skill development, technology, use of artificial intelligence, higher education, elite dance education

1. INTRODUCTION

In dance-related higher education, practical dance instruction is complemented by theoretical courses across all forms of training. The isolation experienced during the pandemic period underscored the significant role of digitalization, even in areas of dance artist, teacher, and choreographer training which were previously less affected by it (Papp-Danka & Lanszki, 2020). With the rapid development of technology,

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dance, like other art forms, is now increasingly interconnected with technology. At the same time, the rise of artificial intelligence (AI) is also becoming increasingly prevalent in dance (Marx, 2024).

At the same time, it is observed that the increased or more frequent use of digital tools does not necessarily result in an automatic development of the skills needed to apply them effectively in a given field (Lang et al., 2024). This observation also appears to extend to AI. The use of online search engines or AI-based applications (e.g., *ChatGPT*, *Copilot*, or *Gemini*) does not necessarily go hand in hand with effective information processing, written communication, or text production. The ability to use available technologies does not develop immediately, and even when a certain level of technological proficiency has been achieved, it may not necessarily transfer to specific contexts, for example, higher level writing skills. Just as the use of a word processing program does not guarantee a text with appropriate stylistic features, the use of large language models (e.g., *ChatGPT*) to create texts does not in itself lead to the development of writing, text creation, or information processing skills.

The sporadic nature of research in the field of writing literacy and text production skills development in higher education has provided the impetus for the research introduced in detail in the present paper, based on the work presented by Lanszki et al. (2023). The presentation was based on a pilot study aimed at exploring the difficulties students face when completing their writing assignments and theses.

1.1 Theoretical background

In examining the concepts of text production and writing skills, it becomes evident that this domain is characterized by diverse and overlapping terminology. In the English-language literature, a range of terms are employed, often interchangeably, to denote similar constructs. These include *writing skills* (Perumal & Ajit, 2020), *writing abilities* (Amhar et al., 2022), *writing competences* (Apridayani et al., 2024), *text production/creation skills* (Indeed Editorial Team, 2025) and *composition skills* (Judith, 2022). A comparable diversity is observed in the Hungarian literature, with terms such as *fogalmazáskéesség* (composition ability; Molnár, 2000; Nagy, 2013), *szövegalkotási kéesség* (text production / creation skills; Nagy, 2009), and *szövegalkotási kompetencia* (text production competence; Juhász, 2023). Judit Kádárné Fülöp (1990, p. 19), referring to the 1980 IEA (International Association for the Evaluation of Educational Achievement) study on written composition, interprets writing ability as the “ability to express oneself in writing,” emphasizing its multifaceted nature, involving not only writing per se but also thinking, language, cooperation, and reading skills. Similarly, an expanded understanding of writing literacy is prevalent in the Hungarian academic discourse (Katona, n.d.; Matthias Corvinus Collegium, n.d.; Molnár, 2009; Nagy, 2001). This broader conceptualization encompasses not only the technical dimensions of writing but also cognitive, affective, and social components, such as critical thinking, knowledge acquisition, and communicative competence. Writing, in this sense, is viewed as a complex process that includes data collection, text planning and organization, situational awareness, and adherence to genre conventions, all embedded within a self-regulatory framework (Molnár, 2001, 2003; Nagy, 2001).

In the context of this study, writing literacy is conceptualized as a multifaceted construct that encompasses both writing and text composition skills. This definition extends beyond the purely technical aspects of writing to include a broader range of processes such as information gathering, content organization, text planning, and the adaptation of language to specific communicative contexts and genre conventions. Furthermore, this conceptualization of writing literacy also includes the proficient use of digital word processing tools and the application of referencing conventions, both of which are integral to academic and scientific communication in the 21st century.

As noted in the presentation by Lanszki et al. (2023), the worldwide expansion of digitalization has led to a transformation not only of students' text production skills but also their willingness to write. During thesis consultations and oral professional discussions addressing the shortcomings identified during the evaluation of the theses, the interviewed teachers ($N=13$) unanimously stated that assignments submitted by students show shortcomings in sentence structure, terminology use, grammatical correctness, spelling, and referencing. There are several factors contributing to this. In general, there has been a decline in the prestige of human literacy. Sociological studies show that whereas reading books was ranked among the fourth to sixth most common leisure activities in the 1970s, by 2023 it had dropped to 26th place (Radó, 2023). In today's fast-paced, digitalized, smartphone-driven world, attention span and the ability to concentrate are also diminishing (Carr, 2011). Understandably, this has led to teachers assigning shorter readings, and fewer texts; among other things, there is a notable decrease in students' tolerance for monotony (Radó, 2023). Similarly, the predominance of visual over textual forms of interaction, especially in the case of youth communication dominated by social media, is not beneficial for the development of text comprehension and text creation skills (Carr, 2011). This can contribute significantly to the deterioration of students' ability to produce academic written work.

While several studies in international literature address academic writing skills among university students (Benali & Laouni, 2022), recent studies exploring the underlying problems are rare and typically localized (Ismael et al., 2022).

The research entitled *Importance of Assessing Student Writing and Improving Writing Instruction* was conducted by the Educational Testing Service (ETS) in the United States to assess the writing skills of first-year university students. The results indicated that only 27% of 12th-grade students were adequately prepared for the types of writing tasks required in higher education (Deanne, 2022). Another survey, also conducted in the United States, examined recent university graduates' written communication abilities in the workplace from an employer's perspective. The results showed that only 27% of young graduates newly entering the labor market were considered well-prepared by employers (Stewart et al., 2016). This suggests that neither secondary nor tertiary education places sufficient emphasis on developing the writing skills necessary for success in the labor market. Merkle (2019) and Peters and Cadieux (2019) attribute this issue to a discrepancy between the high expectations of instructors and the actual skill development experienced by students.

In a study from Mohammed I University in Morocco (Benali & Laouni, 2021), the majority of the students reported that they were ineffective or less effective in

regard to their digital information literacy and referencing skills. Meanwhile, a study involving three Iraqi universities identified the negative impact of spell-checking programs to be responsible for the deterioration of literacy, particularly spelling skills (Ismael et al., 2022).

In an arts context, researchers have conducted surveys among Malaysian (Pangayan, 2021) and Australian (Dunbar-Hall et al., 2015) university students. Based on the e-learning and e-portfolio experiences of creative arts students in Malaysia as well as the music and performing arts students in Australia, both studies concluded that there is a need to develop students' basic computer skills.

Two small-scale research projects in dance-related higher education have investigated how curriculum reform can improve students' academic writing skills (Andrews & Thoms, 2008; Heiland, 2010). Both studies highlighted dance students' lack of time and the nature of dance, characterized by bodily expression and movements rather than words, as reasons for the low quality of students' written works. Andrews and Thoms (2008) investigated the development of academic writing skills among first-year students in the UK in a virtual environment incorporating images, emails, and an online forum. They concluded that less formal settings may serve as suitable platforms for introducing scientific writing. Heiland (2010) conducted a questionnaire survey with 45 graduate students from a US university to investigate how redesigning a thesis writing course could better support students' writing skills development. The results demonstrated that the continuous support of mentors throughout the course had a positive impact on students' writing skills. In addition, creative and reflective writing practice, which can have a positive impact on students' confidence, performance, and motivation, can also be used as effective tools for introducing academic writing instruction (Thielges, 2023).

Taken together, these studies suggest the need for a complex improvement concept in the context of higher education. The development of writing literacy and text production skills (used here as synonymous terms for broader cognitive processes) is often shifted to the higher education stage rather than before. The development of writing skills involves the practical application of the necessary knowledge, ranging from basic computer skills (e.g., word processing) to common forms of written communication, from the stylistic features of academic writing to the rules of citation.

The sporadic nature of research on writing literacy in the Hungarian context has already been pointed out by Szilassy (2014). Among the scattered studies, the following three research projects which examined higher education settings are worth highlighting. In the domain of (digital) literacy among university students, the academic writing skills of 20 students at Eszterházy Károly University were examined. The researchers highlighted the loosening of academic discourse, the presence of everyday expressions, and the overuse of personalization (e.g., "I have mapped", "I would add", or "in my opinion"; Rási, 2019). At Zsigmond Király College (now Milton Friedman University), another study assessed the text production skills of the students, showing that just over half (51%) achieved a score of 60% in text production (Szilassy, 2014). The third study, conducted by the Budapest University of Technology and Economics in collaboration with the Hungarian National Bank (MNB-BME Book Club, 2023), explored the relationship between reading and

writing, finding that writing reviews, which supports the development of literacy skills, also increased students' willingness to read, indicating a mutual interaction between writing literacy and reading skills. This two-way relationship between text comprehension and text production has been further explored in several previous studies, including a systematic literature review by Renáta Kiss-Kovács (2023). Collectively, the studies above draw attention to the low average level of general text production skills, difficulties in acquiring scientific terminology and style, and the interdependence of the reading-writing relationship. In conclusion, it may be necessary to craft a writing literacy development plan in the context of the domestic higher education context, one that fosters the practical acquisition of basic text production elements, terminology, and stylistics, as well as a strong connection between reading and writing.

1.2 Research objective and hypotheses

The aim of this survey is to identify the factors that may cause difficulties for dance students during the thesis writing process. By *dance education* we refer to all university courses that are related to dance, such as dance teacher training. We hypothesized that the writing deficiencies that we observed may stem from students' background in vocational art education, the demanding nature of the dance training at the university, a zeitgeist not conducive to in-depth work, and the uncritical use of technology. In the light of the results, we aimed to devise an educational development plan. We also intended to explore students' perspectives on what forms of support they would find most helpful in producing more serious texts, such as a thesis. Based on previous literature (Benali & Laouni, 2021; Deanne, 2022; Dunbar-Hall et al., 2015; Pangayan, 2021; Rási, 2019; Stewart et al., 2016; Szilassy, 2014), we hypothesized that students would express the need to learn even basic word processing skills and would also need help with reference management and text composition.

2. METHODS

2.1 Sample

An online questionnaire was administered to a purposive sample of 170 graduate students to investigate the difficulties they faced in writing their thesis or dissertation during their graduation year. Data were collected through voluntary, anonymous participation from students ($N=64$) enrolled in various programs: Dance Artist BA ($n=5$), Dancer and Coach BA ($n=31$), Choreographer BA ($n=4$) programs, and Dance Teacher MA ($n=24$; Table 1). Most of the respondents were enrolled in the folk dance specialization (nearly 30%), followed by modern dance (approximately 25%) and ballroom dance (around 20%). Less than 15% of respondents specialized in theatrical dance, and the remaining respondents pursued classical ballet and choreographer specializations (Figure 1). In terms of age distribution, nearly 60% of the students were between 18 and 26 years old, followed by those aged 27 to 32, while the smallest group consisted of students over the age of 33 years (Table 2). The gender

distribution of the sample was 70% female and 30% male, a pattern consistent with general interest in dance as a profession and the proportions of the overall university student population (Table 3). 10.9% of the respondents also attend or have attended another university.

Program	N	%
Dance Artist (BA)	5	7,8
Dancer and Coach BA	31	48,4
Choreographer BA	4	6,3
Dance Teacher MA	24	37,5
Total	64	100

Table 1. Distribution of the sample by program

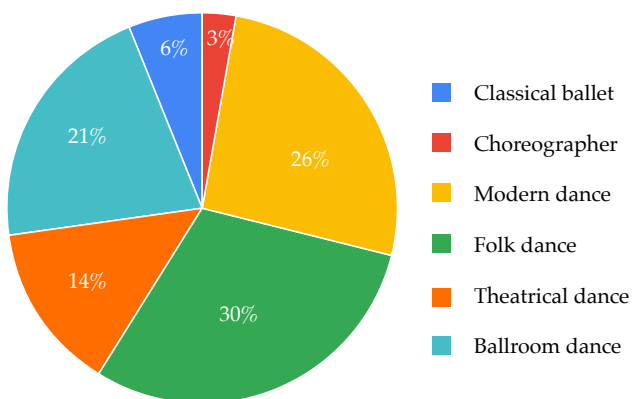


Figure 1. Distribution of the sample by specialization

Age	N	%
18-21	18	28,1
22-26	19	29,7
27-32	15	23,4
Over 33	12	18,8
Total	64	100

Table 2. Age distribution of the sample

Gender			
Female	%	Male	%
45	70,3	19	29,7

Table 3. Distribution of the sample by gender

2.2 The instrument

Due to the specific characteristics of our institution, neither the use nor adaptation of an existing survey was deemed suitable. Consequently, we decided to design our own survey based on Creswell's suggestions in *Educational Research: Planning, Conducting and Evaluating Quantitative and Qualitative Research* (2012). The self-developed questionnaire was tailored to the institutional context and informed by the observed issues encountered in the past, with the aim of providing institutional development objectives based on the expected results.

The self-report online questionnaire consisted of 27 open-ended and closed-ended questions, including questions on background data ($n=5$: age, gender, major, field of study, workplace) and educational history ($n=4$). The questionnaire also focused on aspects of the writing process ($n=7$), challenges encountered ($n=4$) and students' needs ($n=2$) during the thesis creation process. Attitudes towards text creation activities were also assessed (1 question with 6 sub-questions), examining students' perceptions on the importance of spelling, terminology usage, academic style, vocabulary choice, and references. In addition, questions on reading habits and preferred media for reading (e.g., mobile phone, laptop, or print media) were asked, as well as questions on the frequency of text production activities, including referencing, during university studies ($n=4$). In total, 35 items were distributed across the following question types: single-answer multiple-choice questions ($n=17$), multi-answer multiple choice questions ($n=2$), Likert-scale items ($n=11$), and open-ended, short-text items ($n=5$).

2.3 Procedures

The survey was conducted in spring of 2023. The introductory text of the instrument informed students about the purpose of the survey, the procedures for data collection and processing, and the expected completion time, which was approximately 10 minutes. Students participated on an anonymous and voluntary basis. The questionnaire did not collect personal data from the students, and the information obtained was used only in aggregate and solely for the stated research purposes. Students were informed that any questions they had about the survey or the results could be addressed to the research team leader via the email address provided. The questionnaire was completed by the students in their free time, without any form of remuneration, through the online questionnaire system used by the university at the time and distributed using a link centrally provided by the university's Directorate of Education.

Quantitative data analysis was facilitated by the built-in spreadsheet and graph management application offered by the questionnaire system. This application performed univariate descriptive statistical analyses on the sample (*Figures 2-5*).

Students' perceptions regarding the challenges related to thesis writing were expressed by the students in short-text responses to open-ended questions. A quantitative manifest content analysis was carried out on these responses, focusing exclusively on explicit rather than latent content. Responses were segmented into text units (phrases), which were then categorized, with the frequency of occurrences noted. Trend-like co-occurrences suggested recurring issues (*Table 5*).

3. RESULTS AND DISCUSSION

The results confirmed our hypothesis regarding the presumed factors contributing to difficulties in thesis writing.

3.1 Educational history

We hypothesized that poor writing performance may be partly due to educational history. Approximately 60% of the dance students entered university education after having studied at a high school specializing in art [from a specialized art high school ('művészeti szakközépiskola', 39.1%), from an art high school ('művészeti szakközépiskola', 4.7%), from the Nádaszi Ferenc High School ('gimnázium') of the Hungarian Dance University (12.5%), from a high school with dance specialization classes (1.6%), and from a high school featuring alternative pedagogy (1.6%)]. Compared to students from mainstream secondary education without a dance or art orientation, students in dance or art high school education probably wrote fewer essays.

Two main reasons can be cited from the literature to support this: (1.) the specific circumstances of vocational education and training following its reform, and (2.) the specific characteristics of the regulatory documents governing public education. An analysis of the 2010–2014 National Competency Survey data on reading comprehension from a vocational education perspective shows that the performance of 10th-grade students in vocational secondary schools is below that of grammar school students. Moreover, students enrolled in vocational secondary school courses that do not lead to a school-leaving certificate demonstrate significantly lower performance than students in both other types of schools (Hermann et al., 2018). The authors conclude that the 2013 reform of vocational education and training has worsened outcomes on the competency test. As previously shown in the literature review, text comprehension and text production skills are closely related (Kiss-Kovács, 2023).

In terms of text production skills, further disadvantages may arise from the influence of the National Core Curriculum (NAT) and its content regulators, especially in regard to vocational high schools. The drafting of the 2020 National Core Curriculum (NAT) attracted substantial criticism from professional representatives of the academic world and public education, including professional associations of teachers of Hungarian language and literature (Csik, 2021; Diószegi-Horváth, 2020). Critics argued that the NAT is "deaf to the challenges of the 21st century, out of

touch with life, out of date" (Nahalka, 2020; cited in Diószegi-Horváth, 2020, p. 4). Furthermore, its contradictory nature has also been criticized: despite the apparent reduction in instructional hours, it simultaneously overburdens students with an increased amount of learning material. In practice, the reduction in the number of lessons may only affect the framework for optional subjects, with the number of compulsory lessons remaining the same (Diószegi-Horváth, 2020).

In the content regulation of the NAT-based Hungarian language and literature subject (Education Office, n.d.), the number of hours allocated to the subject area directly related to written composition (e.g., communication, stylistics, and rhetoric) in grades 9–12 is extremely low. The documents only recommend the topic *use of digital tools and graphic editors in the creation of rhetorical texts* as an optional inclusion, complementary to the subject of argumentation.

It is clear from both the professional reviews and the analysis of the relevant content regulations that even in general high schools, the subject *Hungarian language and literature* does not allocate enough time for optional content which could have a significant impact on text production skills. This may be even more pronounced in vocational high schools, where student focus and talent often lie in specific vocational or artistic subjects, and where the unique nature of vocational education itself (Hermann et al., 2018) may distract students from general literacy areas. For this reason, and also due to the curricular overload criticized by experts (Csik, 2021; Diószegi-Horváth, 2020; Nahalka, 2020), the 80% of teaching hours mandated in the government decree (Government Decree 110/2012 (4.VI.)) for compulsory content may not be sufficient for learning and teaching the compulsory knowledge elements. As a result, the remaining 20% of instruction time is often taken up by compulsory content, particularly in vocational and arts-focused high schools. Moreover, students' preparation for competitions, performances, and tours, which require extra time and effort, may also leave less room for the acquisition of general literacy skills in a secondary arts education institution.

At the same time, the nature of the content regulations also means that, across all types of high schools, there is little emphasis on a number of key areas that underpin the development of text production skills for students entering higher education, such as language use, rhetorical functions, the identification of credible data sources, and plagiarism, as mentioned above.

3.2 Time management

Another hypothesized reason for the difficulties in university students' thesis writing was the demanding nature of professional dance education.

Only 5 participants in the sample were dance artist BA students. It is important to mention that the three-year dance artist BA has a unique study schedule: students are admitted to the university during their last two years of high school and are expected to write their thesis in the year after they graduate from secondary school. This means that for two thirds of their training, students must simultaneously manage a combination of high school coursework, theoretical university subjects, dance classes, rehearsals, exam preparations, and thesis writing, constituting a substantial workload.

Around 85% of the students who completed the questionnaire were enrolled in evening courses (specifically those in the Dancer and Coach BA, Choreography BA, and Dance Teacher MA), while simultaneously working in a company, sports club, or school. About a quarter of respondents reported working multiple part-time jobs at the same time. Only two respondents reported having a non-dance related job in addition to university.

The responses revealed that the majority of students perceived the time demands associated with performing as a difficulty, further complicating their ability to focus on the relatively unfamiliar task of text creation and digital word processing. Specifically, half of the respondents identified performances, nearly 70% cited rehearsals, and more than 15% reported auditions as factors negatively impacting their available time for writing their thesis (*Figure 2*).

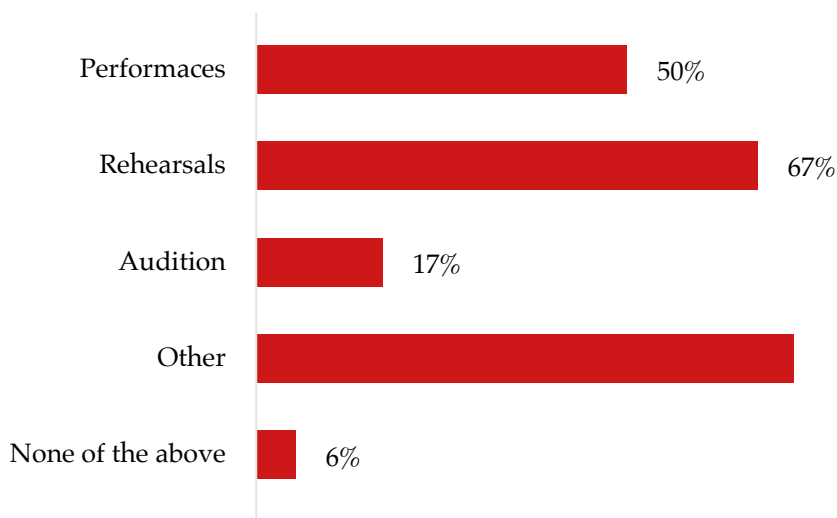


Figure 2. Factors contributing to time-management difficulties in thesis writing

The fact that 59.4% of students start writing their thesis in the spring semester, leaving only 2.5 months to complete the entire project while also investing time in their classes, rehearsals, and personal life, is a further indication of the serious time management problems faced by students.

3.3 The perception of writing literacy today

Students were asked to rate the importance of the factors listed in *Figure 3* regarding the completion of their written assignments using a four-point Likert scale. Notably, 62.5% of the students considered accurate spelling to be very important in everyday life, while 81.2% considered it very important in scientific publications, reflecting a prevailing mindset that may not be conducive to in-depth work. Just over 56% of the respondents considered the use of appropriate terminology as very important, a rating which fewer than 45% of them gave to the acquisition of scientific language and 70.3% gave to the use of a varied vocabulary. The accurate citation of references

was considered to be very important by less than half of the students, and there was one graduate student who did not consider it important at all (*Figure 3*). In light of these results, it is not surprising that plagiarism, as mentioned in the literature (Benali & Laouni, 2021), is becoming more prevalent.

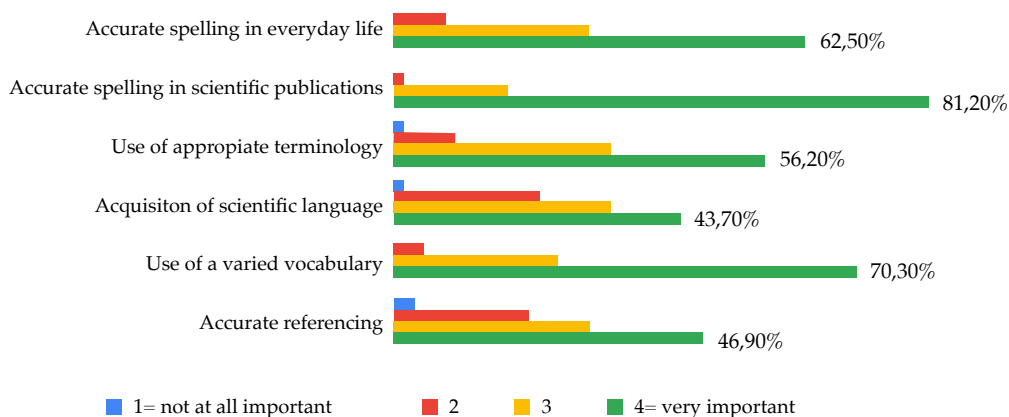


Figure 3. Activities considered to be very important (the 4th bar at the bottom) as a proportion of students

3.4 Reading habits

The survey also identified another characteristic of the current digital era: changes in reading habits as a presumed factor behind poor literacy performance, which was also noted in the literature (Radó, 2023). When asked about the format in which they consume daily news, social media feeds, fiction, and scientific articles, 92% of students indicated reading social media feeds on a mobile device, while approximately 82% read daily news on a mobile phone. Fiction was read on mobile phones (30%), laptops (38%), or in print (30%). Notably, a small proportion of respondents (between 5-10%) admitted that they do not read daily news, social media feeds, fiction, or scientific articles on any device or in any form. The data clearly shows that fiction and science content are consumed less frequently compared to social media and daily political news. However, the responses also show that 70% of the students prefer to read scientific articles on a laptop (*Table 4*), which allows for more in-depth, comfortable, and meaningful reading than a mobile phone due to the larger screen and lower number of distractors (e.g., pop-up social media and app notifications, messages, or calls). This tendency may be attributed to the demands of university coursework, which often requires students to read academic texts and use of word processors. Moreover, the conditions for saving, retrieving, and editing are also more convenient on a laptop.

Device used	Daily News		Social Media Newsfeed		Fiction		Scientific Articles	
	No.	%	No.	%	No.	%	No.	%
Mobile phone	53	82.8	59	92.2	20	31.3	26	40.6
Laptop	9	14.0	7	10.9	24	37.5	45	70.3
Printed Media	0	0.0	0	0.0	20	31.3	7	10.9
None	7	10.9	3	4.7	4	6.3	1	1.6

Table 4. Students' reading habits by content and medium of the text read

3.5 Digital tool using habits

The uncritical use of technology, identified as another assumed cause of weak academic writing, manifested students' reliance on inappropriate tools for academic thesis writing, such as the voice recorder function on their mobile phones (used by 33% of the students) or their phones' voice-to-text function (used by nearly 10% of participants; Figure 4). This phenomenon suggests that students are not aware of the requirements for academic texts and do not distinguish between different stylistic layers, which is likely partly due to the fact that their everyday information consumption and interaction is limited to personal and social media communication. It is also possible that they have not yet developed the necessary skills to produce academic texts. As documented in the literature (Rási, 2019), this clearly does not support the use of scientific terminology and style but rather allows for the overuse of personalization and the incorporation of everyday expressions, as known from the literature (Rási, 2019).

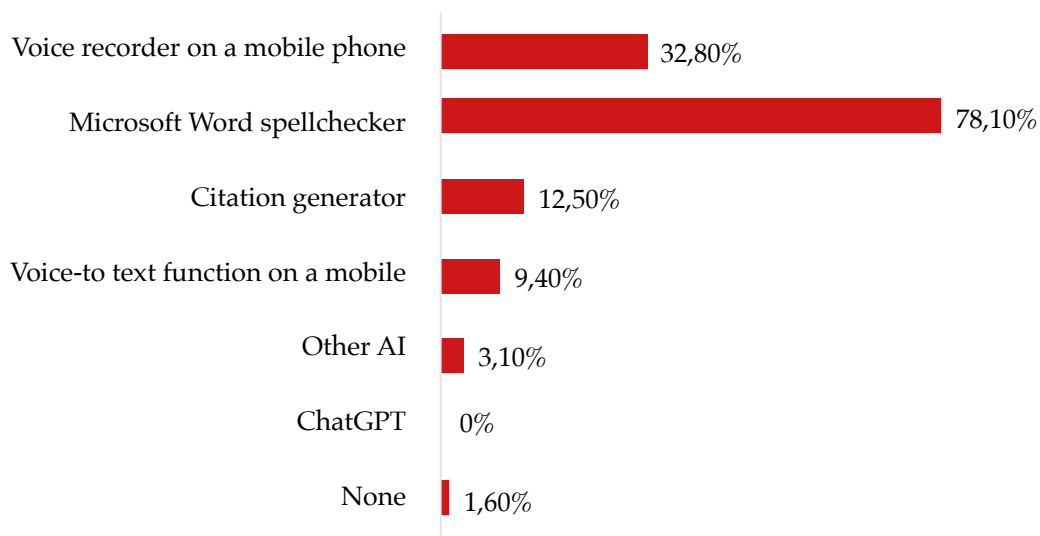


Figure 4. Digital tools used by students to write their thesis

Among the digital applications used for thesis writing, AI has already been used by 3% of respondents ($n=2$). This presupposes a certain degree of technological interest and routine in using various applications, which may have a positive impact on the writing process. However, the use of AI also has the potential to further hinder the development of already eroded or undeveloped text production skills and raises questions about the ethical use of technology.

3.6 Reference management and text editing

81.3% of the students reported that they had not learned reference management in high school and that they encountered the subject for the first time during their university studies. Fewer than half of the students indicated that they had received help from their thesis supervisor (43%) from courses designed to support thesis writing (40%). While correct citation of sources is a formal requirement, student responses to an open-ended question revealed that they would like to receive feedback from their tutors on both the content and form of the submissions they write throughout their studies.

Our assumption that students require basic word processing skills was confirmed by the findings. More than a quarter of the students expressed a desire for a practical refresher course in this area prior to writing their thesis. Similarly, our presumption of a need for support in regard to reference management was also confirmed. Almost a quarter of the students surveyed expressed interest in attending a one- or two-session training course on reference management. The most frequently endorsed form of support, selected by almost 36% of the students, was the integration of text drafting, editing, and reference management practice into all theoretical courses (Figure 5).

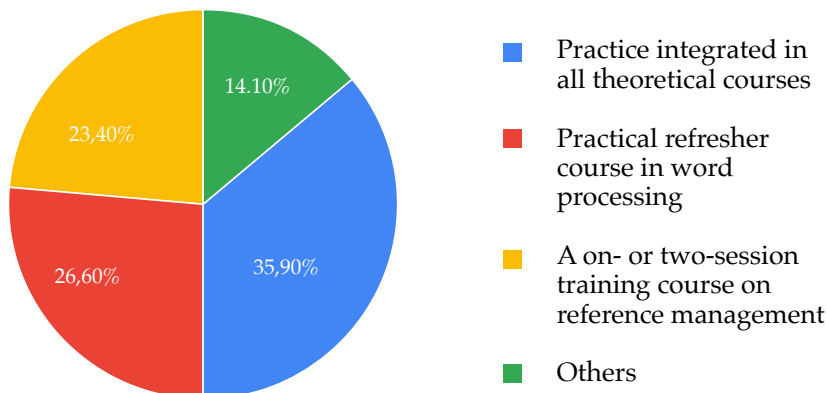


Figure 5. Students' support needs for longer texts

3.7 The thesis writing process

We were also curious to know how well the students were able to work autonomously when writing their thesis. Only 32% of the sample claimed to have been able to independently conduct literature searches for their thesis. More than 75% of the respondents stated that they received assistance from their thesis supervisor throughout the whole process, while nearly 70% of students also received help through their preparatory courses. The lack of independence is also reflected in the fact that only 12.5% of students believed that they could have written their thesis without external help. Forms of external support included help with editing / formatting ($n=6$), including proofreading, feedback from parents or experts ($n=26$), and tools such as the internet, synonym dictionaries, or vocabulary collections ($n=15$).

Students were asked to describe the main challenges they faced when writing their thesis. Time management and the ability to set priorities emerged as the most frequently cited difficulties ($n=16$), especially for those who had to write their thesis while working or studying ($n=14$). These are also skills that students may not have had the opportunity to acquire given the mainly kinetic-practical nature of their training. As such, it might be worth organizing a training session on learning skills, prioritization, and time management in cooperation with the career office, perhaps earlier during their studies rather than at the end of their training. Another difficulty commonly mentioned by the students ($n=10$) was the lack of clarity regarding the requirements of the thesis as well as technical and procedural difficulties, namely the practicalities of what to do and how to do it. This included the ability to select research material, organize it, and structure it into a text. These problems fall within the domain of ICT literacy, which includes knowledge of how to pose research questions, identify information needs, find, store and incorporate information with their existing knowledge in order to create new knowledge and communicate it with others (Tongori, 2012). These competencies are essential for 21st-century learning (Tongori & Lanszki, 2024), and as several publications have shown, this complex literacy domain (Iordache et al., 2017) can be effectively developed by integrating it into all levels of all subjects and fields taught within an institution (Australian Curriculum, n.d.; Erwin & Mohammed, 2022; Halász, n.d.). Some respondents reported dissatisfaction with the professional help ($n=8$) or the resources available ($n=8$) in the university library. Again, this could be due to a lack of practice with theoretical research. Skills related to finding resources and autonomous student research activities can be developed effectively when integrated into theoretical subjects. Outside of the strict education organizational framework, university students could also benefit from the resources of the library or learning center on campus, which can provide expanded collections of research materials and additional internet access points.

Challenge	No.	Challenge	No.
Setting priorities; Time management; Lack of time	16	Confusion, despair	3
Work; other studies	14	High credit load in the last semester, assignments	3
Thesis expectations: how to do it; formal requirements; text editing; sorting researched material	10	Contradictory requirements	2
Lack of professional help	8	Lack of motivation, resistance	2
Few resources: few materials in the university library /in general/in Hungarian; or not accessible in the online database	8	Language formulation	2
Rehearsals, performances, competitions	5	Avoiding plagiarism, paraphrasing	2
Private life, family	4	Hardware problem	1
Lack of concentration; fatigue	4	Thesis course is in the last semester	1
References	4	Travel	1

Table 5. Challenges perceived by students in the thesis writing process

In addition to the more commonly reported difficulties, other less frequent problems appear in the students' answers to the open-ended questions. This included the workload associated with rehearsals, performances, and competitions, as well as reference management, academic language, plagiarism, and unclear requirements (Table 5). In addition, some students identified travel constraints, personal pressures, course and credit load, and possible hardware problems as potential issues. Internal resistance and lack of motivation, often a result of other difficulties, were also listed as challenges when writing a thesis, even though these are not phenomena that are unique to this period. One particularly poignant concern, pointed out by one respondent, was the scheduling of the thesis writing course in the last semester. Recognizing this issue, the curriculum has since been modified in this respect, with the course now offered earlier in the program. This will ensure that the necessary knowledge reaches those concerned in a timely manner.

4. CONCLUSION

The findings indicate that students' difficulties in thesis writing are due to deficiencies in their writing skills and reference management. These deficiencies carry over from secondary school due to the nature of secondary education, the specific school types that the students attend, and imperfections in the curriculum documents regulating the content of secondary education. Our results support our

view that in the framework of theoretical university training, greater emphasis should be placed on practicing skills that were previously taken for granted, such as written text creation (e.g., essays or theses) and essential competencies text editing, information searching, and citation management. As part of the action plan responding to these research outcomes, the university has moved the thesis title submission and consultation one semester earlier, assigning specific tasks to the last two terms (e.g., creating a table of contents using a word processor). Furthermore, all theoretical courses now place greater emphasis on developing writing skills, ideally requiring at least one written assignment per course. Additionally, courses aimed at facilitating the creation of scientific texts, communication, and writing provide personalized support in terms of text editing, text creation, and citation management. In this context, support is also provided through techniques that assist in the interpretive reading of professional and scientific texts.

One of the limitations of the present research is that the questionnaire was administered exclusively to final year students writing their thesis, and – since the total number of students in the BA and MA programs of the university was only 456 (Hungarian Dance University, 2024, p. 14) – our number of respondents was limited as a result ($N=64$), especially for the dance artist ($n=5$) and choreography ($n=4$) majors. Since we were unable to subject our results to mathematical-statistical analysis, only descriptive statistical analysis was employed in our study, meaning that the findings obtained are not generalizable and are only valid for the given population. The research also examined the types of secondary schools that the students attended. In this respect, we were limited to analyzing the type of school the student studied at and the central regulatory documents on secondary school education available; we did not have access to detailed content students were taught or how their learning progressed. We are aware that the quality of education can have a significant impact on the constructs we investigated; thus, we based our analysis on the background literature. Finally, another limitation of the research concerns AI. The use of AI tools in society has exploded since the study was conducted. As our data on AI was collected a year and a half ago, it may not fully capture current trends.

Furthermore, considering that the current research already indicated the use of AI in text creation, we find it necessary to assess the characteristics of students' AI usage and their potential needs in this area. To this end, we initiated a survey in February 2025, not only among dance students but also among students across all artistic disciplines present in university education. We hope that the measures developed based on these new results will also serve to enhance tertiary education.

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