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11. IKT AZ OKTATÁSBAN KONFERENCIA

KOMPETENCIÁK

11. KONFERENCIJA „IKT U OBRAZOVANJU”

KOMPETENCIJE

11TH ICT IN EDUCATION CONFERENCE

COMPETENCES

УНИВЕРЗИТЕТ У НОВОМ САДУ УЧИТЕЉСКИ ФАКУЛТЕТ НА МАЂАРСКОМ НАСТАВНОМ ЈЕЗИКУ У СУБОТИЦИ
ÚJVIDÉKI EGYETEM MAGYAR TANNYELVŰ TANÍTÓKÉPZŐ KAR, SZABADKA
SVEUČILIŠTE U NOVOM SADU UČITELJSKI FAKULTET NA MADARSKOM NASTAVNOM JEZIKU U SUBOTICI
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SADRŽAJ
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EDUCATION AND DIGITALIZATION: COMPETENCES AND REALITIES IN HUNGARIAN PUBLIC EDUCATION

PÉTER ANTAL

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Abstract

The active, creative pedagogical use of digital tools and the digital environment has become an important measure of professional flexibility in the teaching profession. The methodological innovation of digital education is a major contributor to many pedagogical successes, but it is important to be clear about the pedagogical goals that digital tools are intended and capable of achieving. The experience of the last few years, especially in the Covid period, has shown the personal, technological, methodological and attitudinal shortcomings that have highlighted the anomalies of digital education. One of these real problems is that the content management and learning tracking systems used by teachers are not uniform even across school staff, and in many cases there is a lack of creative communication between teachers. The question is, whether we can really increase efficiency, i.e. whether the technology and methodology used can deliver the greatest pedagogical „yield" with the least investment of time and energy. This requires, however, an examination of the real picture in terms of methods, programmes and infrastructure.

In my presentation, we will explore these issues and present the results and conclusions of a survey of teachers.

***Keywords*:** *digital competence, methodology, digital transition*

1. Introduction

The intensive and creative pedagogical application and use of digital devices and digital environments have become crucial indicators of flexibility and adaptability expected from today's pedagogues. While the application of ICT has provided numerous benefits in various instructional areas, most researchers tend to agree that even the existence of such devices can generate a significant motivational impact (Antal, 2020). One mustn't forget, however, that mostly due to the substantial digital proficiency of students starting their school years, teachers tend to mistakenly think that information and communication technologies, specifically, the system of digital devices and methods originally viewed as a means to the realization of instructional objectives, can replace pedagogical design.

By the end of the first decade of the 21st century Ruben Puentedura had prepared the SAMR model representing the pedagogical scheme of digital technological integration (Puentedura, 2006).

Consequently, technology can appear in two ways in schools, either expanding or transforming the respective learning schedules. Expansion implies substitution and the widening of the given professional scope, while transformation entails modification and re-interpretation.

In other words, the digital transformation-based pedagogical model (digital pedagogy) should enable the performance of more complicated tasks along with easier and more convenient problem solving as compared to previous periods (Vajna, 2021).

The introduction of such systems, however, requires the surveying and assessment of the national and local context (the number of people possessing computers, the extent of internet use, etc.), the trends

impacting the main social and technological processes along with the available intellectual, technological, and material resources for the elaboration of infrastructure for the virtual space. Additionally the theoretical and practical aspects of the methodology of device use have to be addressed, not only from the point of view of best practices, but regarding the applicability of local conditions as well (Czeglédi 2009). Accordingly, the given results display significant diversity and bear with local relevance.

The period of the Covid pandemic has proven to be a good indicator of the difficulties of ICT use while anticipating personal, technological, methodological, and perspective-related problems characterizing present day digital education. One could point to the lack of unified content and learning management systems, which prevents creative communication among teachers even within the same school. Another crucial concern is the extent of attitude change as user proficiency and confidence are closely correlated with the rate and quality of device application.

2. The objectives of the survey

In the past two years since the Covid pandemic the professional role and reputation of digital instruction have been completely reappraised. Our questionnaire-based survey aimed at identifying any progress or perspective shift related to the development of digital competences along with a potential increase in the efficiency of the applied technology and methodology. Our other objective reflects our continuous commitment to renew ICT training schemes in university level teacher training programs via the inclusion of new technologies and software. We believe such developments will contribute to the promotion of modern teacher training schemes and the digital transformation. Consequently, we intend to identify the most frequently used applications and methods in current pedagogical contexts.

Figure 1. *Defining the research objectives*

3. The details of the survey

In line with the original objectives the nationwide survey included the administration of a questionnaire to elementary and secondary school teachers regarding such concerns as device use, attitude, communication, the reliance on applications, and the respective pedagogical methodology. The questionnaire reflecting a quantitative approach was completed by 336 respondents. 74% of the respondents were primary school teachers in the Trans-Danubian region and Northeastern Hungary.

4. Results

The age distribution, namely 77% of the respondents being over 45, was not surprising given the general aging of the in-service pedagogical community.

Answers to the question focusing on the frequency of digital device use were encouraging as 83% of the respondents reported that such equipment was used frequently or during every lesson (Antal, 2020; Czeglédi, 2020).

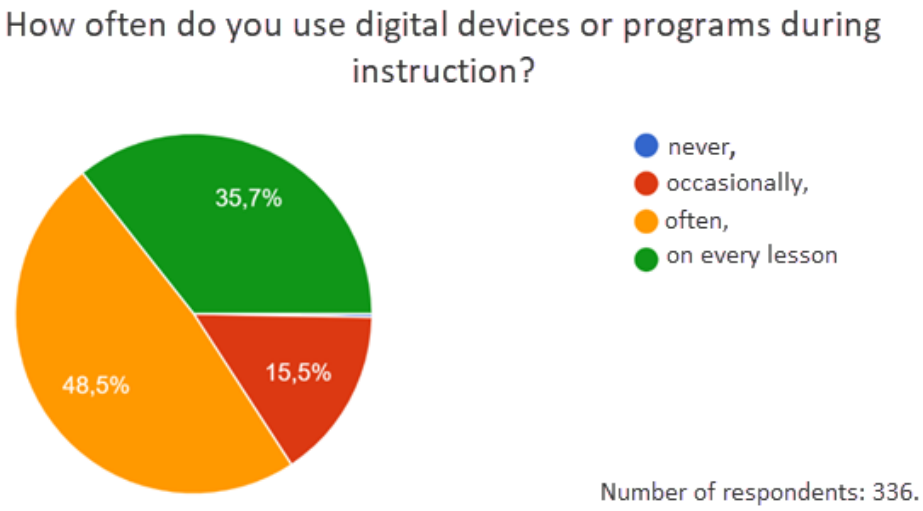

Figure 2. *Digital device use by pedagogues.*

As far as the educational or school-based infrastructure is concerned, the respondents were not fully satisfied. 35% of the respondents felt that the available digital equipment and tool base was not modern, deemed barely satisfactory at best, which is a rather discouraging result in light of the development efforts of the past years. Participants in the survey revealed that only 29,5% of the schools can be considered well equipped with up to date digital devices.

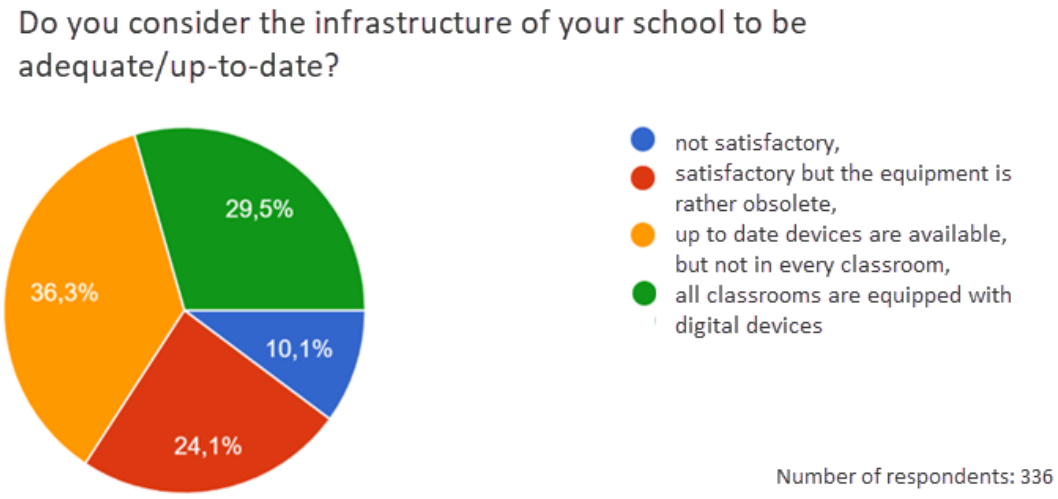

Figure 3. *The availability and standards of the digital infrastructure*

While questions probing the attitudes related to the use of digital devices have displayed a greater level of dispersion, the results can be considered positive implying slight progress from the previous research findings (Fekete, 2020). 44,5% of colleagues are willing to use digital devices on a regular or daily basis, less motivated teachers resorting to such devices only for the benefit of the children make up 7% of the respondents, and 10% reject such methods or feel external compulsion to turn to digitalization.

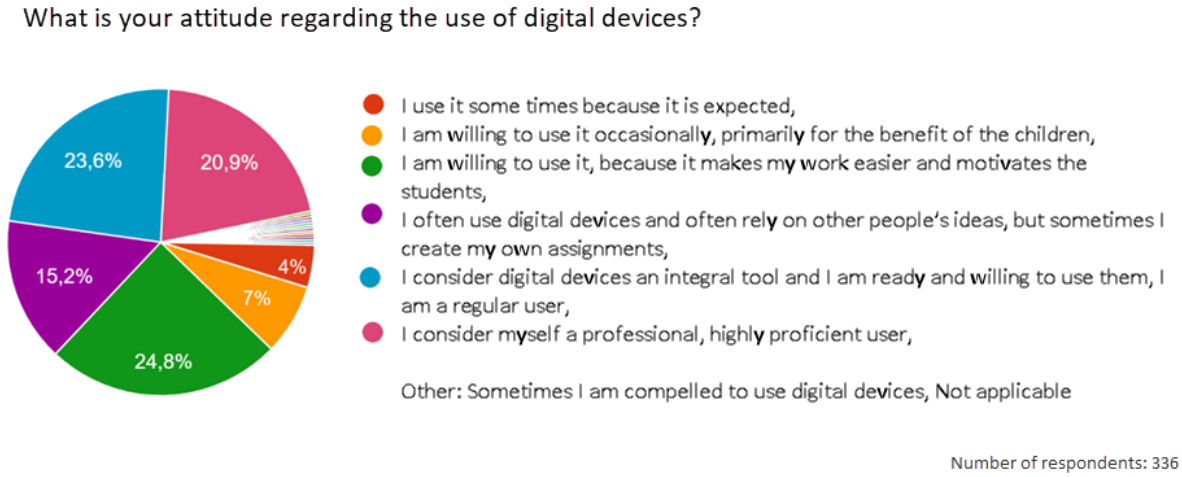

Figure 4. *Attitude regarding the use of digital devices.*

Next, we inquired about the respective ways of application and the views on the quality of the given digital equipment. The answers suggested uncertainty and lack of experience as only about 50% gave positive answers to questions focusing on the benefits of digital devices. The respondents pointed to such advantages of working with digital tasks as faster task assignment, automatic correction options, the availability of practice assignments and the self-check features. Nevertheless, only half of the respondents agreed with the statement that ICT use makes fulfilling their teaching responsibilities easier. Concerning the amount of time required for preparing a digital lesson, the willingness of students to do such tasks, and maintaining classroom discipline, the responses were mostly positive as well. One exception was the teachers' view on handling unexpected situations as they often have to face technological problems during digital lessons.

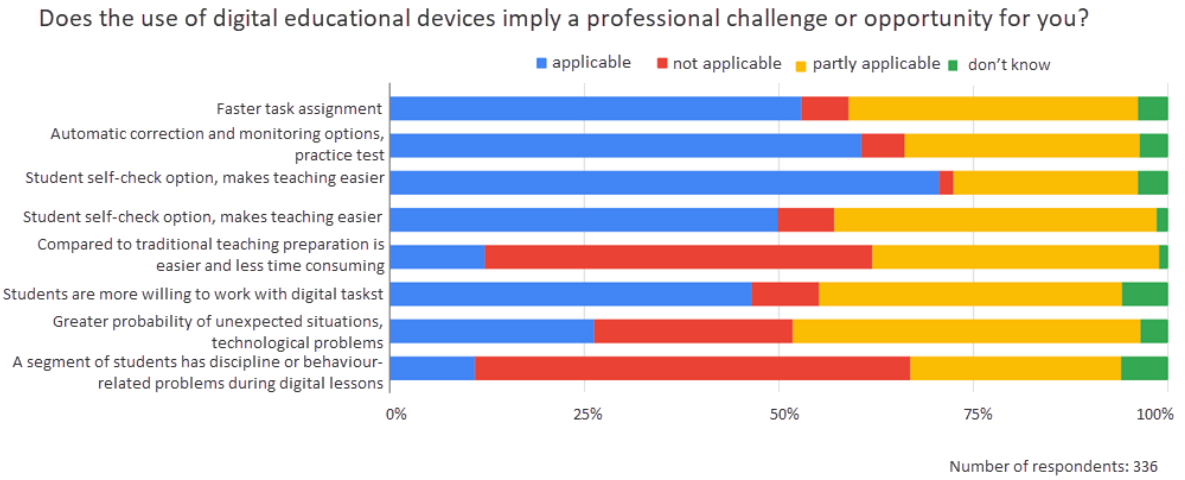

Figure 5. *Challenge or opportunity use of digital educational devices*

We were also interested in which digital methods were considered the most popular. The results suggest that the most frequent approach was assigning homework and practice tasks, although 10-12% of the respondents responded negatively to such options. Regarding the use of online test or QR code the situation is even more discouraging as 60% of the respondents have not even tried to use such features. Consequently, teacher training programs of universities should pay more attention to the methodology of QR technology.

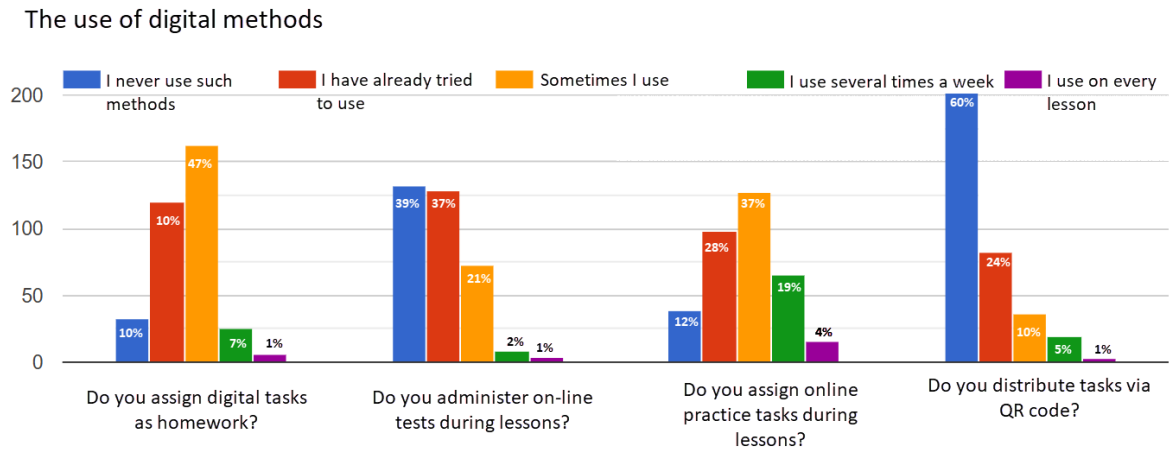

Figure 6. *The use of digital methods*

In the following segment of the survey, we inquired about the homogeneity and uniform aspects of the digital platforms along with the possibility of cooperation and collaboration on a daily basis. The results were mixed as only 56,8% of the respondents used uniform digital programs and devices, while 31% stated since there were no shared or common platforms everybody used the platform, they were familiar with, complemented by 20% acquiring the given skills to use digital platforms individually. It would be advisable to explore the reasons behind the lack of willingness or ability on the part of teachers to cooperate with and help each other in improving digital competence. Most of the respondents, (70,8%) use freely available programs, only in case of 31% does the school maintaining authority subscribe to paid digital applications while 25% pay for such applications themselves. Such data are rather discouraging as the maintaining authority should provide for a modern state of the art educational environment and promote the use of digital devices in the schools.

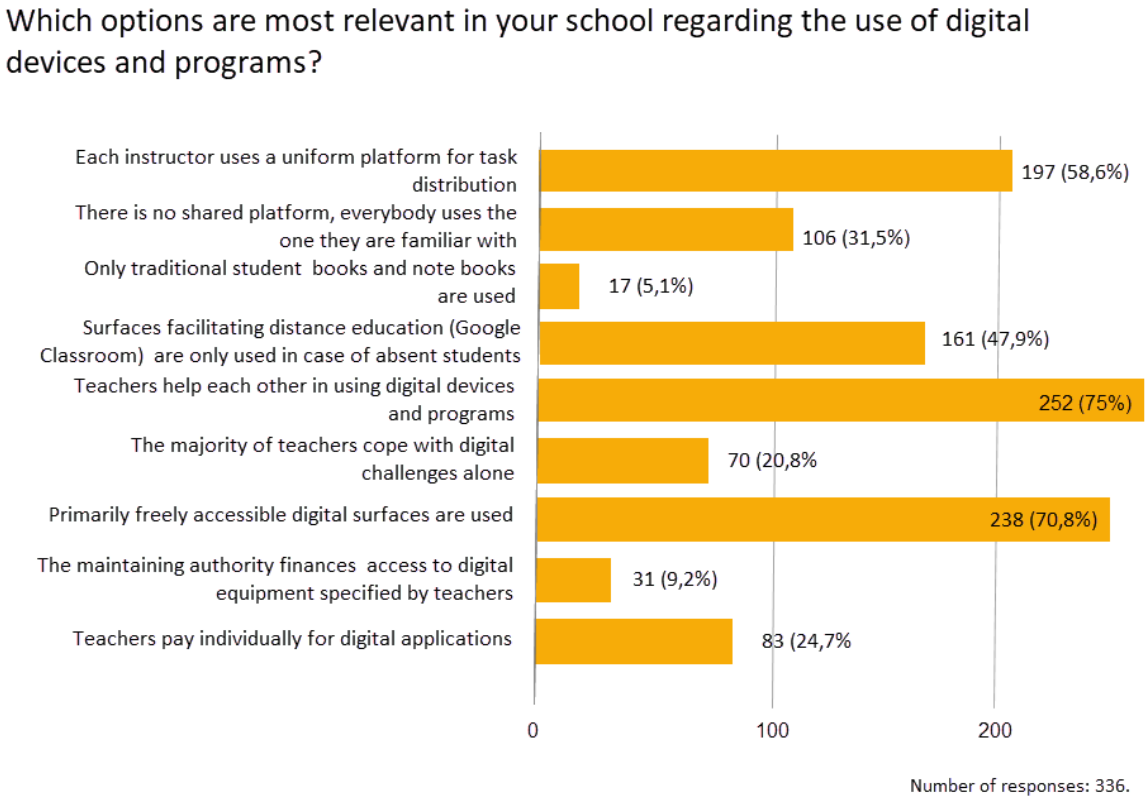

Figure 7. *The conditions behind digitalization.*

As compared to the surveys of the past years the question focusing on the use of mobile devices during lessons generated more positive answers (Antal, 2017). While earlier almost an overall rejection was discerned regarding student use of mobile phones, currently, mostly due to the increasing popularity

of the BYOD (bring your own device) concept, only 3,3% of the teachers reported that the use of such devices was banned by school management and 79% allowed the use of mobile phones. These results, however, have to be interpreted in light of the Hungarian government's decree prohibiting the use of mobile phones during instruction from the 2024/2025 school year both in primary and secondary schools. While the ban can promote face to face communication and eliminate wasting class time by excessive and futile phone use, most schools struggle with the implementation of the given specifications as neither material nor methodological assistance was provided.

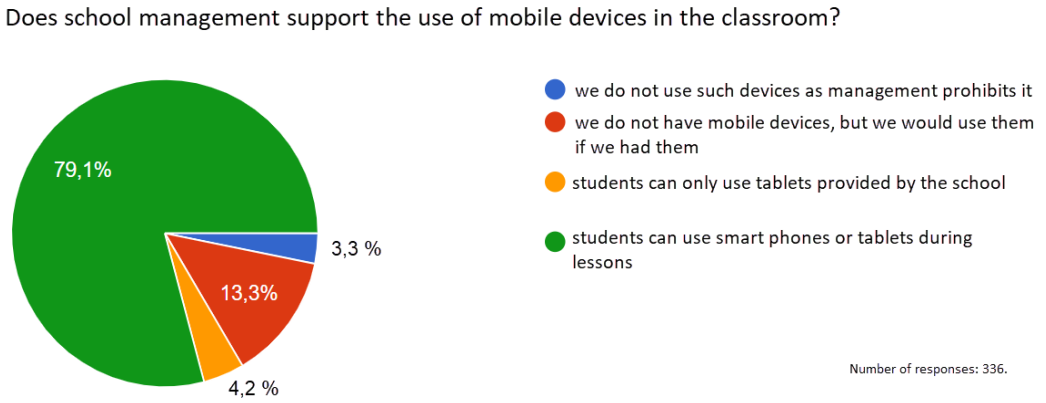

Figure 8. *The rate of mobile phone use during lessons.*

The categorical breakdown of the most frequently used applications has not shown a significant change and it can be concluded that that developers, have made appropriate steps for the updating of the given surfaces. Naturally, while the selection options are significantly wider, the use rate of Facebook and Messenger is hardly behind the abovementioned surfaces. The popularity of the Redmenta testing surface has declined after access became fee-based and in several categories the Google programs were ranked first primarily due to free access and simplicity of use. As far as digital textbooks are concerned the NKP website is in a leading position, while the digital surfaces of the Mozaik Publishing Company are still popular.

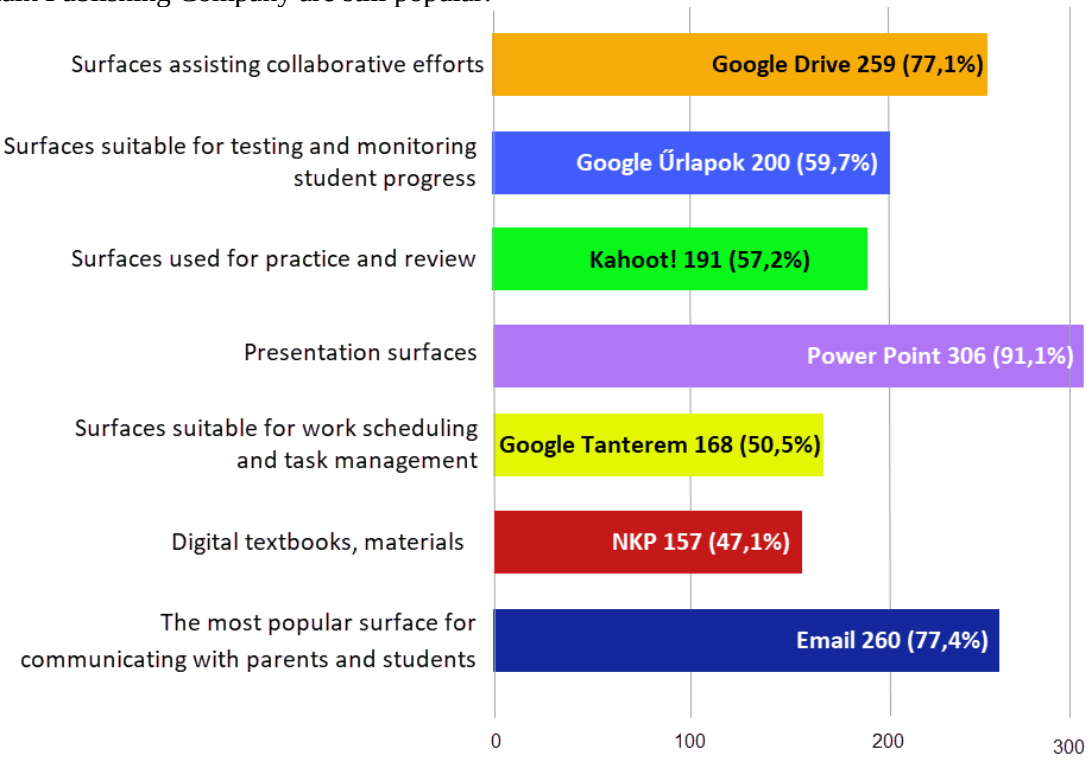

Figure 9. *The categorical breakdown of the most popular applications*

5. Conclusions

It is beyond doubt that the acceptance and a conscious creative use of digital devices increased and needs no further justification. Unfortunately, however, the extent of collaboration among teachers in order to improve digital competences is less then desirable despite the obvious difficulties and time consuming nature of preparing digital assignments and tasks. While the questionnaire revealed a greater use of digital tasks either as a method for practice or homework assignment, teachers should be provided methodological assistance. Since in many cases there is a limited openness to help or there is a lack of appropriately trained staff, the situation could be improved by more openness and the organization of free training courses financed by the maintaining authority.

Although the number of applicable platforms has significantly increased in the past years, recently heretofore freely accessible programs have become available only on a pay per use basis. Since only a small percentage of school maintaining authorities subscribe to such fee-based programs, many teachers are forced to finance digital competence training schemes themselves. The most encouraging results are connected, however, to mobile telephone use during classes as in the past years the majority of the teaching community was not open to the use of such options.

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