

Generative AI and ChatGPT in Self-Directed Learning among Year 7 and 8 Primary School Pupils: Survey Findings from Radom, Poland

Generatywna sztuczna inteligencja i ChatGPT w samodzielnym uczeniu się uczniów klas VII i VIII szkoły podstawowej: wyniki badania ankietowego przeprowadzonego w Radomiu

Agnieszka Żabińska

Casimir Pulaski Radom
University, Poland

ORCID 0000-0002-2035-491X
a.zabinska@urad.edu.pl

Sebastian Warchol

Casimir Pulaski Radom
University, Poland

ORCID 0009-0001-6960-0691

Julia Rojek

Casimir Pulaski Radom
University, Poland

ORCID 0009-0000-9741-5445

Weronika Fetraś

Casimir Pulaski Radom
University, Poland

ORCID 0009-0001-4951-4366

Received: 19 Jan 2026

Revised: 10 Jun 2026

Accepted: 17 Jun 2026

Published: 30 Jun 2026

Abstract: This article examines how Year 7 and 8 primary school pupils use Internet resources, ChatGPT, and other artificial intelligence tools in self-directed learning. It presents a subset of data from the *Education on the Internet. The Internet in Education* project was based on a paper questionnaire administered to 281 pupils attending schools in the city and municipality of Radom, Poland. The survey covered preferred learning methods, situations in which pupils use the Internet for educational purposes, online platforms and resources, forms of online learning, purposes for using ChatGPT, and school subjects for which it is used. Practical activities were the pupils' preferred learning method, while 73% used the Internet primarily before tests. Google, ChatGPT, and YouTube were the most frequently used resources. Furthermore, 64% reported using artificial intelligence in learning, 62% used ChatGPT for rapid information retrieval, and 69% used it when studying mathematics. The findings show that generative AI is already embedded in pupils' learning practices but is frequently used instrumentally and without sufficient verification of information. The article therefore recommends developing critical thinking, source evaluation skills, teachers' digital competences, and the pedagogically guided use of generative AI. It also introduces the Internet Educator as a potential specialist role that supports pupils and teachers in digital learning environments.

Keywords: generative artificial intelligence, ChatGPT, self-directed learning, AI-assisted learning, primary school pupils, digital education, Internet Educator

Abstrakt: Artykuł analizuje sposoby wykorzystywania zasobów internetowych, ChatGPT i innych narzędzi sztucznej inteligencji przez uczniów klas VII i VIII szkoły podstawowej w procesie samodzielnego uczenia się. Przedstawiono część danych zgromadzonych w ramach projektu „Edukacja w Internecie. Internet w edukacji” za pomocą papierowego kwestionariusza ankiety, który wypełniło 281 uczniów szkół z terenu miasta i gminy Radom. Badanie dotyczyło preferowanych metod uczenia się, sytuacji, w których uczniowie wykorzystują Internet do celów edukacyjnych, używanych platform i zasobów internetowych, form edukacji online, sposobów korzystania z ChatGPT oraz przedmiotów szkolnych, w których narzędzie to znajduje zastosowanie. Uczniowie najczęściej preferowali praktyczne metody uczenia się, natomiast 73% z nich korzystało z Internetu przede wszystkim przed sprawdzianami. Najpopularniejszymi zasobami były Google, ChatGPT i YouTube. Ponadto 64% badanych deklarowało wykorzystywanie sztucznej inteligencji w nauce, 62% używało ChatGPT do szybkiego wyszukiwania informacji, a 69% korzystało z niego podczas nauki matematyki. Wyniki wskazują, że generatywna sztuczna inteligencja stała się już elementem praktyk edukacyjnych uczniów, ale bywa wykorzystywana instrumentalnie i bez wystarczającej weryfikacji informacji. Autorzy rekomendują rozwijanie krytycznego myślenia, umiejętności oceny źródeł, kompetencji cyfrowych nauczycieli oraz pedagogicznie ukierunkowanego korzystania z generatywnej sztucznej inteligencji. Przedstawiają również Pedagoga Internetu jako możliwą specjalizację wspierającą uczniów i nauczycieli w cyfrowym środowisku edukacyjnym.



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Keywords: generatywna sztuczna inteligencja, ChatGPT, samodzielne uczenie się, uczenie się wspomagane przez AI, uczniowie szkoły podstawowej, edukacja cyfrowa, Pedagog Internetu

INTRODUCTION

In recent decades, we have witnessed a global and extremely rapid development of digital technologies. The changes brought about, amongst other things, by the dynamic growth of the Internet can be observed in the way we live, communicate and spend our leisure time (Sowińska 2010). Those who are adept at navigating cyberspace do not need to leave home to meet their basic needs such as shopping, paying bills, working remotely (Hołyń 2009). The phenomenon of the computerisation of society has therefore become widespread; Henry Jenkins noted that, whichever way we look, people are taking the media into their own hands and engaging in dialogue with the mass media by creating their own online communities. People think, work and process culture in new ways (Jenkins 2007, 8). New media serve to meet many of the needs of today's children and young people; these include "identity, information about the outside world, behavioural models, compensation, entertainment, acceptance and social interaction" (Wawrzak-Chodaczek, as cited in Sowińska 2010, 169). For these two groups, the Internet is becoming a second world – known as the virtual world – and, at the same time, a natural environment in which they function (Sowińska 2010; Rigamonti 2019; Kopczewski 2025). It is therefore not difficult to see that Internet use has a huge impact on the attitudes and behaviour of children and young people; their vocabulary, manner of speaking, the content they share and the ideas they pursue are all changing. The Internet is beginning to play the role of a friend and confidant in the lives of children and young people – someone they can turn to at any time, who

always has time and is ready to offer advice. It has thus become a space that is more real than the traditional “playground” (Stępnia 2012, 46).

1. THE INTERNET AND ARTIFICIAL INTELLIGENCE IN THE LIVES AND EDUCATION OF YOUNG PEOPLE

The use of new communication technologies is increasingly viewed as a phenomenon that can lead to addiction, and that has a negative impact on a person’s mental, physical, and emotional development. Jolanta Jarczyńska and Aleksandra Orzechowska (2014) listed (also citing Jakubik 2002; Pyżalski 2009; 2014) terms associated with addiction to new media; according to the authors, these are: “netaholics” or “net addiction;” “cyberaddiction” or “cyber-addiction;” “Internet addiction,” “Internet dependency,” or “Internet dependence;” “Internet Addiction Disorder” (IAD); “infoholism” or “information addiction” (Jakubik 2002, 121–122). Andrzej Jakubik added that two of the terms mentioned above could be ruled out, either because their scope was too broad – i.e. “infoholism” – or too narrow – “computer addiction.” Instead, the author proposed the terms: “Internet addiction syndrome” or “online addiction syndrome.” In Polish, translations of the English terms “The Network,” “The Global Web,” “The World Wide Web” or “The Global Village” are also used (Jakubik 2002, 135–136). Aleksandra Paprotny (2022, 168–169) drew attention to cyber threats in the form of cyberbullying (harassment and persecution online). Cyberbullying is a regular, deliberate act directed at a weaker individual who is unable to or incapable of defending themselves. The most common forms of cyberbullying include, but are not limited to verbal abuse, the public sharing of humiliating or doctored photos and videos, blackmail, and the disclosure of secrets. Peer bullying is nothing new, but thanks to new technologies, bullies find it much easier (Borkowska 2019). Parents play a vital role in combating cyberbullying amongst children and young people, and they should be supported by schools and the police. It is these institutions that are responsible for the effectiveness of prevention measures relating to this problem; they should, in consultation with parents, ensure that joint efforts are systematic and comprehensive in nature. The latest update to the European ICD-11 classification has brought some progress in systematising diagnostic and intervention knowledge; it includes preliminary criteria for distinguishing individuals with computer game addiction.

It should be noted that the popularity of cyberspace, in a way, undermines and trivialises the formation of bonds with other people based on primal relationships, as genuine interpersonal relationships (offline) last longer, require greater dedication and commitment, and are deeper. However, when confronted with the diversity of activities and the possibility of overcoming temporal and spatial barriers (Wtórniak 2018) – as is the case online – the formation of relationships in the real world is very often jeopardised. Social media platforms offer young people a form of communication that is “easy, convenient, accessible, and independent of time and place; for these very reasons, it fits well with the lifestyle of today’s youth, who are accustomed to fast, constant and immediate contact, and who are unable to postpone their immediate needs” (Tomaszewska 2012, 331–332).

According to Ewelina Kosicka and Renata Lis (2016, 89–90), the development of new information technologies has influenced the way information is presented and absorbed, shifting the focus from books and paper to screens and the digital environment. New media require not only the ability to read and write, but also new visual and digital skills. Most people view social media as a cause of distraction, and a source of superficial entertainment. Meanwhile, an increasing number of content creators, including teachers, researchers and science enthusiasts, are using these platforms to share knowledge in an engaging and accessible way. Short, dynamic formats grab attention, whilst humour, the use of interesting facts and visual presentation enhance retention. Furthermore, the ability to comment, ask questions and share content encourages collaboration and helps build a community of learners. The Internet has a huge impact on education, the main aim of which is to acquire knowledge and skills.

Albert Bandura’s social learning theory assumes that observation and imitation play a crucial role in learning; therefore, social media and the use of educational platforms can provide a rich environment for acquiring knowledge and new behaviours. As Bandura noted, “an individual is more likely to replicate behaviour that results in rewards or enables the achievement of a goal than behaviour that results in adverse consequences” (2007, 38–43). Combined with immediate, quantifiable feedback in the form of “likes” and views, young people, by observing their peers, teachers or popular figures online, can internalise both positive and negative behavioural patterns related to learning. Furthermore, the tendency to model behaviour increases when positive consequences of a particular behaviour for the role model

are observed, which may also apply to educational successes showcased in the virtual space. Social media is the main channel of communication and a key way for today's young people to build peer relationships. The ability to set up project groups, take part in discussions on educational forums or provide mutual support with their studies via these platforms directly meets these needs. By feeling part of a learning community, pupils may be more motivated to engage with the educational process. Finally, cognitive needs (for knowledge and understanding) are an integral part of self-fulfilment. The Internet, and consequently social media, offer access to an extremely wide range of educational resources, supplementary materials and diverse perspectives. Pupils can independently seek out information, broaden their horizons and develop their interests, which directly influences their intrinsic motivation to learn. To meet the needs of young people, an increasing number of organisations – ranging from universities, through foundations and associations, to individual teachers – are making valuable resources available free of charge, thereby promoting the idea of open education.

In recent years, there has been rapid growth in digital educational tools. Language-learning apps, websites with teaching materials, e-learning platforms, educational channels, podcasts, webinars and online quizzes – all of these form a new educational ecosystem. Importantly, many of these resources are free and accessible from anywhere and at any time. Pupils can learn at their own pace, revisit material they find difficult, or explore topics that fascinate them in greater depth. As a result, education becomes more personalised, and pupils can take greater responsibility for their own development. The Internet gives them the tools to learn not just “to get good grades,” but out of a genuine need to understand the world.

Artificial intelligence (AI) is a technology that can “learn” and assist people with various tasks and that has become so commonplace that some are even unaware that they are making use of it. Pupils encounter it every day when using online translation tools, asking educational questions of voice assistants such as Siri, Alexa or Google Assistant, checking for mistakes in essays, solving maths problems or creating drawings or texts with the help of AI-based programmes that can adapt to the learners' level of ability, thereby making learning easier and more interesting. AI is also popular in entertainment, helping to create music, images and videos. It is also used in computer games, where computer-controlled characters behave in increasingly “intelligent” ways. Voice assistants are also used to set reminders or search for

information online. On social media, AI suggests videos to watch, songs to listen to and people to connect with. AI helps young people in many aspects of their daily lives, but it is important to remember that no technology can replace human imagination, conversation and genuine relationships.

As early as 2010, Sebastian Wasiołka wrote that educators have excellent tools at their disposal in the form of the media. He argued that the educational community should make use of virtual space, as this could significantly support activities aimed at educating young people and shaping their attitudes. In this regard, the author posed the question: are teachers making effective use of this virtual space? This question remains open, despite the fact that a number of studies have been carried out in recent years on how children and young people use the Internet (e.g. Krzyżak-Szymańska, Kowalkowska and Szymański 2016; Ordon and Sołtysiak 2017; Wrótniak 2018). It is significant that, in most analyses, respondents regarded this medium as the “best source of knowledge,” and the Internet was the primary source of information whilst studying and doing homework (studying without Internet access would be considerably more difficult). In the NASK report *Nastolatki 3.0 (Teenagers 3.0)* – a study on the digital lives of young people in Poland - the majority of teenagers themselves indicated that using the Internet makes it easy to broaden their knowledge in their areas of interest, which also applies to the educational context (Bochenek and Lange 2019). The research presented was carried out prior to the pandemic, which brought about not only social changes but also changes in how young people utilise their digital skills.

According to the teenagers themselves, the Internet is a source of many benefits, and young people’s digital everyday lives are increasingly at odds with adults’ perceptions. This disconnect is highlighted by research reports published in 2025, such as the report *Nastolatki 3.0 (Teenagers 3.0)* mentioned above. The data collected open up a space for discussion on what pupils’ online reality really looks like and what educators can do to support them better. The report’s analysis of the use of AI reveals that as many as 70% of pupils have had contact with artificial intelligence (AI) tools, most commonly ChatGPT, CapCut and Character AI. Teenagers use these tools for learning and doing their homework, but also for entertainment or to relieve boredom. At the same time, awareness of the risks – such as deepfakes – is very low amongst them. The way the Internet is used for educational purposes is also changing.

Wikipedia and Google are losing popularity, whilst young people are increasingly turning to AI, as demonstrated by the authors' own research discussed in this text. This highlights the growing gap between pupils' digital skills and the tools used in education (Ładna et al. 2025). Similar findings were reported by the authors of a report entitled *Internet Dzieci (Children's Internet)* monitoring the online activity of children and young people. This research was carried out under the auspices of the Polish foundation Fundacja Instytut Cyfrowego Obywatelstwa (Digital Citizenship Institute Foundation) and included the most recent data from 2025, revealing, interestingly, that for children aged 7–14, the two most popular categories viewed online are education (14.3 per cent) and culture and entertainment (12.7 per cent). The Internet is therefore used for learning and doing homework. However, according to the analyses, the time spent on education and culture and entertainment is not as significant as the time young people and children devote to social media and watching video streams (Bigaj et al. 2025). These figures are undoubtedly a signal for adults – particularly teachers – to address the issue and make a conscious effort to harness cyberspace for sound and effective education. At the same time, scientists and researchers point to a shortage of specialists (psychologists, educators, therapists) who are practically equipped to tackle the issue of children and young people's excessive use of new technologies (Xu et al. 2021). The findings of the authors' analysis cause them to sound the alarm regarding the need for intervention and for market regulators and institutions responsible for protecting minors from violence, abuse and objectification to take concrete action. Used appropriately, the Internet can become a powerful tool for supporting pupils' education and personal and social development. Pupils have never before had such agency, and teachers have never faced such a challenge.

2. RESEARCH PROCEDURE

In 2024, the idea was born to study children's and young people's use of digital media and its significance in their development. This led to the birth of the project *Education on the Internet. The Internet in Education*, which combined the enthusiasm of young students of pedagogy with the theoretical and practical experience of their lecturers. The aim of the research was to understand the extent to which young people use the Internet in education, from their own perspective. Consequently, the authors' intention was to collect a sufficient amount of data to

enable teachers, parents and institutions to better understand the contemporary digital habits of the younger generation – not to judge them, but rather to foster intergenerational dialogue and jointly seek new solutions relating to education. To achieve this aim, the following research questions were formulated:

1. What method of learning do pupils prefer?
2. In what situations related to their education do children use the Internet?
3. What educational platforms or online resources do children use when learning independently?
4. What forms of online education do children use?
5. What do they use artificial intelligence (ChatGPT) for whilst learning?
6. For which subjects do they use ChatGPT?

The empirical data were collected using a self-designed questionnaire containing both closed-ended and open-ended questions. The research was conducted amongst primary and secondary school pupils in the city and municipality of Radom. A total of 710 pupils were surveyed. This study utilised a subset of the research data covering primary school pupils, i.e. 281 respondents from Years 7 and 8. The questionnaires were delivered to schools in paper form. Before their distribution, the pupils were briefed by the students conducting the research on the voluntary nature of participation, anonymity and the protection of personal data.

In carrying out this fairly large-scale research, the authors sought to hear the voice of the younger generation – the voices of those growing up in a world of screens, apps, social media and digital opportunities, that is, in an environment that is their natural habitat. Another aim of the research was to create a tool, (which will be developed in the near future), for teachers and parents to improve communication in cyberspace, whilst each school received reports with data analyses from the researchers concerning their specific institutions. The next step will be workshops for teachers at the schools participating in the research, during which digital solutions to support teaching and learning will be demonstrated.

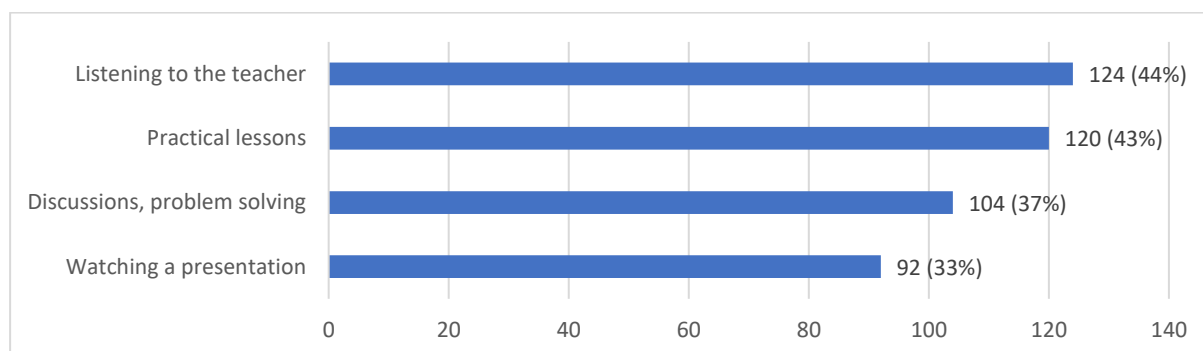
In deciding to carry out the project, the researchers were concerned not only with collecting data, but above all with the welfare of young people. Both during data collection and analysis, the focus was on respect for others and the application of empathy, as it is only through

attentive listening and openness to young people's perspectives that it is possible to build relationships based on trust, dialogue and mutual learning. A key element of the research was the emphasis on prevention and education, rather than focusing on the risks associated with Internet use (a topic on which a considerable number of theoretical and empirical publications have appeared in recent years). Another important aspect of the project was to emphasise a partnership-based approach to young people, as it is often the pupils who possess the knowledge and skills from which their teachers and parents can benefit.

3. RESULTS

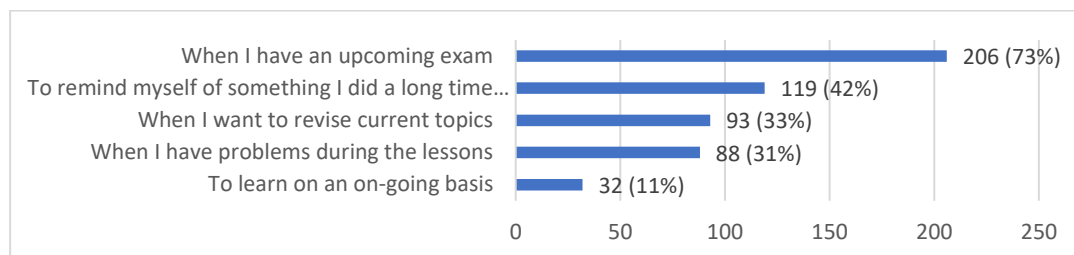
To better understand why young people turn to cyberspace when they intend to learn, the researchers asked a question about the method that facilitates the best acquisition of knowledge. The wording of the question was based on the theoretical learning styles outlined by Czesław Kupisiewicz (2000). The results show that practical activities are very popular, having scored highly in every class. This indicates a strong preference amongst pupils for learning through action, experience and independent experimentation. In turn, listening to the teacher, whilst still important, gradually loses significance as pupils get older, whilst discussions and problem-solving become more prevalent. This may suggest that younger pupils feel more confident with more traditional forms of teaching, whilst older pupils seek more engaging methods. Watching presentations generally attracts the least interest. This may mean that this format is perceived as less engaging or too passive, requiring little active participation compared to other methods. In summary, pupils prefer active and practical forms of learning, which is worth taking into account when designing lessons and educational materials.

Chart 1. Which method of learning do pupils prefer?



The next question asked pupils to identify specific situations related to their education. Research shows that pupils most often use the Internet for educational purposes at key moments for them. In both Year 7 and Year 8, the predominant reason is an upcoming test, which indicates that the Internet is treated as a source of quick help before a knowledge assessment (206 responses – 73%). Such a high figure also suggests that pupils in lower secondary education do not study systematically; they turn to learning aids “at the last minute,” with only 32 respondents (11 per cent) using the Internet as part of their ongoing study. In second place, in terms of the number of responses, is the need to refresh information learnt some time ago (119 responses – 42 per cent), which highlights the role of the Internet in consolidating material, thanks to its accessibility and the ability to independently choose the time and place to test one’s own knowledge. This result may raise questions regarding the reasons for this state of affairs. It is possible that this is linked to teaching methods, individual learning styles, the curriculum workload, and the lack of assessment practices (apart from tests and quizzes). This is also indicated by another high figure: 93 (33%) respondents use the Internet independently when they wish to revise current material.

Chart 2. In what situations related to their learning do children use the Internet?

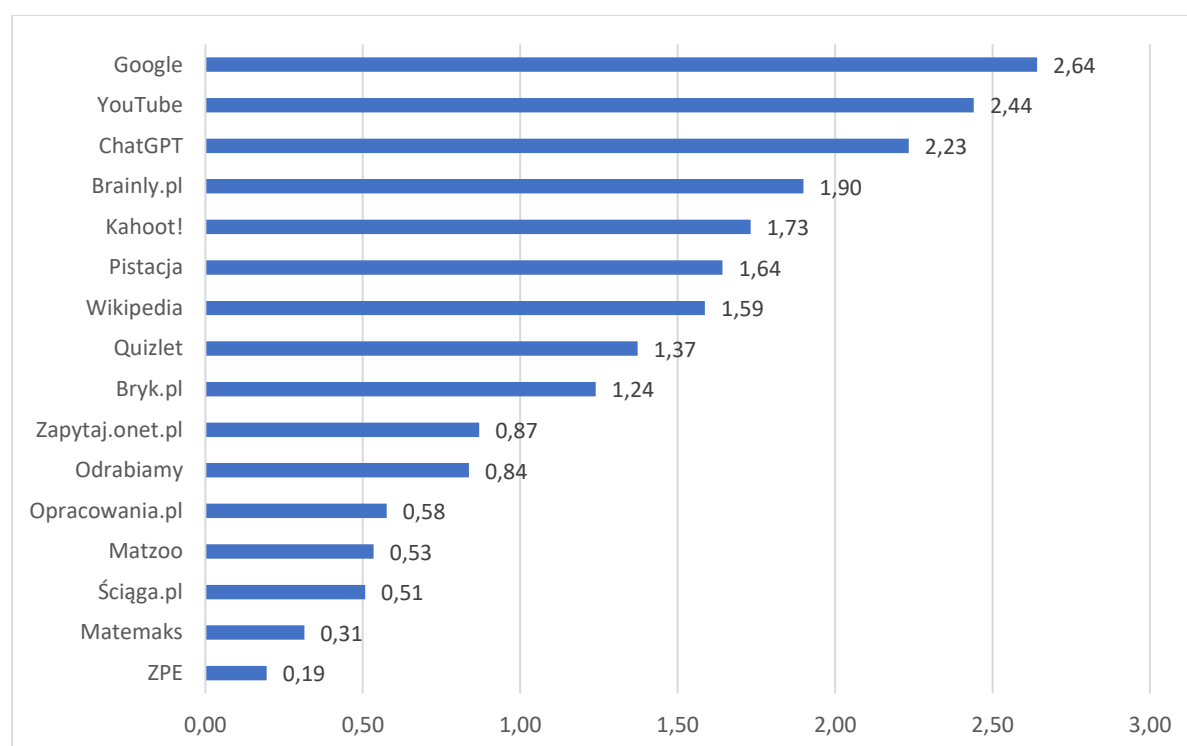


Following on from the question relating to the task-based situation – learning using the Internet – the following question was posed: Which educational platforms or online resources do children use when learning independently? The survey included a question regarding awareness of, and frequency of use of, selected educational tools and online platforms. Pupils answered the question in a closed-ended format, selecting one of four options: “I don’t know” – 0 points; “I know it, but I don’t use it” – 1 point; “I know it, I use it sometimes” – 2 points; “I know it, I use it often” – 3 points. Below is a list of educational websites and portals that were used in formulating the question. This list was compiled on the basis of a search of the Internet, specifically by entering the term “educational portal” into a search engine and selecting the most frequently appearing results (this search was carried out by pedagogy students conducting this research). The most frequently appearing results were: Google, YouTube, ChatGPT, Brainly.pl (formerly Zadane.pl), Kahoot!, Pistacja, Wikipedia, Quizlet, Bryk.pl, Odrabiamy, Opracowania.pl, Matzoo, Ściaga.pl, Matemaks and zpe.gov.pl (Zintegrowana Platforma Edukacyjna – Integrated Educational Platform). As pupils had the option to select ‘other’, three additional options appeared in the responses: Brainly; Duolingo and Knowunity.

Each response received was converted into a numerical value on a scale of 0–3. For each platform or tool, the arithmetic mean of all the points obtained was calculated. This produced an indicator of the popularity and active use of a given tool within the study group. The most frequently selected were Google, ChatGPT and YouTube. All the platforms mentioned are popular and meet the needs of pupils, rather than merely reflecting researchers’ and adults’ ideas about what pupils should be given and what they should use. At the other end of the scale – with the fewest responses from participants – was ZPE, or Zintegrowana Platforma Edukacyjna, a state-run platform. The fact that it ranked at the very bottom with the fewest points indicated that pupils had not heard of it, were unfamiliar with it, and did not use it. In the researchers’ view, opinions in cyberspace – particularly regarding educational platforms – spread very

quickly and are generally objective. Websites and all online content must be appropriately structured for specific target audiences and must meet their needs. Particular attention should therefore be paid to simplicity, reliability and adapting the visual design to the audience's level, bearing in mind that pupils also use the Internet for learning, and the key point is that in this space, they are the ones who choose what they want to use.

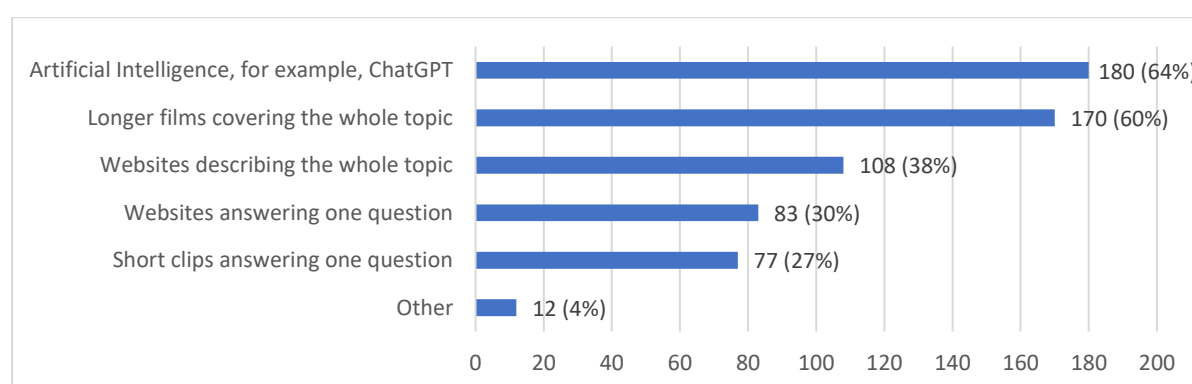
Chart 3. Which educational platforms or online resources do children use when learning independently?



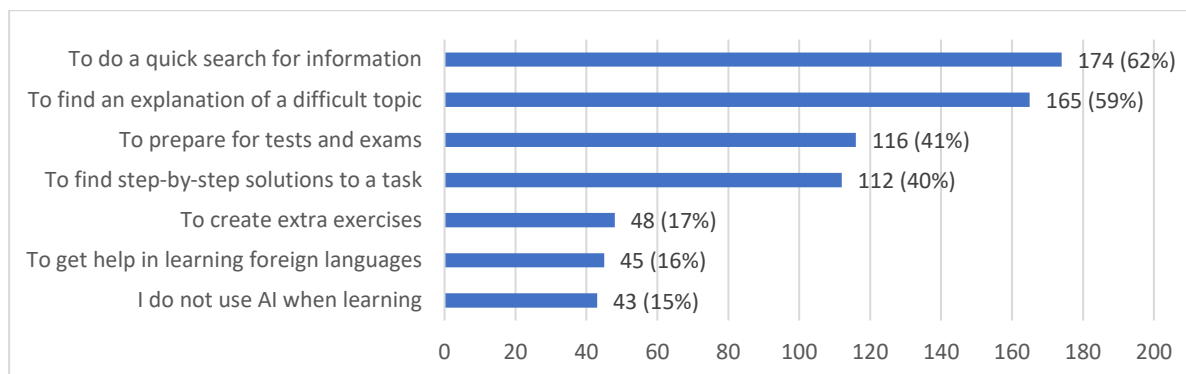
The next question sought to explore the information gathered in greater depth, aiming to answer: What forms of online education do children use? Pupils could select multiple answers from a list provided and were also given the option to enter their own response. Today's pupils make extensive use of artificial intelligence in their learning, even though it is a relatively new source of information (180 people, 64%). A worrying trend has been observed: rather than solving problems independently, pupils often paste tasks or phrases into a search engine and uncritically select the first suggested link, without verifying the reliability or accuracy of the information found. In view of this, it is crucial to focus educational efforts on developing critical thinking and the ability to select sources. Students should be actively shown tried-and-tested

apps and websites that offer reliable information and support in solving problems, thereby promoting the informed and effective use of available technologies. Despite the uncritical use of artificial intelligence, the finding that pupils watch longer videos covering the entire topic (170 people, 60 per cent) and visit websites describing the entire topic appears to be positive. There is therefore a need for deeper analysis, and the preparation of educational content should be based on this need.

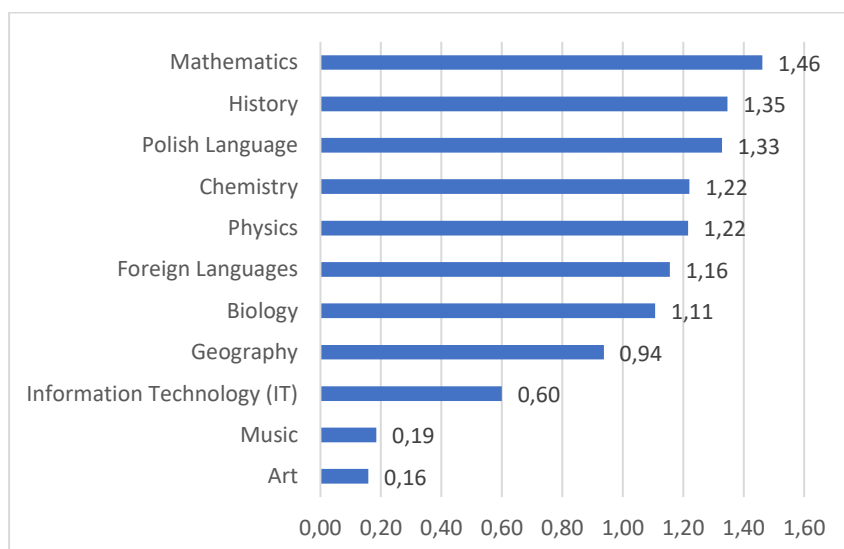
Chart 4. Which forms of online education do children use?



The next question asked for further details regarding the use of artificial intelligence. Pupils were asked: What do they use artificial intelligence for whilst learning? Although as many as 174 respondents (62%) cited quick information retrieval, there were also responses indicating young people's capacity for reflective thinking, as they use ChatGPT for educational purposes rather than merely mindlessly copying answers. A significant number of respondents – 112 pupils – use artificial intelligence to solve problems step by step, which indicates a need to understand the subject matter rather than simply learning it by heart. Only 43 pupils do not use ChatGPT for learning; it should be borne in mind that the respondents were primary school pupils, so the prevalence of this platform is already enormous even amongst such young Internet users.

Chart 5. What do they use artificial intelligence (ChatGPT) for whilst learning?

The next question asked specifically which subjects pupils use artificial intelligence to study. The results can be interpreted in two ways. Firstly, they indicate which academic subjects pupils struggle with on their own and need support with (188 respondents, i.e. 69%, chose mathematics, including 71 pupils – 26% – who use ChatGPT frequently). Secondly, it is worth noting the number of responses indicating a significant demand for extra tuition in almost all subject areas.

Chart 6. Which subjects do students use ChatGPT to learn?

The high maths score suggests that pupils use generative artificial intelligence not as an assistant for their daily exercises, but as a “lifeline” in situations of urgent need. Maths, in particular, benefits from regular practice and systematic feedback. Without a constant supply of

educational stimuli, mathematical skills do not develop. Unlike language skills, which develop naturally (through social interactions, exposure to written text or the acquisition of models of correct Polish) as well as by systematic practice, mathematics requires the active construction of meaning, the formulation of conclusions, making mistakes and correcting them. Simply reading an answer provided by a language model leads only to short-term recall, often limited to the period immediately before a test, rather than to a deep understanding.

There is also a fundamental problem arising from the nature of generative artificial intelligence models. These models are large language models based on statistical relationships between words, their frequencies and the order in which they appear. Whilst humans are able to assign semantic meaning to mathematical concepts (e.g. the “number of pupils” as a natural number or a non-negative integer), artificial intelligence treats such statements merely as sequences of words, without understanding their implications or possessing the capacity for abstract reasoning. A similar problem arises with text-based tasks: generative artificial intelligence does not understand the content of the instruction, but merely creates variations of words based on examples that were previously deemed correct. The set of assumptions generated by the AI may therefore be accurate, but it may just as well be the product of the model’s hallucinations. The student can never be certain which situation they are dealing with.

Lacking the capacity for abstract thought and metacognitive skills, a pupil relying solely on generative artificial intelligence is unable to independently plan a learning process that would lead to the resolution of their educational problems. They can only satisfy the need to complete their homework, which will neither fill gaps in their knowledge nor resolve the problem of a lack of knowledge on a given topic – but it will simply give the pupil the opportunity to complete the task quickly, though not necessarily correctly.

4. DISCUSSION

After analysing the information gathered, the researchers concluded that, just as at the turn of the 19th and 20th centuries, industrialisation and urbanisation gave rise to the need for a new profession – that of the Street Educator (Rymsza 2007) – so too are we now facing new challenges linked to the development of the Internet. Street Educators are people who meet

children's needs by entering their natural environment, not as missionaries but as supporters. Today, the shift of many aspects of reality into the virtual world means that we now need Internet Educators, i.e. adults who are not outsiders to young people, but those who understand everyday digital life. We need people who do not lecture from a distance, but accompany the youngsters closely, ready to discover, learn and build a safe, empathetic educational space together.

As research findings indicate (e.g. Lange 2021, Pyżalski 2009), the school environment, alongside the family environment, is a key setting for fostering constructive ways of using the Internet and safe behaviour in the virtual space amongst children and young people. In accordance with current education legislation (Act of 14 December 2016 – Education Act), schools are responsible for promoting knowledge about safety and fostering appropriate attitudes towards threats in both the physical and virtual worlds. Measures focusing on standards and procedures relating to physical safety have been implemented in schools for many years, whereas ensuring pupils' safety in cyberspace is still a new area that requires further development and education not only for pupils but also for teachers.

Supporting pupils in the effective and, above all, purposeful use of digital media should be a priority in today's schools, because, as research has also shown, this fosters the development of interests and supports the learning process. We must not forget to support the development of teaching staff's digital competences, particularly in countering negative phenomena in cyberspace and in developing their understanding of the devices and services used by pupils. It is worth noting that generative artificial intelligence can be an extremely useful tool in the hands of a teacher, as an educator who is aware of a pupil's individual educational needs can, within a short space of time, generate a set of tasks tailored both to address a specific learning difficulty and to support a gifted pupil, by adjusting the level of difficulty and setting challenges corresponding to their potential. As a result, this tool not only helps to compensate for difficulties but also fosters talents, which is in line with the concept of personalised learning.

Author Contributions: Conceptualisation: A.Ż., S.W.; Formal Analysis: A.Ż., S.W., J.R., W.F.; Investigation: S.W., J.R., W.F.; Methodology: A.Ż., S.W., J.R., W.F.; Visualisation: S.W.; Writing - Review and Editing: A.Ż. All authors have read and agreed to the published version of the manuscript.

Funding: “This research received no external funding.”

Institutional Review Board / Ethics Statement: Not applicable.

Informed Consent Statement: Not applicable

Data Availability Statement: Not applicable

AI Tools Declaration: Not applicable. The authors declare that no use of AI tools requiring disclosure under the Seminar Policy on AI in Scholarly Publishing occurred in the preparation of this manuscript or in the underlying study.

Conflicts of Interest: The authors declare no conflicts of interest.

REFERENCES:

- Bandura, Albert. 2007. *Teoria społecznego uczenia się [Social Learning Theory]*. Translated by Joanna Kowalczevska and Józef Radzicki. Wydawnictwo Naukowe PWN.
- Bigaj, Magdalena, Konrad Ciesiołkiewicz, Krzysztof Mikulski, et al. 2025. *Internet dzieci: Raport z monitoringu obecności dzieci i młodzieży w internecie [Internet of Children: Report on Monitoring the Online Presence of Children and Young People]*. Fundacja “Instytut Cyfrowego Obywatelstwa” and Państwowa Komisja do spraw przeciwdziałania wykorzystaniu seksualnemu małoletnich poniżej lat 15.
<https://cyfroweobywatelstwo.pl/wp-content/uploads/2025/03/RAPORT-INTERNET-DZIECI-2025.pdf>.
- Bochenek, Marcin, and Rafał Lange, eds. 2019. *Nastolatki 3.0: Raport z ogólnopolskiego badania uczniów [Teenagers 3.0: Report from a Nationwide Survey of Students]*. NASK – Państwowy Instytut Badawczy.
- Borkowska, Anna. 2019. *Cyberprzemoc: Włącz blokadę na nękanie: Poradnik dla rodziców [Cyberbullying: Turn On the Block against Harassment: A Guide for Parents]*. NASK – Państwowy Instytut Badawczy.
- Hołtyń, Beata. 2009. “W jaki sposób dzieci i młodzież korzystają z komputera i internetu? [How Do Children and Young People Use Computers and the Internet?]” In *Wspomaganie rozwoju: Psychostymulacja i psychokreacja [Supporting Development: Psychostimulation and Psychocreation]*, vol. 8, edited by Barbara M. Kaja and Beata Hołtyń, 169–184. Wydawnictwo Uniwersytetu Kazimierza Wielkiego.
- Jakubik, Andrzej. 2002. “Zespół uzależnienia od Internetu [Internet Addiction Syndrome].” *Studia Psychologica* 3: 133–142.
- Jarczyńska, Jolanta, and Aleksandra Orzechowska. 2014. “Sieciologizm i fonologizm zagrożeniem współczesnej młodzieży [Internet Addiction and Mobile Phone Addiction as Threats to Contemporary Youth].” In *Uzależnienia behawioralne i zachowania problemowe młodzieży: Teoria, diagnoza, profilaktyka, terapia [Behavioural Addictions and Problem Behaviours among Young People: Theory, Diagnosis, Prevention, and Therapy]*, edited by Jolanta Jarczyńska, 121–146. Wydawnictwo Uniwersytetu Kazimierza Wielkiego.
- Jenkins, Henry. 2007. *Kultura konwergencji: Zderzenie starych i nowych mediów [Convergence Culture: Where Old and New Media Collide]*. Translated by Małgorzata Bernatowicz and Mirosław Filiciak. Wydawnictwa Akademickie i Profesjonalne.
- Kopczewski, Marian, and Aleksandra Paprotny. 2025. “Szkola jako środowisko zapewniania cyberbezpieczeństwa dzieci i młodzieży – zagrożenie patostreamingiem [School as an Environment for Ensuring Cybersecurity for Children and Youth – Trash Stream Threat].” *Colloquium* 17 (2): 195–206.
<https://doi.org/10.34813/29coll2025>.
- Kosicka, Ewelina, and Renata Lis. 2016. “Komputerowe wspomaganie kształcenia z zakresu harmonogramowania produkcji [Computer-Aided Education in Production Scheduling].” *Edukacja – Technika – Informatyka* 3 (17): 89–93. <https://doi.org/10.15584/eti.2016.3.13>.
- Krzyżak-Szymańska, Ewa, Joanna Kowalkowska, and Andrzej Marcin Szymański. 2016. *Zagrożenia dzieci i młodzieży w sieci: Cyberproblemy, diagnoza i profilaktyka: Vademecum nauczyciela [Online Risks for Children and Young People: Cyberproblems, Diagnosis, and Prevention: A Teacher's Handbook]*. Górnośląska Wyższa Szkoła Handlowa im. Wojciecha Korfanteo.

- Kupisiewicz, Czesław. 2000. *Dydaktyka ogólna [General Didactics]*. Oficyna Wydawnicza Graf-Punkt.
- Kuss, Daria. J., Griffiths, Mark. D. 2012. "Internet gaming addiction: A systematic review of empirical research". *International Journal of Mental Health and Addiction*, 10 (2): 278-296. DOI: 10.1007/s11469-011-9318-5
- Lange, Rafał, ed. 2021. *Nastolatki 3.0: Raport z ogólnopolskiego badania uczniów [Teenagers 3.0: Report from a Nationwide Survey of Students]*. NASK – Państwowy Instytut Badawczy.
- Ładna, Agnieszka, Karol Kamiński, Konrad Rosłaniec, et al. 2025. *Nastolatki: Raport z ogólnopolskiego badania uczniów i rodziców – raport badawczy [Teenagers: Report from a Nationwide Survey of Students and Parents – Research Report]*. NASK – Państwowy Instytut Badawczy.
https://www.nask.pl/media/2025/09/Nastolatki_RAPORT-2.pdf.
- Ordon, Urszula, and Wioletta Sołtysiak. 2017. "Media społecznościowe w e-learningu akademickim [Social Media in Academic E-Learning]." *Edukacja – Technika – Informatyka* 1 (19): 217–221.
<https://doi.org/10.15584/eti.2017.1.29>.
- Paprotny, Aleksandra. 2022. "Bezpieczeństwo dzieci i młodzieży w cyberprzestrzeni – zagrożenie patostreamingiem [The Safety of Children and Young People in Cyberspace: The Threat of Trash Streaming]." PhD diss., Akademia Wojsk Lądowych im. gen. Tadeusza Kościuszki.
- Poland. 2017. "Ustawa z dnia 14 grudnia 2016 r. – Prawo oświatowe [Act of 14 December 2016 – Education Law]." *Dziennik Ustaw* 2017, item 59.
<https://isap.sejm.gov.pl/isap.nsf/DocDetails.xsp?id=WDU20170000059>.
- Pyżalski, Jacek. 2009. "Agresja elektroniczna dzieci i młodzieży – różne wymiary zjawiska [Electronic Aggression among Children and Young People: Different Dimensions of the Phenomenon]." *Dziecko Krzywdzone: Teoria, badania, praktyka* 8 (1): 12–26.
- Pyżalski, Jacek. 2014. "Elektroniczna agresja rówieśnicza – ustalenia empiryczne ostatniej dekady [Electronic Peer Aggression: Empirical Findings from the Last Decade]." In *Uzależnienia behawioralne i zachowania problemowe młodzieży: Teoria, diagnoza, profilaktyka, terapia [Behavioural Addictions and Problem Behaviours among Young People: Theory, Diagnosis, Prevention, and Therapy]*, edited by Jolanta Jarczyńska, 33–47. Wydawnictwo Uniwersytetu Kazimierza Wielkiego.
- Rigamonti, Magdalena. 2019. "Porno, bijatyki i pijatyki: Dlaczego bycie patostreamerem jest pociągające? [Porn, Fights, and Drinking Sessions: Why Is Being a Trash Streamer Appealing?]" *Forsal.pl*, July 4, 2019.
<https://forsal.pl/artykuly/1420578,porno-bijatyki-i-pijatyki-dlaczego-bycie-patostreamerem-jest-pociagajace-wywiad.html>.
- Rymsza, Marek. 2007. "Pedagogika ulicy – praktyczne doświadczenia i dylematy metodologiczne [Street Pedagogy: Practical Experiences and Methodological Dilemmas]." *Problemy Opiekuńczo-Wychowawcze* 3 (546): 17–22.
- Sowińska, Bożena. 2010. "Miejsce Internetu w życiu młodzieży ponadgimnazjalnej [The Place of the Internet in the Lives of Upper-Secondary School Students]." In *Internet a relacje międzyludzkie [The Internet and Interpersonal Relationships]*, edited by Elżbieta Laskowska and Mariusz Kuciński, 169–200. Wydawnictwo Uniwersytetu Kazimierza Wielkiego.
- Stępiak, Krzysztof. 2012. "Internet – wirtualny przyjaciel czy realny wróg? [The Internet: A Virtual Friend or a Real Enemy?]" *Warmińsko-Mazurski Kwartalnik Naukowy, Nauki Społeczne* 3: 45–56.
- Tomaszewska, Hanna. 2012. *Młodzież, rówieśnicy i nowe media: Społeczne funkcje technologii komunikacyjnych w życiu nastolatków [Young People, Peers, and New Media: The Social Functions of Communication Technologies in the Lives of Teenagers]*. Wydawnictwo Akademickie Żak.

- Wasiołka, Sebastian. 2010. „Syndrom łatwości życia” [The „Easy Life” Syndrom]. *Edukacja i Dialog* 1: 69-71.
- Wrótniak, Joanna. 2018. “Portale społecznościowe w edukacji współczesnej młodzieży [Social Media in Education of Contemporary Adolescents].” *Edukacja – Technika – Informatyka* 3 (25): 178–183.
<https://doi.org/10.15584/eti.2018.3.25>.