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Internet Society and Global Culture. Revision of Interdisciplinary Project at Opole University of Technology

An interdisciplinary project “Internet society and global culture” was conducted by the Faculty of Economics and Management of the Opole University of Technology, in 2012-2020. The idea lead to exam the relationships between various areas of global culture inscribed in virtual space. Researchers considered human functioning regarding online safety, risks and benefits of using the Internet, exclusion of “offline people” and especially young users. Different institutions were reviewed: schools, libraries, churches, banks, shops, etc.

The result of the joint meetings was the creation of six monographs: “Internet society and global culture. Legal and cultural aspects of human functioning in virtual reality”, “Internet society and global culture”, “Church on the Internet – Internet in the Church: Internet society and global culture”, “Internet and modern economy”, “Internet society and global culture. Young user on the web. Part 2”, “Internet society and global culture. New media in education as a challenge of the 21st century”. The project was directed primarily to young people for whom the virtual world has become a permanent part of their life, study and work. Globalization is an irreversible process that brings benefits but also brings threats (e.g. climate change). It was very important that teachers, entrepreneurs and representatives of public administration participated in the project together with the students. The topic has become particularly important in connection with the Covid-19 pandemic and its limitations.

Key words: Internet, new media, globalization, education, youth, scientific projects, Poland.

Інтернет-суспільство та глобальна культура.

Ревізія міждисциплінарного проєкту в Опольському технологічному університеті

Міждисциплінарний проєкт «Інтернет-суспільство та глобальна культура» був проведений Факультетом економіки та менеджменту Опольського технологічного університету у 2012-2020 роках. Ідея проєкту спрямовувалася на вивчення відносин між різними сферами глобальної культури, вписаними у віртуальний простір.

Проєкт мав міждисциплінарний характер, пов’язаний із інтересами студентів, викладачів та батьків. Дослідники розглянули функціонування людини щодо безпеки в Інтернеті, ризиків та переваг використання Інтернету для «автономних людей» і особливо молодих користувачів. Були розглянуті різні установи: школи, бібліотеки, церкви, банки, магазини тощо. Економісти, підприємці, представники влади та місцевої адміністрації показали молоді, як швидко та якісно виконувати службові справи, платити податки, робити покупки.

Віртуальна реальність стала невід’ємною частиною життя людини. Пандемія Covid-19 і переведення всієї офлайн-діяльності в онлайн-активність показали, що навчання, робота та задоволення від культури можуть відбуватися в такій формі. Дослідження та звіти на цю тему в основному стосуються оцінювання онлайн-навчання студентами, думок про проведені заняття, дидактичні методи та виконання навчальної програми. Важливим є також аспект, пов’язаний з психічним і фізичним станом молоді та її поверненням до денної форми навчання. Пандемія також вплинула на забезпечення комп’ютерами шкіл та домогосподарств, і показники

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електронних покупок зросли. Суспільству довелося навчитися користуватися послугами електронного уряду. Це також показало недоліки цифрових навичок поляків. Вчителі, діти, студенти, учні, старші почали функціонувати в іншій реальності, для когось дуже складній.

У проєкті взяли участь понад 100 дослідників з усієї Польщі. Він складався з шести тематичних конференцій та публікацій після конференцій. У зустрічах також брали участь вчителі та учні загальноосвітніх шкіл. Проєкт був адресований насамперед молодим дослідникам та студентам, які брали активну участь у проєкті. Представлений проєкт досі є активним полем для дослідження глобального суспільства в контексті віртуального медіапростору. Адже сьогодні віртуальний світ переступив черговий поріг свідомості, дуже інтенсивно проникаючи в усі сфери нашого життя.

Ключові слова: Інтернет, нові медіа, глобалізація, освіта, молодь, наукові проєкти, Польща.

Introduction

The virtual network popularly called the “Internet” dates back of the early 1990s. The first home page in Poland was registered in 1993, and in 1995 a website “Wirtualna Polska” started as the nationwide online information service. Since then, improvements to this global medium rapidly emerged. It is considered today as one of the most epochal inventions of humanity.

In connection with the development of the Internet, valuable initiatives aim to consciously use global information resources and “organize” in various aspects. One of them is the “Safer Internet Day”, started in 2007. Its initiator is the European Commission, and the goal is a safe access to global online resources of children and young people.

In Poland, users already have numerous security options, addressed primarily to parents and caregivers of the youngest. By installing the appropriate software, we can comprehensively protect ourselves from unwanted content, such as pornography, profanity, violence, etc. One of such programs is “Student's Guardian” (“Strażnik ucznia”)³.

The positive aspect of the network's society is “netiquette” – a set of rules on the Internet, including, e.g. a ban on sharing “chains of luck” or on provoking arguments. The goal is to build a society without borders, but with a certain ethical norm. Some examples of behaviors that do not comply with such rules are: e.g. “trolling” – influencing the user to ridicule or insult, or provoking a quarrel; “flooding” – sending identical messages in quick succession, “spamming” – sending unnecessary messages, “offtoping” – arguments not connected to the topic matters. The rules of “netiquette” are to serve everyone equally. Everyone must remember that nobody is completely anonymous on the Internet⁴.

Analysis of research on the problem

According to scientists, the young generation, especially those born after 2000, do not know the reality without the Internet, without access to a computer or other mobile devices. For them, the virtual world has become an integral part of professional and private life. It is a generation to which a series of studies on their behavior in the labor market and the adaptation of their needs to the requirements of employers have been devoted⁵. This is a generation that will combine work and private life without

³ Kalczyńska, M., Rajchel, A. (2018), Społeczeństwo internautów a kultura globalna. Młody użytkownik w sieci, cz. 2 (2018), Oficyna Wydawnicza Politechniki Opolskiej, Opole, pp. 5-7.

⁴ Stamm, A. (2018), Flame wars, trolling, drama, hating – zachowania niezgodne z netykietą. Przykład portalu YouTube, [w:] Kalczyńska, M., Rajchel, A. (eds), Społeczeństwo internautów a kultura globalna. Młody użytkownik w sieci, cz. 2, Oficyna Wydawnicza Politechniki Opolskiej, Opole, pp. 25-37.

⁵ Żarczyńska-Dobiesz, A., Chomątowska, B. (2014), Pokolenie „Z” na rynku pracy-wyzwania dla zarządzania zasobami ludzkimi, *Prace Naukowe Uniwersytetu Ekonomicznego we Wrocławiu*, nr 350, pp. 405-415; Muster, R. (2020), Pokolenie „Z” na współczesnym rynku pracy w opiniach pracodawców, *Humanizacja pracy*, nr 1, pp. 131-146, https://rebus.us.edu.pl/bitstream/20.500.12128/13825/1/Muster_Pokolenie_Z_na_wspolczesnym_rynku_pracy_w_opiniach_pracodawcow.pdf, access May 9th, 2021; Messyasz, K. (2021), Pokolenie Z na rynku pracy – strukturalne uwarunkowania i oczekiwania, *Acta Universitatis Lodziensis. Folia Sociologica*, nr 76, pp. 97-114; Arora, N., Dhole, V. (2019), Generation Y: Perspective, engagement, expectations, preferences and satisfactions from workplace; a study conducted in Indian context, *Benchmarking An International Journal* 26(5), pp. 1378-1404.

harming these areas⁶.

They use e-shopping, e-education (which was exacerbated by the Covid-19 pandemic), e-administration or e-taxes on a daily basis⁷. They are open to changes, operative, and know foreign languages. However, incompetent use of the Internet also poses a number of threats, such as Internet addiction, access to content promoting behavior inconsistent with the applicable Polish, European and international law, content showing violence, promoting racist, xenophobic behavior, referring to well-established stereotypes or prejudices⁸. Young people are not always aware of the real dangers in the virtual world.

The Constitution of the Republic of Poland of 1997 in article 72 paragraph 1 states that "The Republic of Poland ensures protection of children's rights. Everyone has the right to demand that the organs of public authority protect the child against violence, cruelty, exploitation and demoralization"⁹. This means that every institution or public authority has a duty to ensure the safety of children and young people in the global network.

The Office of Electronic Communications has published a guide for parents and teachers entitled „I'm clicking consciously“ („Klikam z głową“). According to the authors, in Poland, "only every second parent uses parental control in the context of the child's use of the Internet. This percentage decreases with increasing age of children (7-9 years – 59.7%, 10-12 years – 52.2%, 13-15 years – 31.7%)¹⁰.

In Poland, the basic legal acts related to cybersecurity include:

1. Act of July 5th, 2018 on the national cybersecurity system, Dz.U. 2018 item 1560.
2. Regulation of the Council of Ministers of October 2nd, 2018 on the scope of activities and working procedures of the College for Cybersecurity, Dz.U. 2018, No. 2018 item 1952.
3. Regulation of the Minister of Digitization of December 4th, 2019 on organizational and technical conditions for entities providing cybersecurity services and internal organizational structures of key service operators responsible for cybersecurity, Dz.U. 2019, item 2479.

An important Polish legal act in the field of online security is Resolution No. 125 of the Council of Ministers of October 22nd, 2019 on the Cybersecurity Strategy of the Republic of Poland for 2019-2024, which defines "strategic goals and appropriate political and regulatory measures to obtain high level of cybersecurity (...)"¹¹. The main goal of the Strategy is:

- increasing the level of resistance to cyber threats and

⁶ Robak, E. (2017), Expectations of generation Y connected with shaping the work-life balance. The case of Poland, *Oeconomia Copernicana*, Vol. 8, No 4, pp. 569–584; Pinzaru, F., Vatamanescu, E.M., Mitan, A., Savulescu, R., Vitelar, A., Savulescu, R., Noaghea, C., Balan, M. (2016), Millennials at Work: Investigating the Specificity of Generation Y versus Other Generations, *Management Dynamics in the Knowledge Economy*, Vol.4, No. 2, pp.173-192; Mendryk, I. (2015), Employees of Generation Y – Their Profile Based on Research Results, *International Journal of Synergy and Research* 4(2), pp. 75-86.

⁷ Olszewska, K. (2020), Znaczenie e-learningu we współczesnej edukacji, *Zeszyty Naukowe Politechniki Częstochowskiej. Zarządzanie*, nr 37, pp. 48-63; Łangowska-Marcinowska, K. (2020), Nauczanie zdalne (e-learning) cechą nowoczesnych technologii w edukacji, *Pedagogika Przedszkolna i Wczesnoszkolna*, Vol. 8, pp. 63-69.

⁸ Wójcik, S. (2017), Zagrożenia dzieci i młodzieży w internecie, *Dziecko krzywdzone. Teoria, badania, praktyka*, Vol.16, Issue 1, pp. 270-287; Piechna, J. (2019), Szkodliwe treści w Internecie. Nie akceptuję, reaguję! Poradnik dla rodziców, Nask Akademia, https://akademia.nask.pl/publikacje/Szkodliwe%20tre%20C5%9Bci%20w%20internecie_www.pdf, access May 9th, 2021; Farrukh, A., Sadwick, R., Villasenor, J. (2014), Youth Internet Safety: Risks, Responses, and Research Recommendations, Center for Technology Innovation at Brookings, https://www.brookings.edu/wp-content/uploads/2016/06/youth-internet-safety_v07.pdf, access May 9th, 2021, pp. 1-18; Machimbarrena, J., M., Calvete, E., Fernández- González, L., Álvarez- Bardón, A., Álvarez - Fernández, L., González- Cabrera, J. (2018), Internet Risks: An Overview of Victimization in Cyberbullying, Cyber Dating Abuse, Sexting, Online Grooming and Problematic Internet Use, *International Journal of Environmental Research and Public Health*, Vol. 15, Issue 11, pp. 2-15.

⁹ Konstytucja Rzeczypospolitej Polskiej z dnia 2 kwietnia 1997 r., Dz.U. 1997 nr 78 poz. 483 z późn. zm.

¹⁰ Klikam z głową. Poradnik dla rodziców i nauczycieli, Urząd Komunikacji Elektronicznej, https://cik.uke.gov.pl/download/gfx/cik/pl/defaultaktualnosci/130/18/24/poradnik_klikam_z_glowa.pdf, access December 4th 2021.

¹¹ Uchwała nr 125 Rady Ministrów z dnia 22 października 2019 r. w sprawie Strategii Cyberbezpieczeństwa Rzeczypospolitej Polskiej na lata 2019–2024, p. 6.

• increasing the level of information protection in the public, military and private sectors and promoting knowledge and good practices enabling citizens to better protect their information¹².

The rules of online trading are regulated, among others, by

1. The Act of May 30th, 2014 on Consumer Rights, Dz.U. 2014 item 827 with later amendments.
2. The Act of July 18th, 2002 on the provision of electronic services, Dz.U. 2002, No.144, item 1204 with later amendments.
3. Act of May 10th, 2018 on the protection of personal data, Dz.U. 2018 item 1000 with later amendments.
4. Regulation (EU) 2019/1150 of the European Parliament and of the Council of June 20th, 2019 on promoting fairness and transparency for business users using online intermediation services.

The Internet, like any tool, has its advantages and disadvantages, which is always worth discussing. The subject of the globalizing society makes young people aware of their potential and real dangers. Tendencies occurring in contemporary society are increasingly based on the virtual world of new media.

Description of the project

On the initiative of the Faculty of Economics and Management of the Opole University of Technology, in 2012-2020 an interdisciplinary project was conducted. The idea led to exam the relationships between various areas of global culture inscribed in virtual space.

Researchers and science adepts considered human functioning in global space, referring to: law, ethics, culture, theology, economy, management, information science, bibliology, linguistics, security, social communication, psychology, art and broadly understood education.

The following questions were asked: how to protect and secure users of the virtual world with particular emphasis on children and youth, what are the risks and benefits of using the Internet, how to deal with the exclusion of people not adapted to the virtual world. A lot of space was devoted to young users who was implied in the world of modern media starting from birth¹³. Different institutions were reviewed, as inscribed in the development of new media communication, among others: schools, libraries, churches, banks, shops, etc. In the face of socio-economic and cultural changes new perspectives for e-education were discovered. Also they tried to identify the type of the modern Internet user.

The project was attended by over 100 researchers from all over Poland, representing scientific centers such as: Opole, Poznań, Dąbrowa Górnicza, Wrocław, Warsaw, Szczecin, Zabrze, Katowice, Rzeszów, Łódź, Kraków and others. Headmasters and secondary school teachers from Opole also participated in the meetings.

Post-conference publications covered such topics as: young user on the web, legal and cultural aspects of human functioning in virtual reality, Internet and modern economy, new media in education as a challenge for the 21st century. The publications featured 78 articles, of which 4 (in part II) were written by high school students from Opole.

An interesting initiative was the invitation of high school students, who discussed the pros and cons of using the global network, presented what means darknet and e-voting, referred to the avatars, trolling, identity of the X, Y and Z generation, etc. Many perceptions of high school students were included in subsequent editions of the project, which resulted in a broader approach to the subject. It is noteworthy that Opole high school directors and teachers also participated in these scientific meetings.

The project "Internet society and the global culture. A young user on the web" concerned aspects of the Internet functioning in global culture, including: social network as a new form of virtual community organization, the role of the Internet in education of high school youth, building the online appearance of Polish universities, online violence and protection of young users.

Researchers also referred to topics related to the economy in the Internet era, including: the Internet and the green economy, development of e-services in Poland, e-commerce as a supplement to traditional retail sales, online recruitment process, the current directions of socio-economic development in terms of the perspective of e-education development, the use of information and communication tech-

¹² Ibidem, p. 8.

¹³ Włoga, M. (2020), *Dzieci w sieci*, *Niedziela*, 21 January, 52, <https://www.niedziela.pl/artukul/146645/nd/Dzieci-w-sieci>, access May 9th, 2021.

nologies in Polish households. Also it referred to the European area of online communication, analysis of user behavior based on research of British scholars, media of Polish community in Canada, etc.

The main subject of the study was to observe the behavior of young users in the virtual world. Topics related to the sphere of young threats on the web were discussed in detail: netiquette, illegal trade, online piracy, pros and cons of using a smartphone, personal data protection, privacy awareness, ways of speaking on the network and the problem of online credibility.

The topic of new media in 21st century education referred to the quality of education through new media channels. Related topics also included: social exclusion, e-learning and digital threats. The role of libraries in shaping the Internet society was also analyzed: ways of communication with users through social media and a wide range of e-resources that libraries propose to their readers (enduring value and power of community, information, and accessibility). There were also threads about overcoming barriers in virtual space, the senior's place in the network and upbringing into Christian values through social media.

The project was addressed primarily to young researchers of the virtual world and students who were personally and actively involved in the implementation of the initiative. The inspiration for the project were contemporary phenomena taking place in the social space, as it acquired a special attribute in the second decade of the 21st century. As we know, the environment always strongly affects the living conditions of modern man, seeking the best solutions for various solutions.

Project assumptions

From the mid-90s of the 20th century, in the scientific methodology began to function the term “internet community identical with the virtual community, network community (virtual community, e-community, online community)”¹⁴. It is a community of people in which interactions take place via the Internet (tools for establishing communication)¹⁵.

In Poland, the researchers started to focus on a broader scientific view of this phenomena recently. We dare to say that it caused the events related to the ACTA movement in 2012. “The network society, just like the consumer society before, gained many supporters and opponents, and the term itself indicates how much the role is attributed to the development of the Internet”¹⁶.

In defining the network society, we must also refer to broadly understood culture in a global sense. In this case, contemporary culture is strongly correlated with virtual reality. The world around us is shaped by the development of media (mainly virtual)¹⁷.

The essence of the project was to look for a correlation between virtual education and the development of a network society. This has gained significance in the era of global pandemics in 2020¹⁸. Therefore, the challenges for the global society members has been confirmed by practicing awareness for permanent education in order to adapt to the rapid development of knowledge and access to information (especially through new media).

The term “education” in the sense of virtual resources, means upbringing of young people entering adult life. School institutions adapt them to applicable educational norms and principles. The teaching system should assume subordination, succession and continuity towards current development. Technological progress should adjust the knowledge transfer to the needs of the recipient. It can therefore be concluded that the basis for success in modern education is the use of appropriate methods that combine innovation and efficiency in the transfer of knowledge¹⁹.

¹⁴ Maigret, E., (2012), *Socjologia komunikacji i mediów*, Oficyna Naukowa, Warszawa, pp. 418-419.

¹⁵ Szpunar, M., (2004), *Społeczności wirtualne jako społeczności - próba ujęcia socjologicznego*, [w:] Radochański, M., Przywara, B. (eds), *Jednostka-grupa-cybersieć. Psychologiczne, społeczno-kulturowe i edukacyjne aspekty społeczeństwa informacyjnego*, Wyższa Szkoła Informatyki i Zarządzania, Rzeszów, pp. 157-184.

¹⁶ Maigret, E., (2012), *op.cit.*, p. 419.

¹⁷ Stadniczeńko, S., (2013), *Informacja i komunikacja wyznacznikiem obecnego wieku*, [w:] Kalczyńska, M., Majos, M., Malinowski, P., (eds), *Społeczeństwo internautów a kultura globalna. Prawno-kulturowe aspekty funkcjonowania człowieka w wirtualnej rzeczywistości*, Oficyna Wydawnicza Politechniki Opolskiej, Opole, pp. 13-30.

¹⁸ Mucha, W., (2020), *Wirus w sieci*. *Gazeta Polska*, 15 kwietnia, <https://www.gazetapolska.pl/22100-wirus-w-sieci-czyli-opetani-przez-covid-19>, accessed: 9.05.2021, pp. 54-55.

¹⁹ Kalczyńska, M., Rajchel, A., Jędrzejewska, M. (2019), *op.cit.*, p. 5.

During the learning process, students should be able to use knowledge in order to acquire the will for self-education and to reach for it voluntarily. Competent educators from state institutions as well as other non-school instructors should prepare them for this task.

Many researchers evaluate the behavior of subsequent generations, today called X, Y, and Z. Each of them is characterized by specific behavioral features correlated with technical and economic progress. Which was reflected in a seamless adjustment to the requirements of, among others e-education and the dissemination of mobile applications useful in security systems and in many other areas²⁰.

However, the dynamic development of the Internet began only in the early 1990s. At that time, households were able to use the network. The global web spread around the world and it is present in every area of our lives. The development of information and communication technologies has given a pace to the global economy. The turn of the 1980s and 1990s is described by economists as the beginning of the fifth business cycle of Kondratieff²¹.

Access to hi-tech equipment, development of digital skills and competences of children, youth and seniors is the basic determinant of the socio-economic development of the country. Digital competences are also one of the key skills in the field of “critical and responsible use of digital technologies and their use for education, work, etc.” as states the Council Recommendation of 22 May 2018 on key competences for lifelong learning²². This is important for shaping the learning process of the young generation of Poles entering professional work. New professions requiring digital skills and systematic improvement of knowledge are emerging and will appear on the Polish, European and global labor market. *Table 1* shows examples of new professions in which skills related to data processing, graphic design etc. will be necessary.

Table 1

Examples of new professions

| Profession | Profession description |
|--------------------------|--|
| Personal shopper | Personal shopping assistant. They usually help to shop for a person who needs it. They stylize and make purchases ²³ . |
| Wedding planner | A person who plans weddings and wedding receptions ²⁴ . |
| Fundraiser | They raise funds – complete applications, obtain donations, co-financing, etc ²⁵ . |
| Personal Data Broker | They monitor and trade customer personal data on specially created data exchanges ²⁶ . |
| Personal finance trainer | Financial help coaches keep track of all digital transactions and advise how to make the most of the capital ²⁷ . |
| Garbage Designer | They are looking for the use of already used materials, and even redesigning the offer of the entire company – so that its products are easy to process for others ²⁸ . |
| Urban Shepherd | An employee who will take care of green infrastructure: urban beehives, vertical garden design ²⁹ . |

²⁰ Lechowicz, N., Piłkuła, D. (2014), Pokolenie Z- czyli jak Internet kształtuje nowe pokolenie. Implikacje dla systemu edukacji i metod wychowawczych, [w:] Kalczyńska, M., Rajchel, A. (eds), Społeczeństwo internautów a kultura globalna. Młody użytkownik w sieci, Oficyna Wydawnicza Politechniki Opolskiej, Opole, pp. 91-102.

²¹ Górka, K., Łuszczak, M. (2013), Współczesne tendencje rozwoju gospodarczego regionu w kontekście teorii cykli koniunkturalnych, *Studia Komitetu Przestrzennego Zagospodarowania Kraju PAN*, tom 155, p. 87.

²² Zalecenie Rady z dnia 22 maja 2018 r. w sprawie kompetencji kluczowych w procesie uczenia się przez całe życie (Tekst mający znaczenie dla EOG) (2018/C 189/01), [https://eur-lex.europa.eu/legal-content/PL/TXT/PDF/?uri=CELEX:32018H0604\(01\)&from=en](https://eur-lex.europa.eu/legal-content/PL/TXT/PDF/?uri=CELEX:32018H0604(01)&from=en), dostęp 9 maja 2021, p. 7.

²³ Szymczyk, J (2020), Nowe zawody – czym zajmują się ich przedstawiciele?, <https://poradnikpracownika.pl/nowe-zawody-czym-zajmuja-sie-ich-przedstawiciele>, access May 9th, 2021.

²⁴ Ibidem.

²⁵ Ibidem.

²⁶ Cakebread, C. (2018), Roboty nie tylko zabiorą pracę człowiekowi, ale też ją stworzą. Oto zawody przyszłości, *Business Insider* 3 sierpnia 2018, <https://businessinsider.com.pl/technologie/nowe-technologie/jakie-beda-zawody-przyszlosci/7eb94xt>, access May 9th, 2021.

²⁷ Ibidem.

²⁸ Łyczko, N. (2018), Osobisty kurator cyfrowy zamiast strażaka? Te osiem zawodów już wkrótce mogą wybrać nasze dzieci, 18 kwietnia 2018, <https://wspolczesnarodzina.pl/zawody-przyszlosci-manager-smierci-cyfrowej/>, access May 9th, 2021.

A dynamic labor market, building an information society requires curriculum and teachers adaptation in primary, secondary and higher schools to these change, especially regarding vocational course of study. The emergence of new professions is associated with the appropriate adjustment of the number of hours in computer science to the needs of students. In Poland, this subject is not compulsory to take as for the matriculation examination. It is primarily associated with further education plans. Chart 1 shows the number of students in Poland who took the matriculation exam in computer science according to reports on the matriculation exam from the Central Examination Commission in Poland 2017, 2018 and 2019³⁰.

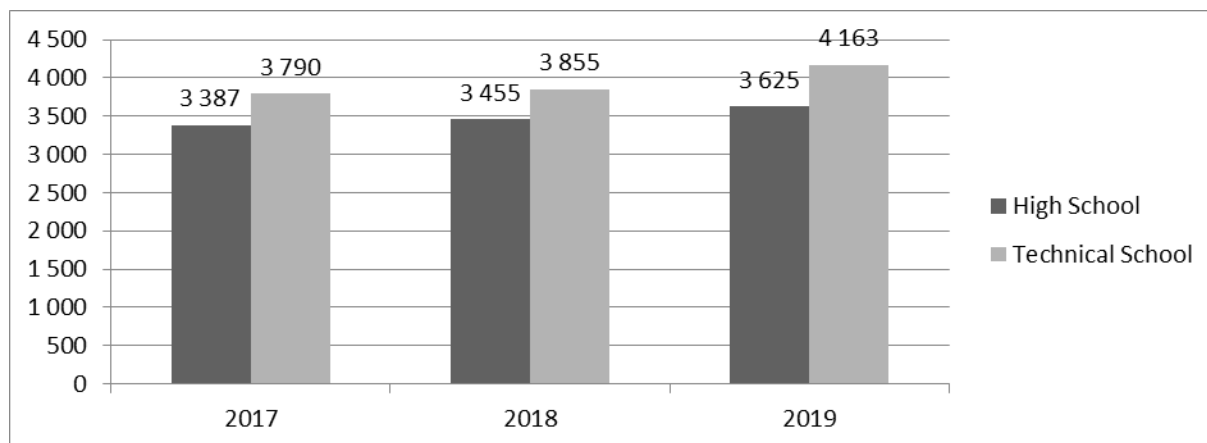


Chart 1. The number of students taking a matriculation examination in computer science in 2017-2019

In high schools, the number of students passing the matriculation examination in computer science in the years 2017-2019 was over 3,000. This is a relatively stable state. However, the number of students passing the computer science exam in technical schools increased. In 2019, it amounted to over 4,000. Compared to 2017, this number increased by 373 people. In 2019, computer science at the extended level was taken by 8,179 people. Among students this is not a very popular subject because it is time consuming – the exam is divided into two parts. First part is a test and it lasts 60 minutes. Second is to perform tasks using a computer. This exam is considered difficult by students.

Another important issue raised during the project was the frequency of Internet use by Polish youth and the information they obtain from the network. For students, the global network is a meeting place with friends or an online store with various assortments. The Internet is used for medical, psychological and other advice. It is a scientific aid, place of entertainment, exchange of views³¹.

The report from the Polish nationwide survey of students “Teenagers 3.0” conducted by the NASK National Research Institute in 2018/2019 among 1173 students from 55 schools in Poland (primary schools, junior high schools, general high schools) shows that:

²⁹ Łyczko, N. (2018), *Osobisty kurator cyfrowy zamiast strażaka?*

³⁰ Wyskwar, A., Kordas-Łata, A. (oprac.), *Sprawozdanie z egzaminu maturalnego 2017. Informatyka*, Centralna Komisja Egzaminacyjna, available at: https://cke.gov.pl/images/_EGZAMIN_MATURALNY_OD_2015/Informacje_o_wynikach/2017/sprawozdanie/Sprawozdanie%202017%20-%20Informatyka.pdf, (accessed 9.05.2021), p. 3; Arcimowicz, I. (oprac.), *Sprawozdanie z egzaminu maturalnego 2018. Informatyka*, Centralna Komisja Egzaminacyjna, available at: https://cke.gov.pl/images/_EGZAMIN_MATURALNY_OD_2015/Informacje_o_wynikach/2018/sprawozdanie/Sprawozdanie%202018%20-%20Informatyka.pdf (accessed 9.05.2021), p. 3; Arcimowicz, I., Szafrńska, I. (oprac.), *Sprawozdanie z egzaminu maturalnego 2019. Informatyka*, Centralna Komisja Egzaminacyjna, available at: https://cke.gov.pl/images/_EGZAMIN_MATURALNY_OD_2015/Informacje_o_wynikach/2019/sprawozdanie/Sprawozdanie%202019%20-%20Informatyka.pdf, (accessed 9.05.2021), p. 3.

³¹ Rajchel, A. (2014), *Internet – wróg czy przyjaciel ucznia w nowoczesnej szkole* (na podstawie badań własnych, [w:] Kalczyńska, M., Rajchel, A. (eds), *Spółczesność internautów a kultura globalna*, Oficyna Wydawnicza Politechniki Opolskiej, Opole, pp. 65-74.

- Nearly 96% of respondents declared using the network every day. Occasional use of the Internet (“several times a week” or “several times a month”) was declared by less than 4% of respondents.
- Almost every teenager in Poland is online every day, regardless of age, type of school and gender.
- Students start using the network independently before starting primary school (average age of initiation is around 6 years and 10 months).
- Time spent on using the internet increases with age: young people in high schools declared being more often online than primary or junior high school students,
- As the most common forms of online activity, teens indicated the consumption of entertainment and cultural content (music, movies and series, video games) and communication related to social life (contacts with friends, using social media).
- Half of the respondents (50.6%) declared that they use the internet resources to do homework, while only every fifth student (21.2%) said that they use the Internet to prepare for class or test.
- Girls more often than boys used social networking sites and contacted friends / family via messengers. Boys were much more likely to play online games.
- Respondents most often used the Internet at home (95.4% of responses). As much as 60% used the network during travel, communication and transport (e.g. on the way to school). Nearly half of the respondents (41.2%) declared that they use the Internet at school.
- The most popular social networks were YouTube and Facebook, followed by Snapchat and Instagram. Not popular were Twitter or Nasza Klasa (nk.pl)³².

Students often use the Internet for activities incompatible with the school functioning. They use the network resources without the teachers' consent during tests or classes although the school rules state otherwise.

Polish youth often and willingly uses the resources of a global network by spending many hours in front of a screen. However, this does not always translate into specific digital skills³³. In connection with this, a project of the “Digital Competence Development Program up to 2030”. The project marked “Polish students have gaps in five thematic areas defined by the European Union. Those are: “information and media literacy, content creation, problem solving, responsible use, communication”³⁴.

Frequent use of the computer and the Internet is not synonymous with mastery of digital skills by young people or adults. It was also widely analyzed in the project. Therefore, it was concluded that the school should be carrying out activities enabling students to interact with the computer on all of the lessons.

Equipping Polish households with computer equipment is another issue. According to statistical surveys from the Statistics Poland and Statistical Office in Szczecin³⁵, sum up in chart 2, the number of households equipped with computers is increasing in Poland.

³² Nastolatki 3.0. Raport z ogólnopolskiego badania uczniów (2019), Bochenek, M., Lange, R. (eds), NASK Państwowy Instytut Badawczy, Warszawa, https://akademia.nask.pl/publikacje/RAPORT_NASTOLATKI_3_ONLINE_.pdf, access May 9th, 2021, pp. 9, 10, 12, 13, 19-20.

³³ Rajchel, A. (2019), *Cyfrowe wykluczenie polskiej młodzieży XXI. Prawda czy mit?* [w:] Kalczyńska, M., Rajchel, A., Jędrzejewska, M. (eds), *Społeczeństwo internautów a kultura globalna. Nowe media w edukacji wyzwaniem dla XXI wieku*, Oficyna Wydawnicza Politechniki Opolskiej, Opole, pp. 27-42; Raport Edu-Tech 2016. Nowe technologie w świecie edukacji, Edutorial.pl, <https://edutorial.pl/wp-content/uploads/2016/09/raport-edu-tech-2016.pdf>, access May 9th, 2021.

³⁴ Program rozwoju kompetencji cyfrowych do roku 2030. Projekt (2019), <https://docplayer.pl/190215528-Program-rozwoju-kompetencji-cyfrowych-do-roku-2030.htm>, access May 9th, 2021, p. 31.

³⁵ Społeczeństwo informacyjne w Polsce. Wyniki badań statystycznych z lat 2015–2019, Główny Urząd Statystyczny, Urząd Statystyczny w Szczecinie, Warszawa, Szczecin 2019, <https://stat.gov.pl/obszary-tematyczne/nauka-i-technika-spoleczenstwo-informacyjne/spoleczenstwo-informacyjne/spoleczenstwo-informacyjne-w-polsce-wyniki-badan-statystycznych-z-lat-2015-2019,1,13.html>, access May 9th, 2021, p. 143.

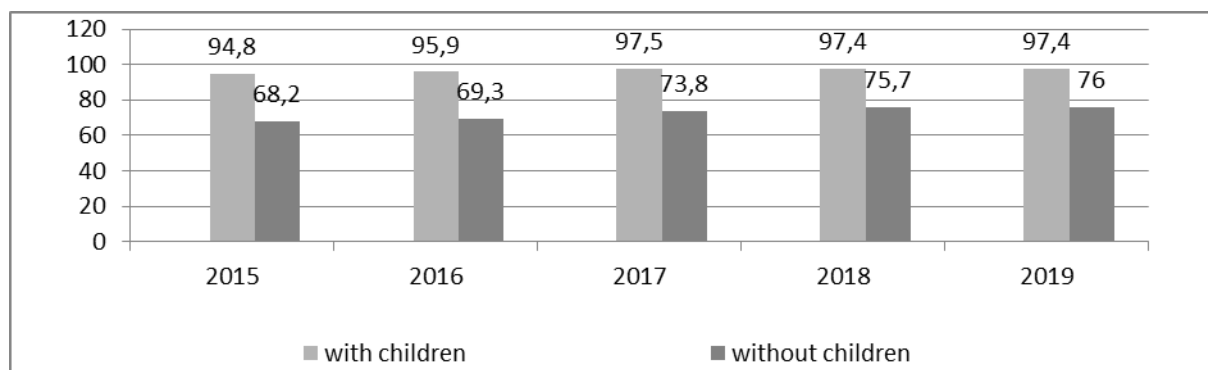


Chart 2. The number of households with computers due to the type of households in 2015-2019

In households with children, since 2015 the level of computer equipment was above 90%. It has remained stable since 2018 – 97.4%. When analyzing statistical data, it is also worth paying attention to households without children. From 2015, equipping this type of households with computer equipment has been growing systematically and in 2019 amounted to 76%. This situation can arise for several reasons. First of all, more and more people want to work remotely. According to “The Remote Future Report. The remote work market and the expectations of employees” carried out by M. Grygier for Kantar TNS on a sample of 600 working people aged 20-60 and supplemented by a qualitative study in which HR department employees took part, showed that:

1. 1/3 of respondents declared their employers offer to work remotely. 76% of people who have this privilege have confirmed its use at least once in a while.
2. Among this group, about 1/3 employees work remotely up to 5 days a month, and 34% work remotely all the time.
3. Almost 70% of respondents said their employers do not allow remote work or do not inform that such a possibility exists. Over half of this group (51%) declared that they would work remotely if such a possibility appeared.
4. 52% of these people said they would like to work remotely for the vast majority of time, and 1/3 of them declared they would like to work remotely up to 10 days a month.
5. Persons up to 34 years old often declare that their companies enable remote work because of their requests. Almost half of them claim they work remotely up to 5 days a month.
6. 95% of respondents who had the opportunity to work remotely, positively assess such way of working³⁶.

Another reason for the presence of computers at households is online shopping (Gemius in 2019).

1. 62% of Internet users bought online 6% more than a year ago (56% in 2018, 54% in 2017).
2. The most popular device that Poles used when buying online was a laptop (74%), although it was a downward trend (in 2018 it was 82%).
3. Sales via mobile channels were getting better – 61% of people bought via smartphones (3% jump compared to 2018), and 27% on tablets (6% jump compared to 2018).
4. 64% of Poles buying online were under 34 years old.
5. Interest in online stores has grown significantly in older groups. People 50+ accounted for over ¼ of online shoppers (26% – an increase of 14% compared to 2018), and Internet users of age 35-49 – more than 1/3 (32%) (an increase of 7% compared to 2018).

6. E-shopping invariably remains the domain of people with at least secondary education (72%) living in cities with up to 200,000 inhabitants (45%)³⁷.

Thirdly, Poles are more and more willing to use e-administration. According to Statistics Poland (2019) the percentage of people aged 16-74 using these online services in 2019 was 40.4%, which is 4.9% more than in the previous year.

³⁶ The Remote Future. Rynek pracy zdalnej a oczekiwania pracowników. Edycja polska 2018, Grygier, M., (eds), <http://branden.biz/wp-content/uploads/2018/06/The-Remote-Rnek-pracy-zdanej.pdf>, access May 9th, 2021, p. 7.

³⁷ E-commerce w Polsce 2019. Najnowszy raport Gemius już do pobrania!, <https://www.gemius.pl/wszystkie-artykuly-aktualnosci/raport-e-commerce.html>, access May 9th, 2021.

An additional difficulty are Polish households with computer equipment depending on the place of residence according to Statistics Poland, Statistical Office in Szczecin³⁸ (chart 3).

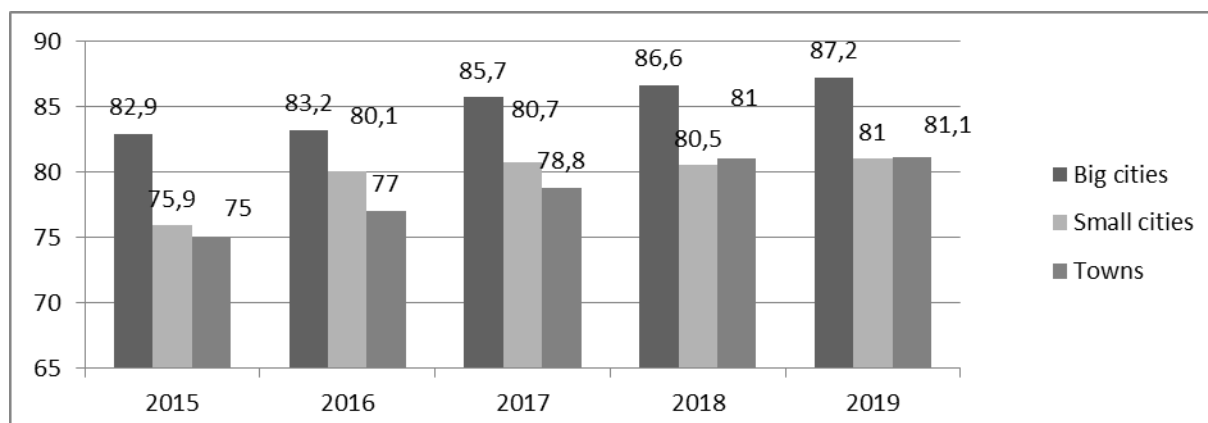


Chart 3. Households' equipment with computer hardware, in relation to the place of residence

Since 2017, the computer equipment ratio in large, smaller and small cities has been over 80%. Noticeable progress was visible in the case of smaller and small towns. In 2015, access to computers in smaller cities was over 75%, in 2019 it was over 80%. In small towns in 2015, 75% of households were equipped with computers. In 2019 it amounted to over 80%.

Chart 4 shows the households with computer equipment depending on location in Poland.

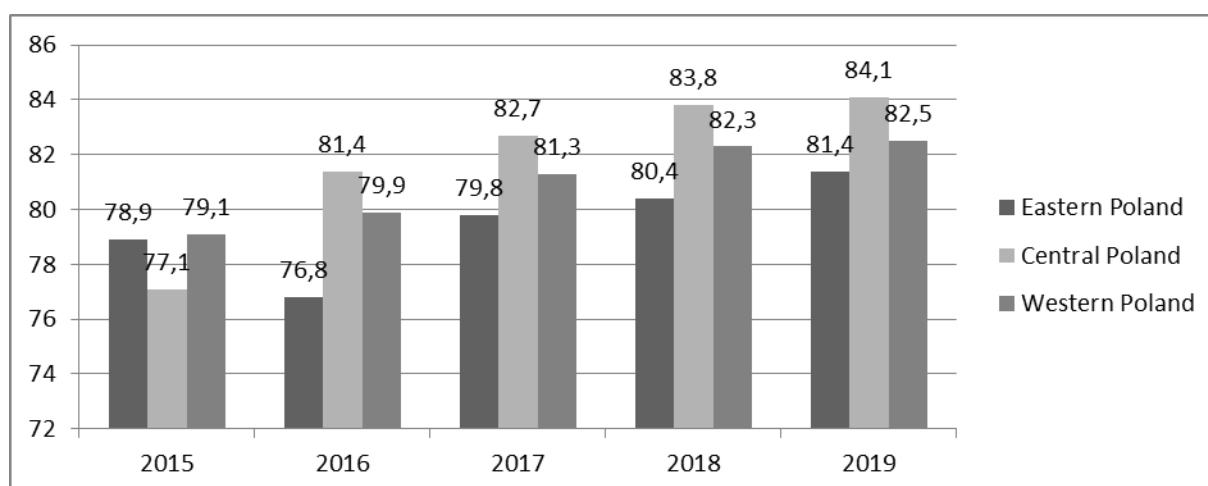


Chart 4. The households with computer equipment depending on location in Poland

Most often, household members in the central part of the country had access to a computer at home (84.1%). The level of equipment in computers in eastern Poland was by 2.7% lower than in central Poland³⁹.

During the COVID-19 pandemic, all data in 2020 increased significantly. The degree of computerization had to keep up with the requirements of the current state of higher social necessity. The expression of this was the introduction of e-learning in all types of schools, virtual contact with the health service, e-administration, banking, postal services and trade. Society quickly “grew up” to become independent in virtual integration.

³⁸ Społeczeństwo informacyjne w Polsce. Wyniki badań statystycznych z lat 2015–2019 (2019), op. cit., p. 144.

³⁹ Ibidem.

Conclusions

In conclusion, it should be noted that the presented project is still an active field for research on global society in the context of virtual media space. Today, the virtual world has crossed the next threshold of consciousness, entering all areas of our lives very intensively. Society is becoming the full global media consumer.

Virtual reality has become an integral part of human life. For young people, it is primarily quick access to information, news and opinions. It is contact with peers, the opportunity to participate in training, lectures and webinars without leaving your home. The global network also includes virtual libraries, e-shopping, e-administration, e-health, e-banking and a number of other platforms that facilitate everyday life. Attempts were made to pay attention to these elements during the project implementation. The dangers of using the Internet in a thoughtless manner were also not forgotten. Making contacts with people you do not know, phishing personal data, private photos of young users, giving unknown people your home address or telephone number can be very dangerous. Uncontrolled use of the Internet is also addiction, access to content not intended for children and adolescents, the possibility of establishing contact with criminals. Attempts were made to draw the attention of young people to these aspects of reality. That is why it was so important for policemen, psychologists and other specialists to take part in the project. The project carried out at the Opole University of Technology was of an interdisciplinary nature, related to the interests of students, teachers and parents. Economists, entrepreneurs, representatives of government and local administration showed young people how to quickly and efficiently settle an official matter, pay tax, do shopping.

The “deadly virus” that we experienced at the beginning of 2020 dominated all areas of social functioning. Predictions have become realistic that the existing forms of social coexistence will thus have to take on another dimension for good. It will be necessary to build a new level of e-learning and expand the majority of relationships at the level of virtual everyday life. In a sense, this is a pessimistic statement, but at the same time confirming the thesis that if it were not for the world of e-resources we could not safely go through the global threat, including epidemiological; alleviate restrictions on communication, integration and interpersonal cooperation, making many important social decisions, etc.

The Covid-19 pandemic and the transfer of all offline to online activities have shown that learning, working and enjoying culture can take place in this form. Studies and reports on this subject are being prepared in Poland and at the Opole University of Technology (*Annex 1*). They mainly concern the assessment of online learning by students, opinions on the classes conducted, didactic methods and the implementation of the curriculum. The aspect related to the mental and physical condition of young people and their return to full-time education is also important. But the pandemic also affected the provision of computers in schools and households, with e-shopping indicators increasing. Society had to learn to use e-government services. It also showed the deficiencies in the digital skills of Poles. Teachers, children, students, pupils, seniors began to function in a different reality, for some, very difficult. But thanks to various types of tools, it was possible to conduct classes, have contact with children and students. Without a global network and good computer hardware, this would not be possible.

Annex 1

Postconference published materials:

1. Internet society and global culture. Legal and cultural aspects of human functioning in virtual reality [Społeczeństwo internautów a kultura globalna. Prawno-kulturowe aspekty funkcjonowania człowieka w wirtualnej rzeczywistości (2013), Kalczyńska, M., Majos, M., Malinowski, P. (eds), Oficyna Wydawnicza Politechniki Opolskiej, Opole, 260 pp. ISBN 978-83-64056-06-2].

2. Internet society and global culture. A young user on the web [Społeczeństwo internautów a kultura globalna. Młody użytkownik w sieci (2014), Kalczyńska, M., Rajchel, A. (eds), Oficyna Politechniki Opolskiej, Opole, 188 pp. ISBN 978-83-64056-81-9].

3. Internet society and global culture. Church on the Internet – Internet in the Church [Społeczeństwo internautów a kultura globalna. Kościół w Internecie – Internet w Kościele (2015), Glombik, K., Kalczyńska, M. (eds), Redakcja Wydawnictw Wydziału Teologicznego UO, Opole, 262 pp. ISBN 978-83-63950-59-0].

4. Internet society and global culture. A young user on the web. Part 2 [Społeczeństwo internautów a kultura globalna. Młody użytkownik w sieci cz. 2 (2018), Kalczyńska, M., Rajchel, A. (eds), Oficyna Wydawnicza Politechniki Opolskiej, Opole, 239 pp. ISBN 978-83-66033-27-6].
5. Internet and modern economy – new challenges for the society [Internet a współczesna ekonomia – nowe wyzwania dla społeczeństwa (2018), Kalczyńska, M., Rajchel, A., Łuszczuk, M. (eds), Oficyna Wydawnicza Politechniki Opolskiej, Opole, 170 pp. ISBN 978-83-66033-28-3].
6. Internet society and global culture. New media in education as a challenge for the 21st century [Społeczeństwo internautów a kultura globalna. Nowe media w edukacji wyzwaniem dla XXI wieku (2019), Kalczyńska, M., Rajchel, A., Jędrzejewska M. (eds), Oficyna Wydawnicza Politechniki Opolskiej, Opole, 177 pp. ISBN 978-83-66033-54-2].

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