



The concept of Children's Television by Joan Ganz Cooney in the age of digital media

Koncepcja telewizji dla dzieci Joan Ganz Cooney w epoce mediów cyfrowych¹
<https://doi.org/10.34766/fetr.v53i1.1143>

Krzysztof Łuszczek^a

^a *Rev. Krzysztof Łuszczek, PhD, <https://orcid.org/0000-0003-1862-5028>, Institute of Pedagogy, University of Szczecin*

Abstract: J.G. Cooney's children's television project from the late 1960s is still developing, subject to change and evaluation. It was based on the belief that television can teach. "Sesame Street" turned out to be the most successful educational program for preschoolers. It was the result of a common effort of educators, psychologists and television producers. After a few decades, in a changed media landscape, when the screens became more and more present, again we can say that they can teach. This is mainly due to the possibility of focusing the child's attention through digital tools. The article uses the method of historical analysis. It is used on the media and communication research to determine the context and background of the facts studied. In this article, the basic historical sources are the 1966 report by J.G. Cooney and the reconstruction of the original project of educational television for children. The author of the report herself encourages a historical analysis of the text and its consequences by re-issuing the report, this time in a digital form in 2019. J.G. Cooney based her model on three basic pillars: pedagogy, psychology and television workshop. However, the television as it was then was not as "invasive" as the contemporary media, although it had already evoked very critical assessments. This contributed, among other things, to the discussion on the need to ensure public interest in the media. One of its elements is the use of technology for educational purposes. Today, children fulfill their developmental needs with the help of other tools and digital technologies hermetically fill their living environment. This situation is much more urgent than at the time of the creation of "Sesame Street" where many families (e.g. poor or immigrant ones) did not have such a wide access to technology. When creating the concept of using digital tools in education, the first project by J.G. Cooney should be treated as a key inspiration for creating a new model. As with the educational television project, in order to achieve the didactic goals, the cooperation of educators, psychologists and ICT specialists is needed. Only proper pedagogical planning can ensure success in the use of digital tools in didactics.

Keywords: media pedagogy, educational television, ICT, new technologies in education

Abstrakt: Projekt telewizji dla dzieci J.G. Cooney z końca lat 60. wciąż się rozwija, podlega zmianom i ewaluacji. U jego podstaw legło przekonanie, że telewizja może uczyć. „Ulica Sezamkowa” okazała się najbardziej udanym programem edukacyjnym dla przedszkolaków. Był to efekt wspólnego wysiłku pedagogów, psychologów i producentów telewizyjnych. Po kilku dekadach, w zmienionym krajobrazie medialnym, kiedy ekranów przybyło znów możemy powiedzieć, że potrafią one uczyć. Dzieje się to przede wszystkim dzięki możliwości skupienia uwagi dziecka przez narzędzia cyfrowe. W artykule wykorzystano metodę analizy historycznej. Jest wykorzystywana w badaniach nad mediami i komunikowaniem w celu ustalenia kontekstu i tła badanych faktów. W niniejszym artykule podstawowe źródła historyczne to raport J.G. Cooney z 1966 r. oraz rekonstrukcja pierwotnego projektu telewizji edukacyjnej dla dzieci. Sama autorka raportu zachęca do historycznej analizy tekstu i jego następstw wydając ponownie raport, tym razem w formie cyfrowej w 2019 r. J.G. Cooney oparła swój model o trzy podstawowe filary: pedagogikę, psychologię i warsztat telewizyjny. Ówczesna telewizja nie była jednak jeszcze tak „inwazyjna” jak współczesne media, chociaż wywoływała już bardzo krytyczne oceny. To m.in. przyczyniło się do dyskusji nad potrzebą zapewnienia interesu publicznego w mediach. Jednym z jego elementów jest wykorzystanie technologii w celach edukacyjnych. Dzieci swoje potrzeby rozwojowe realizują dziś przy pomocy innych narzędzi a technologie cyfrowe hermetycznie wypełniają ich środowisko życia. Jest to sytuacja dużo bardziej nagląca niż w czasach tworzenia „Ulicy Sezamkowej” gdzie wiele rodzin (np. biednych czy imigranckich) nie miało tak szerokiego dostępu do technologii. Tworząc koncepcję wykorzystania narzędzi cyfrowych w edukacji należy potraktować pierwszy projekt J.G. Cooney jako kluczową inspirację dla stworzenia nowego modelu. Podobnie jak przy projekcie telewizji edukacyjnej, aby osiągnąć cele dydaktyczne potrzeba współpracy pedagogów, psychologów oraz specjalistów od ICT. Tylko właściwe planowanie pedagogiczne może zapewnić sukces w zastosowaniu narzędzi cyfrowych w dydaktyce.

Słowa kluczowe: pedagogika medialna, telewizja edukacyjna, ICT, nowe technologie w edukacji

1 Artykuł w języku polskim: <https://www.stowarzyszeniefidesetratio.pl/fer/2023-1Lusz.pdf>

Introduction

The end of the 19th century and the first half of the 20th century saw the emergence of a number of new communication technologies that permanently entered human life. The place where these processes gained momentum was the United States with its huge market and intensive technological development. Some educational hopes were pinned on almost every new technology. It was obvious that they provide opportunities that can naturally become an aid in learning, both in classroom learning and distance learning. In this way, film, radio and finally television came to the school classroom. The latter, with its dynamic development and tendency to intensive “colonisation” of social life, will trigger a number of discussions on finding a balance between the commercialisation of this medium and the public interest.

In the United States, this attempt to protect the public interest in the media was the creation of educational television for children with its most successful project in the form of “Sesame Street”. The key role here was played by the TV producer Joan Ganz Cooney, who prepared the project not only from the television side, but also took care of the appropriate psychological and pedagogical foundation for the production. “Sesame Street” was such a successful programme that it became an inspiration for other such searches. It has also been the subject of extensive analysis, starting with the work of G.S. Lesser (1974), a psychologist involved in the creation of the programme, through the work of D. Borgenicht (1998), R. Morrow (2006), M. Davis (2008), L. Gikow (2009) and D. Kamp (2020), to a new elaboration of the famous 1966 report – *Public Television: A Program for Action*, which was published in 2019 and was prepared by the *Joan Ganz Cooney Center*.

It is this latest publication that proves the amazing vitality of the project, which was created more than five decades ago. The significantly changed situation on the media market has not only made it a testimony of a bygone era, but is still an up-to-date aid and inspiration in creating digital educational tools. Here the question arises: How can the original assumptions in the creation of “Sesame Street” be applied to digital technologies in the changed media landscape of the 21st century?

1. The original project of educational television for children

The production of children’s programmes on American television began long before “Sesame Street” was created. However, their quality was widely criticised by representatives of the federal government, social organisations and ordinary citizens. Children’s programmes were thought to be too commercialised. In the general opinion, productions from the 1950s and 1960s did not take into account educational and upbringing goals. Similarly, the television production, which did not take into account the perceptual abilities of the child and the norms of cognitive psychology, left much to be desired. The hosts of the programmes often treated the children condescendingly. Shows, apart from single exceptions (e.g. “Ding Dong School” from 1952-1956), did not stimulate development for children (Davis, 2008).

All this in the 1950s was accompanied by a discussion on the public interest in the media. It culminated in the famous statement by N.N. Minow, Chairman of the Federal Communications Commission, about American television. He called it “a vast wasteland” and his speech is considered one of the most important in the twentieth-century history of the United States. The speech before the National Broadcasting Association was strongly critical of the programme offer of American TV stations. This sparked protests from broadcasters. However, N.N. Minow was so sure of his assessment that he convinced the Kennedy administration to do so (Kuś, 2013).

Criticism of American television in the 1950s and 1960s was the basis for creating a television project that was supposed to show that television can be different, child-friendly and respecting the public interest in the media. This idea was taken over by J.G. Cooney in the 1960s. She tried to launch an educational television project on her parent TV station, Channel 13, but without success. So she started her own business. With the help of the Carnegie Corporation of New York, the *Carnegie Commission on Educational Television* was created, which produced the report *Public Television: A Program for Action* (Cooney, 1966). Another person associated with

the Carnegie Corporation was L. Morrisett, who proved extremely helpful in creating the children's television project. He was a psychologist with a family tradition of education. With J.G. Cooney, he founded the Children's Television Workshop (Kamp, 2020). Almost all of the experts whom J.G. Cooney asked for their opinion on children's television confirmed that television can be an effective educational tool. The report placed educational and public television in the media system of the United States. Public television was supposed to be a permanent element in this system, going beyond what is "educational". Particular attention was paid to the need to implement programmes in the field of culture and for ethnic minorities.

J.G. Cooney's idea was supported by then Secretary of Education – H. Howe II. He attached great importance to the education of children from poor families. He believed that their families also needed help. For H. Howe II, educational television seemed to be the perfect tool to level up their social start. Therefore, the Secretary of Education gave financial support to the project on the condition that one of the goals of the programme would be to support the idea of equal educational opportunities (Weil, 2002).

The vision of the programme for preschoolers presented by J.G. Cooney was therefore based on the opinion of psychologists, educators and media specialists. In her opinion, television was to be not only an educational tool, but also a remedy for the inequalities of the American education system. Most of the experts interviewed by J.G. Cooney saw the need for a programme shaping cognitive habits, analysis processes and the ability to generate hypotheses and ask questions. However, she leaned towards two groups of content. The first was mainstream subjects: language and numeracy skills, and simple science concepts. The second group was a series of subjects described as "soft": art, music, crafts (Berdik, 2020). Among other reasons, the emphasis on learning numbers and letters was based on the fact that it was easy to measure the results of such learning, thus answering the question "Can television teach something?"

The use of puppets in the programme, despite the initial doubts of educators and psychologists, became an extremely successful undertaking. The Muppets

by Jim Henson have permanently entered the canon of television shows (Lepore, 2020). "Sesame Street" was to consist of two production segments: animated films, which were outsourced, and a sequel featuring the Muppets and People, produced by *Children's Television Workshop* (CTW). Primarily set up to produce "Sesame Street", CTW received three Emmy Awards for the show in its first season (Buckingham, 2019).

The success of "Sesame Street" caused enthusiasm among its creators. It was proposed to create a universal and effective model of educational television. Its effectiveness was to be ensured by four mechanisms:

- cooperation of television producers with psychologists and educators;
- adapting the programme to the children's age;
- constant search for opportunities to improve the project;
- independent measurement of learning effectiveness (Holiday, 2021).

"Sesame Street" also owes its success to the fact that the programme convinced parents. Parents found the show "educational" unlike competing productions. Mothers in particular were quickly convinced of the need and effectiveness of such a programme. They found the programmes adequate support for them (Morrow, 2006). Although there have been accusations that the programme lulls parents' activity by promising them that television will replace them, parents' interest in the show does not seem to be weakening. Parents seem to be quite sensitive to the way the programme is implemented. In many cases, they expressed their concern by sending their objections to the CTW. This was the case with the 1976 episode with the witch, right up to the protests against K. Perry's performance in the 2010 episode (López, 2019; Likhodi, 2022).

In the early 1990s, the show fell into crisis due to increasing competition (e.g. in 1992, the show "Barney&Friends" was aired on TV), but also the slowly growing power of the Internet. The habits of preschoolers under the influence of new technologies also began to change. Mobile devices in their

hands – smartphones and tablets – have become something normal. In 2014, the streaming broadcast of the show was introduced, at the same time shortening the episodes to 30 minutes. New characters have also appeared. At the beginning of the 21st century, “Elmo’s World” was given priority in the show. Elmo has become a true character of the new times. It is popping up online on various platforms from Facebook to TikTok. The theme song from an episode of “Sesame Street” sung by Elmo was used in 106 thousand. videos online (Rosenblatt, 2022).

After a temporary decline in popularity, the show found itself in the digital world. But it also had to face increasingly serious problems. With new technologies at their disposal, children learned a lot more about the world. It was necessary to try to answer a number of difficult questions about what was happening around. That is why the show featured the September 11 attacks or Hurricane Katrina in 2005. In 2017, a new doll, Julia, the Muppet with autism, appeared in one of the episodes. The creators of the show had to answer the question: how to tell children about autism? Stacy Gordon, the mother of an autistic child, was chosen as the puppet animator (Ghose, 2017).

Despite these changes, the search for new directions of development and popularity of “Sesame Street” did not gain stable funding channels. In 2014, it generated \$11 million in losses. Therefore, in 2015, it was announced that the show would be available on HBO’s *premium* service. It was a difficult decision for the creators of the show. It sparked criticism. Many considered it a departure from the original ideals of creating a programme for children from poor and immigrant families (Gutherie, 2019). After several decades of broadcasting the show, the discussion about guaranteeing the public interest in the media and making it a child-friendly sphere has resurfaced.

2. Screens as educational tools

The decades-long educational experience associated with “Sesame Street” has proven one thing incontrovertibly – television can teach. Educational television allows, among other things, to expand the vocabulary. It can affect school performance and later

employment (Hirsh-Pasek, Zosh, Golinkoff, Gray, Robb, & Kaufman, 2015). Especially in the case of children with more modest educational resources, the media can significantly support them and work to equalise educational opportunities. The serious increase in the number of screens children are surrounded by in the digital age means that the number of child-screen interactions is significantly increasing. Children encounter a message that is addressed to them and a message addressed to adults. American children aged 2-5 spend about 2 hours a day in front of a screen. The length of this time increases in contrast to interaction with books (Rideout, 2017).

However, as proved by S. Papadakis, M. Kologiannakis and N. Zaranis, making technology available to children alone does not guarantee educational success. The teacher should be properly prepared and trained for this (2018). Mobile technologies can be particularly useful in mathematical education to conduct classes in educational blocks generally referred to as STEM (Science, Technology, Engineering, Mathematics). As a result, you can significantly increase the participation of this content in the education of preschoolers. A report by the *Joan Ganz Cooney Center* and *New America* found that both teachers and parents were enthusiastic about introducing STEM into children’s education programmes. It was emphasised that STEM teaching should be placed in a developmental context and combined with fun. Parents and teachers should also be supported to feel more confident in the field of STEM teaching (McClure, Guernsey, Clements, Bales, Nichols, Kendall-Taylor, & Levine, 2017). The technological revolution has made STEM topics central to children’s education. The idea is to flexibly place science-related content in the curricula. Children often show enthusiasm for this type of content, but learning about it is limited by the school system.

Undoubtedly, parents are helpful here. The American Academy of Pediatrics recommends that parents engage in media use with their children (Ewin, Reupert, McLean, & Ewin, 2021). The so-called JME (Joint Media Engagement) is different in different families and applies to different media. Collaborative involvement tends to be higher with younger children and television. It decreases with age and with the

increasing use of mobile devices. JME can influence how children understand and use media. This can be helpful when creating educational content (Dore, Zimmermann, 2020).

In order to implement the principles of JME in practice, parents must answer a few questions: Which child to work with in front of the TV or tablet screen? How does a child's age affect watching together? What level of media literacy do their children have? Parents can adopt different strategies in the use of digital tools in teaching. They can use the device as the main tool supporting the development of e.g. language skills. In another strategy, technology can be adopted as a complement, prioritising e.g. books and magazines (Ewin, et al., 2021). The research showed that preschool children were more engaged in learning using applications than in reading together or math games. Parents were also involved, albeit in a different way. Children were more involved in direct contact with the screen, parents verbally commented on the child's activities and supported them. The level of parental involvement seems to be about the same for various educational activities of the child, while children engage more strongly in learning from the application (Griffith, Arnold, 2019).

Digital tools seem to be an ideal aid in education, because they allow you to easily combine them with fun. Hence the possibility of using electronic games in education. The primary source of their effectiveness is engaging children's attention. It is only necessary to adapt the content of the games to the didactic material, e.g. instead of navigating in a *fantasy* world, children can move between molecules in the world of molecular chemistry or quantum mechanics. They also learn how to use digital tools (Shapiro, 2018). Educational applications should support children, but also inspire educational conversations with parents or teachers (Griffith, Arnold, 2019).

The introduction of digital tools into school activities should take place in a specific order. Simply making technology available to children does not guarantee educational success. Teachers should be properly prepared for this, but also the teaching material should be properly prepared or selected (Papadakis et al., 2018). Teachers should consider children's digital interests. On the other hand, they

should remember that technology will not replace them, but can only activate learning (Bajovic, 2018). There are several premises that can significantly improve the level of use of digital tools in education:

- clear guidelines for their use in the teaching-learning process;
- effective cooperation between school management and teachers;
- developing teachers' ICT competences;
- ensuring constant feedback from children;
- proper planning, among others, of time, proper deployment and access to equipment (Otterborn, Schönborn, Hultén, 2019).

Planning the use of digital tools in education is in the realm of trials in various educational systems. There is a lot of randomness there. Often, technology overshadows aspects of pedagogical planning. This resembles the situation after the adoption of the *Children's Television Act* in the USA in the early 1990s. The Act required broadcasters to broadcast educational programmes for children. Many broadcasters wanted to fulfil this obligation by broadcasting cartoons, recognising that each cartoon is for children and is educational without a deeper, pedagogical analysis of the content of the programme. The same is true (at least for now) of many digital tools. S. Papadakis and M. Kologiannakis analysed the available educational applications from 2011-2019 and found that few of them have educational value, despite the fact that they were presented as such (2020).

3. New technologies and pedagogical planning

Each new technology that appeared from the end of the 19th century usually brought with it aroused educational hopes. In many cases, however, they failed (e.g. educational radio in the 1920s and 1930s in the USA did not bring the expected educational effects due to strong commercial pressure). It was forgotten that technology should only be an element of the didactic process and not be its centre and focus all educational activities. It cannot replace pedagogical

planning, because only owing to this it can become an effective educational tool (Arnott, 2017). J.G. Cooney was aware of this, designing activities related to the educational television programme for preschoolers, ensuring the priority position of educators and psychologists. The developmental needs of preschoolers have become the decisive elements determining the construction of an educational television programme. The same must be kept in mind today. When integrating the curriculum with technological tools, it should be primarily about the cognitive, social and psychological development of children (Bers, 2018).

Pedagogical planning allows you to make informed teaching choices. Only in this way it will be possible to introduce digital tools into education and without harming children. However, both low and high levels of their use in the teaching-learning process negatively correlate with educational goals. The best results are achieved by using digital tools at a moderate level. It should never be forgotten that ICT should be part of a larger whole (Kalogiannakis, Ampartzaki, Papadakis, & Skaraki, 2018; Dore & Zimmermann, 2020).

The teacher still occupies a special place in planning teaching activities. The presence of technology does not exclude or replace him / her. He / she is still a guide on the way of the didactic process. However, the structure of the process itself is changing, especially in subjects such as mathematics. The traditional didactic triangle: pupil, teacher, subject of study, should be enriched with an element of technology. So it becomes a didactic tetrahedron, and takes on a new dimension. Technology should not so much replace traditional tools, but transform the entire teaching-learning process. Well-designed technology tools can enable children to become more engaged, especially in learning STEM subjects (Papadakis et al., 2018). In this field, the preparation of teachers varies greatly. This may result from personal educational experiences, but it is often so ingrained that it results in a kind of phobia (STEM-phobic). In preparing teachers for the proper use of technology in the educational process, one can also take care of getting rid of the aversion and fear of STEM (McClure et al., 2017).

Pedagogical planning should also take into account the place of parents in the use of new technologies in education. The role of parents when using digital tools in education is similar to the one they fulfilled before (Huber, Highfield, Kaufman, 2018). Parents are still role models for children in media use. Therefore, their attitudes and skills in this aspect are an important element of improving children's media competences. The level of media culture of parents is very different (e.g. in terms of time spent with the media), therefore it does not always have a positive effect on children's attitudes. Parents also have different views on the impact of the media on their children (Lauricella, Wartella, & Rideout, 2015; Schlesinger, Flynn, & Richert, 2019).

Reaching for new technologies in education, it is impossible to ignore the risks that may arise as a result of their unplanned use. Technologies can expose some segments of knowledge at the expense of others. Systems based on advanced technologies often favour families who are already in a privileged position. The same technologies that offer access to extensive knowledge are also a gateway to inappropriate content, cyberbullying and disinformation issues (Berdik, 2020). These are not threats that came along with digital technologies. Previous experience forced both educators and decision-makers dealing with the construction of the entire system to take specific actions. Discussions about the exclusivity of educational programmes for children appeared in the United States even before the creation of "Sesame Street". In the same way, it was necessary to react to dangerous content on the Internet, which was reflected in a special act – *Children's Internet Protection Act* – adopted at the beginning of the 21st century.

Conclusion

The concept of television for children, which was created by J.G. Cooney in the 1960s, was based on the belief that television teaches. When we look at modern screens, we can say even more clearly that they teach. This applies especially to smartphones, tablets and hybrid TV. The screens have the property that

the child interacts with them, which makes it possible to focus, even “densify” his / her attention. This is what J.G. Cooney used to create “Sesame Street”, and it can be used today in the case of digital screens.

However, in order to avoid mistakes and achieve didactic goals, pedagogical planning must prevail over the whole system. Otherwise, we may succumb to the temptation of a kind of “technological romanticism” or shaping the entire teaching-learning process

“towards the means” and not “towards the pupil. Two directions of cooperation should be taken into account in didactic planning. The vertical direction brings together the activities of psychologists, educators and technology specialists. The horizontal direction, on the other hand, is teachers, parents and school. The centre of these two directions of activities should be the pupil, who concentrates all pedagogical planning.

Bibliography

- Arnott, L. (2017). Framing Technological Experiences in the Early Years. (In:) L. Arnott (ed.), *Digital Technologies and Learning in the Early Years*, 7-19. Los Angeles, London, New Delhi, Singapore, Washington DC, Melbourne: SAGE.
- Bajovic, M. (2018). Playing and learning across the concrete and digital realms: a new context for the new learners. *International Journal of Play*, 7(2), 199-209. <https://doi.org/10.1080/21594937.2018.1496002>
- Berdik, Ch. (2020). *Revisiting the Potential Uses of Media in Children's Education*. New York: The Joan Ganz Cooney Center at Sesame Workshop.
- Bers, M.U. (2018). *Coding as a Playground: Programming and Computational Thinking in the Early Childhood Classroom*. New York: Routledge.
- Buckingham, D. (2019). *Bridging the gaps? Sesame Street, 'race' and educational disadvantage*, (from:) <https://davidbuckingham.net/growing-up-modern/bridging-the-gaps-sesame-street-race-and-educational-disadvantage> (access: 17.10.2022).
- Cooney, J.G. (1966). *Potential Uses of Television in Preschool Education*, (from:) <https://files.eric.ed.gov/fulltext/ED604064.pdf> (access: 07.11.2022).
- Davis, M. (2008). *Street Gang: The Complete History of Sesame Street*. New York: Viking Press.
- Dore, R.A., Zimmermann, L. (2020). Coviewing, scaffolding, and children's media comprehension. *Wiley Online Library*. <https://doi.org/10.1002/9781119011071.iemp0233>
- Ewin, C., Reupert, A., McLean, L., Ewin, Ch. (2021). The impact of joint media engagement on parent-child interactions: A systematic review. *Human Behavior and Emerging Technologies*, 3(2), 230-254. <https://doi.org/10.1002/hbe2.203>
- Ghose, P. (2017). Julia, a muppet with autism, to join 'Sesame Street', (from:) <https://us.blastingnews.com/showbiz-tv/2017/03/julia-a-muppet-with-autism-to-join-sesame-street-001567345.html> (access: 10.11.2022).
- Griffith, S.F., Arnold, D.H. (2019) Home learning in the new mobile age: parent-child interactions during joint play with educational apps in the US. *Journal of Children and Media*, 13(1), 1-19. <https://doi.org/10.1080/17482798.2018.1489866>
- Gutherie, M. (2019). Where 'Sesame Street' gets its funding – and how it nearly went broke, (from:) <https://www.hollywoodreporter.com/news/general-news/sesame-street-gets-funding-how-it-went-broke-1183032> (access: 10.11.2022).
- Hirsh-Pasek, K., Zosh, J.M., Golinkoff, R.M., Gray, J.H., Robb, M.B., Kaufman, J. (2015). Putting education in 'educational' apps: Lessons from the science of learning. *Psychological Science in the Public Interest*, 16(1), 3-34. <https://doi.org/10.1177/1529100615569721>
- Holiday, S. (2021). How they got to Sesame Street: Children's Television Workshop's appropriation of advertising tactics for effective childhood literacy education, *Journal of Early Childhood Literacy*, 1-29. <https://doi.org/10.1177/14687984211003245>
- Huber, B., Highfield, K., Kaufman, J. (2018). Detailing the digital experience: Parent reports of children's media use in the home learning environment. *British Journal of Educational Technology*, 49(5), 821-833. <https://doi.org/10.1111/bjet.12667>
- Kalogiannakis, M., Ampartzaki, M., Papadakis, S., Skaraki, E. (2018). Teaching natural science concepts to young children with mobile devices and hands-on activities. A case study. *International Journal of Teaching and Case Studies*, 9(2), 171-183. <https://doi.org/10.1504/IJTCS.2018.090965>
- Kamp, D. (2020). *Sunny Days. The Children's Television Revolution That Changed America*. New York: Simon&Schuster.
- Kuś, R. (2013). *Amerykańska telewizja publiczna*. Kraków: Wydawnictwo Uniwersytetu Jagiellońskiego.
- Lauricella, A.R., Wartella, E.A., Rideout, V.J. (2015). Young children's screen time: The complex role of parent and child factors. *Journal of Applied Developmental Psychology*, 36, 11-17. <https://doi.org/10.1016/j.appdev.2014.12.001>
- Lepore, J. (2020). How we got to Sesame Street, *The New Yorker*, (from:) <https://www.newyorker.com/magazine/2020/05/11/how-we-got-to-sesame-street> (access: 15.10.2022).
- Likhodi, L. (2022). A banned Sesame Street episode deemed 'too scary' has just resurfaced, (from:) <https://www.todayparent.com/blogs/trending/sesame-street-scary-banned-episode> (access: 08.11.2022).
- López, Q. (2019). 'Sesame Street' is turning 50 – here are 11 of the most controversial moments in the show's history, (from:) <https://www.insider.com/sesame-street-controversial-moments-history-2019-11> (access: 10.10.2022).
- McClure, E.R., Guernsey, L., Clements, D.H., Bales, S.N., Nichols, J., Kendall-Taylor, N., Levine, M.H. (2017). *STEM starts early. Grounding science, technology engineering, and math education in early childhood*, (from:) <https://files.eric.ed.gov/fulltext/ED574402.pdf> (access: 10.11.2022).
- Morrow, R.W. (2006). *Sesame Street and the Reform Children's Television*. Baltimore: Johns Hopkins University Press.
- Otterborn, A., Schönborn, K., Hultén, M. (2019). Surveying preschool teachers' use of digital tablets: general and technology education related findings. *International Journal of Technology and Design Education*, 29, 717-737. <https://doi.org/10.1007/s10798-018-9469-9>

- Papadakis, S., Kalogiannakis, M. (2020). A Research Synthesis of the Real Value of Self-Proclaimed Mobile Educational Applications. (In:) S. Papadakis, M. Kalogiannakis (eds.), *Mobile Learning Applications in Early Childhood Education*, 1-19. Warsaw: Information Science Reference.
- Papadakis, S., Kalogiannakis, M., Zaranis, N. (2018) The effectiveness of computer and tablet assisted intervention in early childhood students' understanding of numbers. An empirical study conducted in Greece. *Education and Information Technologies*, 23, 1849-1871. <https://doi.org/10.1007/s10639-018-9693-7>
- Rosenblatt, K. (2022). *Elmo's feud with a pet rock has consumed the internet*, (from:) <https://www.nbcnews.com/pop-culture/pop-culture-news/elmos-feud-pet-rock-consumed-internet-rcna11150> (access: 09.11.2022).
- Schlesinger, M.A., Flynn, R.M., Richert, R.A. (2019). Do parents care about TV? How parent factors mediate us children's media exposure and receptive vocabulary. *Journal of Children and Media*, 13(4), 395-414. <https://doi.org/10.1080/17482798.2019.1627227>
- Shapiro, J. (2018). *Digital play for global citizens*. New York: The Joan Ganz Cooney Center at Sesame Workshop.
- Weil, M. (2002). Harold Howe II dies at 84, (from:) <https://www.washingtonpost.com/archive/local/2002/12/02/harold-howe-ii-dies-at-84/fc6d24e4-1dd0-439c-b5e9-8d35e9169abb> (access: 05.10.2022).