Kamila Majewska
Poland

Virtual Consumer versus Internet Creator, or Attitudes of Polish Teachers to online Early School Education. Conclusions for Practice

Abstract

The aim of the present research was to assess the degree of preparation, methods of use, and the ability to create online educational resources by Polish teachers of early school education. The article presents the results of pilot studies carried out under the NP.-2550 grant, as well as the results of proper research conducted in 2017 in a group of 340 teachers. The selection of the research group was random. The collected data showed current trends, and made it possible to address the issue of a virtual consumer and an online creator from the perspective of a teacher.

Keywords: *early school education, virtual consumer, Internet creator, Information Technology, virtual space*

Introduction

Erich Fromm in the 1850s, defining the notion of creativity, pointed out that the expression can be described in two ways. Firstly, referring to the production of something new, and, secondly, referring to attitudes that can last even when nothing new is created (Fromm, 1959). According to the Polish Language Dictionary PWN, creativity is associated with the emergence of new things, especially works of art. These are *"all works created by someone, usually by an artist"* (Polish Language Dictionary PWN).

In the belief of the author of the work, the above understanding seems to be too conservative and non-progressive. Already in the 1970s, the Polish philosopher and aesthete Władysław Tatarkiewicz emphasized that the word creator refers to all human culture (Tatarkiewicz 1980). As a result, the circle of artists has expanded to include not only poets and artists, but also scientists, inventors, technicians, and teachers. According to Tatarkiewicz's remark, in the recognition of products and creative activities it is helpful to observe such features as novelty (only its high degree is intuitively associated with the definition of creativity) and mental energy. In the context of the latter, it is emphasized that the mental energy devoted to the creation of a new thing is no less important than the novelty itself (ibid.). Meanwhile, Elizabeth B. Hurlock explains in one of her books that creativity is the ability to compose products or ideas that are innovative and have not been known to the person making them. Creativity can, therefore, include new models or focus on combining information from previous experiences (e.g. enriched with specific variables). As a result of creative activities, products of a procedural, methodological, artistic, literary, or scientific nature may be created. A condition that should be met in order to be able to talk about the process of creation is purposefulness or orientation on a goal. Creativity is not synonymous with sterile fantasizing (Hurlock 2017).

A related definition can be found in the works of Elisa A. Brunelle, who defines creativity as a process that enables the creation of innovative ideas or objects (Brunelle 1970).

Depending on the definition adopted, creativity can be considered in an elite or egalitarian approach (Sekowski, Siekanska, Klinkosz 2009). The first approach assigns creativity to a limited group of people capable of creating innovative and valuable works. The second gives a chance to all individuals, indicating that every person is creative, and the only thing that distinguishes us is the level of creativity. As a consequence, the author of the article, analysing the teacher as a creator of virtual space resources, adopts the liberal definition proposed by Hurlock.

The teacher – a creator of virtual space? (Problem of the Research)

The results of the research carried out by Richard Florida show that the inhabitants of San Francisco Bay are characterised by the highest level of creativity in the world. The overall analysis carried out in the context of the country and not only region changed the ranking slightly, placing Sweden, Japan and Finland on the podium. In the cited classification, Poland took 34th place (out of 45 surveyed

countries) (Florida, 2012). Florida emphasizes that the creativity represented by teachers assigns them to the group of creators of new forms (Super Creative Core). The author assigns to them activities that generate new forms that are recognized by a wider environment (Florida, ibid., pp. 83–84).

Edward Nęcka emphasizes that creativity is not part of a set of definitions with rigid frames and that it can occur on several levels. The first, lowest level – fluent creativity – includes the activities available to each individual. The second, in turn – crystallized creativity – is associated with having specific skills or procedural knowledge. According to the psychologist's conviction, it can be attained by students of art universities, music academies, etc. The third level, namely mature creativity, is possible thanks to knowledge and experience. In this case, the most important role is played by the product which occurs thanks to painters, architects, musicians, etc. The outstanding works that set the highest level include works by Fryderyk Chopin, Pablo Picasso or Veit Stoss – known and valued all over the world (Groborz, Nęcka 2003; Nęcka 2003).

The analysis of Internet portals developed for education shows that teachers are present in the virtual space, where they create and share interesting educational resources. In order to find interesting lesson plans, quizzes, interactive educational games, or books that support the course of classes, it is enough to follow the pages: Smart Exchange, Learning Apps, Quizlet, Quizizz, Storybird, etc. abounding in the work of educators from around the world, including Poland.

In the network, more and more often one can find all kinds of videos that play the role of video guides, showing the subsequent steps related to the development of various types of educational materials. They are published on private blogs, social media portals, and websites of educational institutions.

Of course, the professional creativity of teachers cannot be compared with Chopin's work, which does not mean that it does not exist at all. On the basis of Nęcka's division, the creativity of most teachers can be qualified as the lowest level, defined as fluent. A broad analysis of the teachers' environment also reveals a group of enthusiasts that is part of the level of crystallized creativity. This group is made up of art and music teachers who create together with students in the virtual space (using on-line and undemanding programmes), collages, graphics, animations, musical compositions, etc.

Creative attitude of teachers

The concept of creativity is ambiguous. Krzysztof J. Szmidt emphasizes that a creative teacher is above all someone who can recognize a talented and creative student. "*Innovative and creative teachers lie at the heart of education for creativity*

(…) Numerous studies demonstrate that whether negative or positive teachers' attitudes towards creativity may influence instruction by using (or not) problems or questions that encourage creative thinking, curiosity, intrinsic motivation, and creative action or behavior" (Grohman, Szmidt, 2013, 25).

In this context, a creative educator is a person who can open up to the questions of the student, take the attitude of the discoverer who will study with them, learn and subject to critical analysis the boundless resources of virtual space. In accordance with the above reasoning, creativity is associated with openness to the needs and questions of students; it even enforces breaking with a predetermined, rigid diagram of the lesson that differs from the direction of children's interest. The creative teacher not only improves the skills acquired already, but also takes actions enabling further development.

Research carried out on the basis of cognitivism, psychology, and pedagogy shows that the creative attitude, like other key competences, can be developed and improved.

The activities of teachers related to the online environment include the activities undertaken within the framework of cooperation and self-education networks being formed. The task of this new form in school conditions is:

- promoting knowledge and skills and sharing them,
- joint performance of tasks e.g. on the forum or using various types of applications (work of a synchronous or asynchronous nature),
- group problem solving,
- establishing contacts and undertaking cooperation.

Virtual groups of educators, whose goal is to popularize creative activities, are also very optimistic. As part of the teachers' meetings, they discuss the principles of using the software, as well as share ideas for using tools during the lesson.

Research methodology

Research General Background

The aim of the presented research was to assess the degree of preparation, methods of use, and the ability to create online educational resources by Polish teachers of early school education. The verified hypotheses were supported by data collected as part of the following research questions:

- whether early childhood education teachers use online resources (in order to prepare for lessons) at home, and if so, which,
- whether early school education teachers have fears connected with the use of the Internet, and if so what fears,

- whether there is a connection between the frequency of Internet use and the concerns related to the use of IT,
- whether and how internet resources are included in the course of lessons in grades 1–3,
- whether early childhood education teachers publish educational resources on the web,
- whether early childhood education teachers are members of a cooperation network related to education,
- with which of the groups - virtual consumers or online creators do early school education teachers identify themselves.

Research Sample

The research presented in the text was carried out in 2017 on a group of 340 early education teachers[1] from the Kujawsko-Pomorskie Voivodeship. Pilot studies were carried out in the same voivodship, as part of the NP-2550 grant (in 2016), on a group of 148 teachers[2]. The research included teachers from ten schools in Toruń, nine schools in Bydgoszcz, three schools in Grudziądz, Włocławek, three schools in Inowrocław, two schools in Brodnica, one school in Kruszyn, Przysiek, Łysomice, Dobrzejewice and one in Ryńsk. The selection of the research group was random.

Research question and hypotheses

The main goal of the project was to examine teachers' preferences regarding online activity as well as the creation and use of online resources. As a result, the following research goals were distinguished: *Do early education teachers take advantage of Internet resources and, if so, of which resources?*
The following hypotheses were put forward in the work:
(1) Teachers of primary school grades 1 to 3 use network resources at home and during classes to the same extent.

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[1] Early childhood education in Poland includes children from 7 to 9 years of age, grades 1–3 of primary school.
[2] The results of the pilot studies were highlighted in the text using the symbol*.

(2) Teachers of higher grades use network resources during classes more often than teachers of lower grades.
(3) There is no relationship between the private and professional activity of teachers in social media.

Instruments

The inference was mainly based on quantitative data supplemented with a qualitative analysis. The actions taken were based on the diagnostic survey method (questionnaire, partially directed interview, and observation). The survey consisted of ten questions, including four open questions and six closed questions. The interview included six questions and the observation sheet had nine items.

During the research analysis, the determination of such statistics as mean, median, chi square, independence test, and Spearman's rho correlation was used. The strength of the relationship was verified using the V-Cramer or ϕ-Yule coefficient.

Research Findings

The statistical analyses carried out led to the falsification of the first hypothesis. Three groups were distinguished in the course of the research: teachers who do not use the Internet (2.35%), those using the network only at home (8.53%), and those using the network at home and at school (89.12%). There were no teachers using the Internet at school only. The group of teachers who use the Internet spends in virtual space, at home, on average more than twice as much time as they do at school. The average time spent online at school is about 30 minutes, of which part of the time is devoted to the filling in of the electronic class register. The average time spent online at home is 60 to 90 minutes a day.

It is also worth mentioning that at school, teachers log on to the Internet three times on average (average 2.81), and at home - twice (average 1.86). This means that the form of using the Internet in the classroom does not have an in-depth character. Teachers log on to the network for an average of 10 minutes, mainly to present specific resources, not to search for and analyse what is taking place at home. There is also a significant difference in the number of people who do not use the Internet at home and at school. The research shows that on average, 93.38% (94.93%*) of teachers who have access to efficient Internet use its

Table 1. Descriptive statistics – the use of the Internet at home and at school space*

The use of the Internet statistics		at school space		at home space	
		standard error	statistics	standard error	
Mean		1.5776	.02842	3.2018	0.4019
95% confidence interval for mean	Lower limit	1.5216		3.1228	
	Upper limit	1.6335		3.2809	
5% Trimmed mean		1.5862		3.2209	
Median		2.0000		3.0000	
Variance		.245		.536	
Standard deviation		.49477		.73225	
Minimum		1.00		1.00	
Maximum		2.00		5.00	
Range		1.00		4.00	
Quarter range		1.00		1.00	
Skewness		-.316	.140	-.288	.134
Kurtosis		-1.913	.279	.794	.267

* Time spent on the web – labels given in the SPSS programme: 0 – people who do not use the Internet, 1 – people who use the Internet from 0 to 30 minutes a day, 2 – from 30 to 60 minutes a day, 3 – from 60 to 90 minutes a day, 4 – from 90 to 120 minutes a day , 5 – more than 120 minutes a day.

Source: Own study.

resources, of which 97.65% (99.32%*) use them at home and 89.12% (90.54%*) in the classroom.

Why do teachers use the Internet less frequently in the school space? It can be concluded from the Chi square test and the determined V-Cramer coefficient, that there is a strong relationship between the degree of network usage in the classroom and the number of concerns related to the use of information technology (α=0.05, p=0, V=1). Spearman's rho correlation results show that, as the number of problems related to the use of information technology increases, so the use of the Internet during the lesson decreases.

In accordance with comments, lack of self-confidence as well as awareness of low competences associated with the use of computer tools cause discouragement, and fear of the negative opinion of students. As a consequence, the teachers in question declared that they turn to network resources mainly at home, where without time pressure they can browse individual pages and save films, tasks or other materials necessary for classes.

The surveys and interviews carried out show that teachers, when using virtual space, are afraid:

- that they will not find valuable and needed resources 54.7% (55.4%*),
- of the need to install drivers, update programs, etc. 60.29% (58.78%*),
- of finding websites in the Internet with pornographic content 58.53% (54.73%*),
- of improper 18.82% (16.22%*) or slow network activity 9.41% (7.43%*),
- of excessively open material, not covering the lesson plan 19.12% (21.62%*).

Currently, in grades 1–3 at the level of primary school, next to CD and DVD players, as well as tape recorders, computers, interactive whiteboard, projectors, and multibooks (less frequently e-books) are most commonly used. As a consequence, the resources searched for at home are to help in planning and teaching classes supported by these technologies. They usually are of the nature of: text files (e.g. lesson scenarios, colouring books, drills, rhymes, song lyrics, templates for art classes, etc.), multimedia (e.g. films, animations, photos, presentations, etc.), interactive (e.g. exercises, games, quizzes, etc.). It can, therefore, be concluded that working with the Internet at home is more analytical than in the classroom, where the use of the network is mainly to restore the previously found resources.

The second hypothesis, namely: Teachers of higher grades use network resources during classes more often than teachers of lower grades was also falsified in the course of research. The significance of Spearman's rho correlation in the two examined cases was less than the critical value, which means that the analysed relations are statistically significant (0.000 < p=0.05). The age of the students correlates with the number of logins and the time spent online during lessons (moderate correlation). It was noted that as the age of students increases, the number of logins on the Internet decreases (rho = -0.302), with simultaneous increase in usage time (rho = 0.353) during the lesson. The results of the analyses find their justification in the activities arranged during classes. And so, in the first grades, teachers mainly use the Internet to present films, animations, or photos. The above actions are taken several times and usually last several minutes. In the second grade, teachers start to reach for games, while in the third grade they start more difficult, interactive exercises and quizzes. Teachers of higher grades use network resources during classes more often than teachers of lower grades. The Internet is used less frequently in higher grades, but for a slightly longer period of time.

Teachers find these materials on educational portals, websites containing video guides or additional elements that complement paper-based textbooks (developed

by educational publishers). Interesting resources are saved or printed. Most 79.41% (76.35%*) prefer to teach classes based on ready-made materials, thus giving up the search for videos, games, or educational portals directly during the class. The above attitude does not mean that teachers are not interested in incorporating elements of information technology into the course of classes. On average, 83.24% (85.81%*) of teachers (in their spare time) verify the Internet using a smartphone, and almost half of them 50.29% (48.64%*) use tablets at home.

Social media have also played an increasingly important role in the teaching process for several years. Thanks to them, teachers share ideas, educational successes, observations, resources, news about free training courses or interesting conferences. Sometimes they look for advice or inspiration.

During the research, the third hypothesis was also falsified. The Chi square test and the set Yule φ-factor showed that there is a relationship between the private and professional activity of teachers in social media (α=0.05, p=0, φ=0.28). The analysis of the collected data showed that only teachers who are also privately active in social media are professionally active in social media.

The research shows that, on average, seven out of ten teachers 71.76% (70.95%*) have an account on a social networking site. About 15.88% (14.19%*) teachers belong to social groups related to early school education. They usually publish ideas for: interesting artwork, classes based on audio or video recordings, lessons with the use of computer teaching tools, and the application of exercises and presentations in the course of computer classes. Sometimes social groups cooperate with academic teachers or trainers, as a result of which they have the opportunity to participate in free, cyclical, virtual training meetings. The mentioned virtual support groups facilitate the expansion of knowledge and skills.

Research conducted by Kamila Majewska in 2014 showed that in Poland early childhood education teachers use information technology tools usually in an incorrect way. Why? Lessons taught with the use of computer tools do not differ significantly from traditional classes. The main and usually only difference is the replacing of the dry-erase board with its interactive counterpart (Siemieniecka, Kwiatkowska, Majewska, Skibińska, 2018). Although several years have passed and teachers have become familiar with the new media, the method of work used in the classroom has not changed significantly. The differences noted are related to the popularization of multi-books and, as a consequence, faster and easier access to the database of interactive exercises and tasks. Working with multimedia is also facilitated by Internet resources posted online by educational companies or by other teachers - enthusiasts of using information technology in education. The observations carried out as part of the research showed that teachers' activities

coincide with the first level of the SAMR model developed by Ruben Puentedura (Puentedura 2014). During the lesson, teachers reach mainly for familiar, previously analysed websites. The elements used usually take the form of: educational games, films (mainly Youtube), presentations, and photos.

The classes taught by teachers usually take on a traditional character, which separates them from the following models: reversed class, rotational, connectivistic, gamification, and others. The above state of affairs is explained by: lack of time 74.71% (76.35%*), lack of confidence in new forms of teaching and learning 82.65% (85.14%*), and ignorance 43.53% (41.89%*).

Lessons supported by IT tools have a mixed character. Some of the topics are taught by using the inquiry method, which is accompanied by brainstorming, discussions, problem analysis, problem solving, etc. In the course of classes, however, there are moments when the teacher plays a dominant role, and the students are moved to the background. According to teachers' declarations, 60.88% (63.51%*) of them use the potential of computers, including Internet resources, on average several times a week. Every third teacher covered by the research (33.78%*) declares that he or she includes interactive forms of activity almost every day in the course of lessons. Of course, during the activities the group who did not use computer tools or access to network resources during the lesson, constituted a minority – 2.65% (3.38%*).

The results of the questionnaire showed that only 4.71% (3.38%*) of early school education teachers publish educational resources in the network. The vast majority of materials are posted on social media or educational websites. As a consequence, one in 20 teachers declares his/her affiliation to a group of virtual creators. The others are Internet consumers. The following are mentioned as the decisive factors for this attitude:

- lack of academic preparation in the above field,
- lack of access to free courses and other forms of further education in the above field which do not collide with their professional work,
- lack of knowledge related to the process of creating virtual resources,
- lack of ability to navigate the web correctly and publish educational materials,
- lack of belief in the rightness of and benefits resulting from taking such activities,
- negative attitude and fear of using modern tools of information technology.
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Discussion and Conclusions

Information technology tools support the implementation of activities in line with the cognitive-constructive and connective trends. Their correct inclusion in the course of the lesson facilitates the integration of diverse educational resources, opinions as well as sources of information, which favours the creation of a specific knowledge tree. Internet connection guarantees free access to rich materials and, as a consequence, facilitates conducting classes that are compatible with the needs of children. Early contact with virtual space has one more important advantage, namely it teaches conscious movement in the jungle of information, data selection, and evaluation. Computer tools facilitate gradual shifting of the accent from passive and reproductive (determined entirely by the teacher) activities towards the student's independent work because the ability to learn, as George Simens emphasizes, is more important than what is currently known (Simens 2005). The Internet, being a window to the world, enables not only consumption, but also creation of knowledge. In addition, the acceptance of information and communication technology tools by younger generations favours combining cognitive processes with emotions, which strongly strengthens the course of learning.

The research carried out showed that the majority of teachers (95.29%) only play the role of a consumer in the network. These people use ready-made text and multimedia materials that they download them from the Internet, usually before starting the class. Sometimes, the lesson includes interactive exercises, games, or presentations. However, it should be emphasized that during the lesson, teachers are reluctant to search for resources on the web. Usually, this is dictated by the lack of time or fear of finding unwanted content.

Only a few years ago, the research indicated that Polish teachers use new media, including the Internet, usually in an incorrect way, fully in line with traditional didactics (Majewska, 2014). Therefore, it cannot be expected that teachers will start using the new technologies, including the Internet, regularly and in a faultless manner within such a short time. Everything takes time, the right approach, and motivation. Krzysztof J. Schmidt, contemporary representative of creativity pedagogy, emphasizes that creativity is not a gift from God and that one can learn it. Therefore, a very important challenge is faced by the school and academia, namely conducting a series of studies aimed at verifying new, interactive educational models, dedicated to modern teaching and adapting them to the realities of the Polish school. Activities involving teachers' in-service training and those raising their awareness regarding the benefits and negative effects resulting from improper

inclusion of computer tools as well as the Internet in the educational process are also of great importance.

Thanks to the 5% group selected in the course of the study, which has adopted creative attitudes in the network, one can hope that with the passage of time, the number of teachers being online creators will increase. Certainly, this task can be included in long-term activities that require dedication on the part of both the training staff and the teachers themselves. At this point, it should be strongly emphasized that according to scientific literature, subject competences are only the beginning of a long educational path, and are inseparably connected with further education (Day, 1999, Day, 2004). From the practical point of view this task is not easy to implement. As a result, it is worth considering the current assumptions, content, and forms of education, and adapting them to the current as well as anticipated changes and needs of the society.

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