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Children in digital culture

Our text intends to provide an overview of the phenomenon of new mobile digital technologies and an insight into their educational and culture-creating potential in the area of early education. To put it more precisely – we are interested in the phenomenon of mobile touchscreen devices (smartphones, tablets) in the context of their cultural, social and educational meanings.

The problems discussed in our text fall within the interdisciplinary research area concerning the “digital socialization” of children: the pedagogy of culture, digital anthropology, sociology of daily life, sociology of child-rearing, pedagogy of media and pedagogy of early education. We are particularly interested in the cultural constructs of childhood in the daily life which is increasingly connected with mobile wireless devices.

The appearance of such devices generated numerous discussions in the area of the social sciences and humanities, concerning the change of the essence and nature of social relations, models of culture, learning and socialization, as well as the development of new models of identity in the contemporary information society (Orton-Johnson, Prior 2013). We are also interested in the changes taking place in the family field as an area of intergenerational communication, socialization and rearing of children as well as learning in connection with the mobile revolution (Castells et al. 2004). In other words, we are trying to answer questions concerning the being of an m-child i.e. “wireless” socialization and learning (and the related dispositions) as well as “mobile” family life in the digital culture in Poland.

Our overview of the said phenomena is related to the theoretical and methodological approach of British cultural studies, child-rearing sociology and the pedagogy of early education (in particular in the area of its interest in the cultural construction of childhood, development of children’s identity, socialization and emancipation of children), and the sociology of gender (cultural construction of motherhood and the related changes) rather than a functionalist look at new technologies from the perspective of the effectiveness and optimization of the learning of the youngest and early school children. However, the above does not mean that we treat the problem of the change of learning models as unimportant. What we are interested in is not so much learning as an isolated cognitive process as the learning grounded in culture (digital and mobile communication), which designs its conditions of possibilities.

In this article we make references to the concepts of *digital natives* and *digital immigrants*, which indicate one's degree of familiarisation with the digital culture together with the cognitive, cultural and social consequences resulting from differences and inequalities in this scope (Prensky 2001b). We are conscious that the concepts entangle us in specific disputes concerning the issue of generations and the cultural status of new communication technologies. Such discussions are also centred around the question of whether we are dealing with new culture designing a different quality or structure of science and socialisation, or whether mobile communication technologies are only a slightly changed (technologically enriched) learning environment, which remains unchanged in its structure (Ally 2009). We do not intend to close these disputes ideologically and arbitrarily confirm the correctness of one of the cultural diagnoses concerning digital technologies. We only want to present a preliminary overview of the new, not yet well examined field of the potential empirical studies bordering on cultural studies and early education, making references to an interesting set of concepts, theories and the possible research approaches.

Theoretical fore-field and the basic assumptions

The appearance of mobile wireless communication devices (smartphones and tablets) is a relatively new phenomenon, which has not yet been problematized on the socio-pedagogical ground in Poland. References to the family context of the functioning of mobile devices and problems of the socialisation of children, in particular in the youngest groups, are rather scarce in international source literature as well. There are several reasons behind the gaps in the knowledge on the socio-cultural context of the functioning of the youngest children in the "wireless sphere". Without any doubt, the first one is the "novelty effect" – mobile devices appeared in the world and in Poland relatively recently. The second one is the nature of the research which is carried out (both in Poland and in other parts of the world). Although many research works concern children – *Dzieci Sieci* (*Children of the net*; Siuda, Stunża 2012), *Dziecko w świecie mediów elektronicznych* (*The child in the world of electronic media*; Izdebska 2007) – the careful reading of these research works and reports shows that their authors refer to teenagers (understood as children aged from nine to sixteen), omitting the youngest children as active users of mobile devices. The fact that research is focused on teenagers comes as no surprise since teenagers use mobile devices most comprehensively, fully and creatively. It is mainly with them in mind that authors and suppliers of new communication technologies endeavour to improve the functionality of devices and extend their possibilities (additional functions and services).

The most numerous analyses devoted to early school children (and their parents) are carried out for marketing purposes. Surveys carried out by the Kid Industries agency (on 2,200 parents of children aged from three to eight) in the USA and Great Britain at the end of 2011 show that 15% of children use their parents' iPads on a daily basis, 9% have their own iPad, and 20% do not have their own devices. As many as more than 77% of parents participating in the survey were convinced that the use of tablets by children had a positive influence on their de-

velopment, stimulating creative potential and logical thinking (Pope 2012). The parents' optimism related to these "miraculous devices" is used in marketing, and the children's population has become a serious target group, to which a dynamically growing offer of applications is directed¹.

At the same time, some developmental psychologists and therapists started a moral panic in connection with the detrimental effects of the use of touchscreen devices by small children. According to these psychologists, such contact was to result in developmental problems, impaired concentration, nervousness, exacerbate ADHD and lead to autism (*Is the iPad bad for children?* 2012). A four-year-old British girl – the youngest child undergoing treatment for addiction as a result of her strong addiction to her iPad – became living proof of the detrimental impact of iPads on children (Seales, Harding 2013).

The environment of the parents of children suffering from autism gave a serious blow to the psychological discourse of the harmfulness of tablets. This group argues that these devices have a "miraculous" effect on the treatment of their children, relieving them from some effects of autism (Brandon 2011; a great progress in the area of communication and the ability to control information from the external world reaching the child). The first applications addressed to autistic children were designed for iPads, but nowadays programs for other touchscreen devices (including those using the Android operating system) are also available. Parents and teachers confirm that the simplicity of operation, visual elements and the intuitive nature of touchscreens combined with the portability and attractiveness of tablets and iPads caused a breakthrough in many children with a whole spectrum of disorders and dysfunctions. According to Gary James, the author of a website featuring reviews of applications for children with special educational needs, tablets give the (socially understood) voice back to children. Parents turn their attention to the inclusive nature of mobile devices, which do not at all resemble the stigmatising and prominent auxiliary educational materials which their children have to use in social contacts. What is most important, the touchscreen eliminates some typical problems suffered by children with autism or physical disabilities: the use of a keyboard and the understanding of the relationship between the mouse and the cursor.

Our surveys entitled *M(obile) Mama* (April–June 2013) provided us with empirical data showing that Polish pre-school and early school children are active users of mobile devices (the youngest user was nine months old, and the oldest one – nine years old), and that m(obile) mothers see pro-developmental potential in mobile devices and are very happy to include them in their own children's socialisation field. The sphere of socialization practices related to these devices covers changes in the area of the exploration and the organization of the world by the child (the agential touch) and the system of family (and perhaps also school) relationships. As it was discovered, mobile devices facilitate children's cognitive independence. They are also a basis for the children's relatively equal position in relation to adults – they make it impossible for adults to exercise full control over the kids' activity. The *M(obile) Mama* study showed some important changes in the area of practices (action): the social unattractiveness of stationary computers,

¹ We found iPotty – a potty with a built-in touchscreen – the most unusual product (Urist 2013).

children's frustration resulting from contact with them as well as an increasing attractiveness of touchscreen devices resulting from the simplicity of their operation. As results from the findings of theoreticians and researchers of the information society, a stationary (traditional) computer is becoming a symbol of a certain (past) stage of development of the society, and the potential impact of mobile devices is bigger than that of traditional computerisation (not least because they are much more popular in households). Manuel Castells argues that the information revolution gained a new momentum from mobile devices (Castells 2004). This is not about current trends, but a radical change of the learning and socialisation environments as well as access to the digital culture (intuitive operation of the touchscreen has epistemological consequences).

Our reflections concerning mobile digital technologies are clearly inspired by the assumptions of social constructivism, as they relate to the mutual, cultural and social relationship between an active object (tablet, smartphone) and a human being. However, we also try to step beyond the constructivist and phenomenological approach to culture, which – on the grounds of the global social sciences and humanities – markedly prioritized non-material cultural processes (giving or negotiating meanings), ignoring the agency of objects (Olsen 2003). In other words, we will try to turn our attention to the relational character of objects (artefacts) functioning in networks connecting various types of beings: people and non-people (Latour 2010: 526), indicating that things also have social agency.

Therefore, we are interested in the processes connected with the sphere of practices (action), meanings (perception and assessment), and the family field (as a field of action of social forces) – as it is there that the cultural meeting of the child and an active object (and the parent making the active object available to the child) takes place. We will also turn attention to the potential cultural clash between school and the digital “mobile culture”.

Part I. Active objects in the field of family relationships

The task we consider of the utmost importance is an analysis of the process of the socialization of children (their initiation) into the “world of touchscreens” and mobile telecommunication technologies. Does the initiation take place spontaneously or is it stimulated and controlled by an adult mediator? How do children learn to move in the world of mobile devices? What needs, emotions and reflections accompany them in their daily practice to which they include an active object with a touchscreen? In what way and how soon do children become competent users of such devices (by touching everything which can be touched on the screen, by trial and error, by asking adults for help or by trying to recreate an observed sequence of action)? These questions are significant in the context of our interest in the processes of knowledge creation by children.

Paolo Ferri and Susanna Mantovani argue that a very important, albeit often omitted aspect of the process of the child's entry into the world of new communication technologies are adult mediators (parents, teachers). The authors turn attention to the sphere of the mediators' personal theories, beliefs, and often no less than prejudices against the children's contact with mobile devices (Ferri,

Mantovani 2006). These theories are based on beliefs concerning the harmfulness or harmlesslessness of such devices for the health of children, their physical, cognitive, and moral development, the children's appropriate age and abilities, their susceptibility to addiction with gadgets, the permitted time during which objects can be used, the degree of the parental/teacher's control over the child, the educational or play essence of the relationship between the child and the object, the value given to this relationship, etc.. Ferri and Mantovani indicate that adult mediators (most often the parents) intentionally or accidentally introduce the children to the world of mobile communication technologies, equipping them with culturally-constructed meanings of the people-object relationship and the first abilities which are significant from the point of view of their chances of feeling at home with the digital culture (Ferri, Mantovani 2006: 6–8). The same authors are inclined to disagree with the thesis on the existence of a generation-based digital divide between digital natives and digital immigrants: this is because contact with digital culture takes place owing to the intervention of an adult mediator (Ferri, Mantovani 2006: 10).

The problem of the family context and new digital technologies as well as their mutual relationships was undertaken in Letizia Caronia's research works (Caron, Caronia 2007). In contrast to Ferri and Mantovani, the author reflects on the problem of digital socialization in a broader way, taking into account the entire scope of daily family relationships and not limiting herself to the subject of the children's learning. Caronia's research project starts with questions concerning the meanings given to mobile communication technologies by members of the families under study as well as senses of their appearance and use in the family context. The author assumes that mobile devices are active objects co-creating the material context of the daily family life in view of their location in the home space as well as the family time connected with their use (Caron, Caronia 2001: 39–63). What is most important, however, is their ability to introduce changes in the system of family relationships.

The presence of mobile devices in the family field leads to unexpected modifications in the form of changes to the customs and habits of the particular family members, and sometimes to a serious reconstruction in the area of "private" norms, values and the heretofore existing "family culture". The research in which Caronia used in-depth interviews and observation of the daily life of Italian and Canadian families demonstrates that before a mobile device is introduced into the family field, a preliminary consent of family members to introduce it to the repertoire of the negotiated customs, standards, and values is always necessary: therefore, the introduction is preceded by a question concerning the significance, purpose, sense, and value connected with the sphere of the potential uses of the objects (Caron, Caronia 2001: 42). In the context of Caronia's research, Polish concerns concerning the risk of addiction to computers (and mobile gadgets) could hence be explained in the framework of family relationships as a field facilitating the development of such an addiction. Therefore, it would not be so much the modern technology itself which would release the addictive power, but the structure of the family relationships (intra-family communication, habits, standards, and values) that would create a system in which an active object becomes the only valuable partner of communication exchange for the child.

Interestingly, when analysing the sphere of meanings and ways in which mobile devices are used, Caronia did not report any problems with excessive forms of contact with the objects. Instead, she managed to show in what way the digital culture transforms the system of family relationships through the daily communication practices of their participants. Apart from the obvious uses connected with work, studying, searching for information and entertainment, the surveyed parents of early school children – especially mothers – indicated that mobile devices let them develop a more comprehensive, more intense parenthood (motherhood), which they consider as communicatively thick and frequently established relationships of control, care, concern, and “being informed” of what happens to the child (Caron, Caronia 2001: 45–51). The child and other family members became – in their opinion – almost permanently available, and therefore the (especially prolonged) absence of communication results in anxiety, nervousness or panic. The intensified motherhood and parenthood are executed through a range of practices of “staying in constant touch” (texts, MMSs etc.), which make parents feel that they are close to the child, through frequent recording, documenting and “stopping” of the daily life (making photographs and videos). For many subjects, mobile devices also became an occasion for a more frequent being together, and for learning, playing and discovering something new together. This group of mothers indicated the community-building potential of the new digital technologies, which in contrast to the former forms (a stationary computer) do not develop “communicative autism” in the users.

However, Caronia’s study discloses a marked generational difference in the area of the giving of value to close contact by the particular family members. The oldest generation (grandparents) believes that real communication and emotional “closeness” as family values can only be executed face-to-face (in direct availability). They interpret more intense communication relationships via mobile devices as less valuable, whereas for the younger generation (parents, and children in particular) family values are an integral element of touchscreen devices and there is no division into more and less valuable forms of contact (Caron, Caronia 2001: 58).

The child in the world of active objects – the *M(obile) Mama* study

In the next part of the text, we will present some effects of the research project entitled *M(obile) Mama*. The general aim of the project was to gain knowledge about mothers’ strategies in the area of the introduction of mobile devices to their own children’s socialisation field. The research had the form of a quick study (an online questionnaire) and was carried out in April and May 2013 on 50 women aged from 18 to 40 years (mothers of kindergarten and early school children) living in cities and medium-sized towns in Poland.

Almost all the participants of the quick study were university graduates (three subjects had secondary education). From the point of view of their professions, the subjects included twelve teachers, four academic teachers, four freelancers, three artists, three lawyers, four banking professionals, two office workers, five man-

agers, two programmers (ICT), two book publishers, three providers of services, three mothers looking for a job, and three students.

The framework of the empirical research was determined by the following questions: how are mobile devices (smartphones, tablets) introduced to the area of family relationships and communication norms? How are they co-creating cultural (mobile) models of parenthood? What potential of changes are active devices (smartphones, tablets) bringing in to the family field and family communication? What meanings do parents give to mobile devices and how do they perceive and design their children's contact with an active object? How are parental discourses of child development, parental power and control, and the care and supervision of children changing in connection with the introduction of mobile devices into the family field?

The above detailed research questions fit into a more general perspective of reflections regarding the ways in which children are introduced to digital culture.

Research results

An analysis of results shows that m(obile) mothers understand mobile technologies, their functions and the potential role in family life and the life of their children in three different ways:

1. some m(obile) mothers gave mobile devices the status of gadgets and toys (for adults). This group shows strong control tendencies in relation to children using mobile technologies. It also develops the discourse of an addicted child, thus placing themselves in the role of defenders of the "natural development environment", understood as an environment freed from the "harmful impact of technology";
2. some m(obile) mothers gave mobile devices the status of community-building tools facilitating learning and (educational) play. This group also controls their children's activity, but assesses the pro-developmental potential of modern technologies in a more positive way;
3. some m(obile) mothers gave mobile devices the status of their own working tools. This group of mothers does not use any discourse of child development in connection with digital technologies.

The first important issue opening the sphere of meanings the subjects give to digital devices in socialisation and child-rearing relationships concerned the children's right to own a mobile device (a tablet or a smartphone) solely for their own personal use. What was behind it was not a "marketing effect" i.e. the intention to determine whether the subjects were ready to purchase a device i.e. for their child, but the need to disclose how they understand and evaluate the very idea of independence (autonomy) of the child as the owner of a mobile device. Most of the subjects were not enthusiastic about the idea of child autonomy – the children's right to have their own mobile device. The answers given by mothers contained a considerable load of ideological constructions related to broader contexts – constructions of the meanings of digital communication technologies, ways in which they are used by children and the functions and roles of touchscreen devices in the

modern world (including the children's world). Many mothers expressed a belief that if not controlled, digital culture has an adverse impact on children's development and it was for this reason that a vast majority of them supported control understood as a parental power to give mobile devices to children and take them back from them:

I believe that until children are 10 years old, they should not have their own equipment (b 16)²

No to focus on gadgets at this age! (b 26)

M(obile) mothers fear the results of a loss of control over the time the children spend with a tablet/smartphone, websites or applications they use or install independently:

My son's tablet is totally under my control and only the applications which I have first tested myself get there. They need to include something apart from pure entertainment. [...] We do not buy our child a smartphone/tablet as a gimmick, install whatever apps and hand it in to him with a silent message: "take it, take care of yourself and don't bother us". Looking at how fast technologies develop, I think that children should have access to them, but it should be a "healthy" access – one carried out under the parents' control (b 8).

I prefer to have control over my child (b 14).

You need to dose and control (b 41).

For the mothers, the strongest discourse justifying the right of parental control is the common sense version of developmental psychology, and within it, the category of the correct child development, which places a comprehensive, balanced, correct development of the child in the natural, diversified and real (off-line) environment:

The child should function in the real world, experience it through all their senses, develop interpersonal skills through direct contact with other children, parents, people, learn to live as a part of society, spending time actively (b 29).

Jasiek is eight years old. At this age, he does not need a smartphone for his development (b 41).

Apart from the provision of digital entertainment, we should develop the children's will to get involved in outdoor activities in real life (b 1).

Many statements also concern the loss of control over the child in the context of addiction to gadgets. The mothers' statements show the process of personal (cultural) construction of the device as a "toy", "gimmick", "gadget", of the child – as a being susceptible to addiction and of the specific construction (and dichotomous division) of the environment of development: one which is natural, and fa-

² Fragments of the subjects' statements illustrating the phenomena in question contain the coding from the survey.

cilitates development, and the other one, the “artificial environment” of the digital technology being the potential hazard:

You must not **addict**³ or **haunt** your children **with technology** from their earliest years (b 4).

The less the child uses apps and games in a smartphone, the better for the child and for the family (b 22).

Many m(obile) mothers perceive the children as irrational users of mobile technologies, who would surrender themselves to the devices uncontrollably and totally. Their assessments of children’s activity are strongly related to how they defined the mobile devices, the sense of possessing them, and their usefulness in daily life. When a cultural construction of a mobile device is related solely to a “gadget” or “toy”, the risk of exposing the children to a contact with digital communication technologies can be described using the following formula: **ensorship – protection against addiction – dosing – control – making devices available – [goal:] access to playing a “mobile toy for adults”**.

Another group of mothers treated mobile devices as community tools (the idea of joint child and parent learning and playing), which, when used properly (i.e. under parental control), facilitate the children’s cognitive development. However, we should also mention the changing concept of parental control – here, it does not consist in taking away the device from the children after the lapse of a certain amount of time, but in accompanying the children and exercising vigilance during joint activities. From this perspective, parental control has a “low profile”, it is an “internal procedure” fitting the time “spent together”:

My baby is not yet one year old and uses only one app with animal images and sounds. Sometimes we look at our photos together and Skype the grandparents, when we travel. Sometimes we watch cartoons. We also listen to the music while playing (b 46).

This group of mothers believe that digital culture (and mobile devices) facilitate development. They do not contrast it so clearly with the “natural” environment and accept changes taking place in this area to a much larger extent than the first group of mothers, noticing their developmental rather than destructive potential.

Everything changes and our children have to go with the times; they use such devices to learn (b 15).

The children learn to operate electronics very fast, which makes them develop better and prevents lagging behind in terms of the development of electronics (b 25).

The m(obile) mothers belonging to the second group, treating devices as “community-building” tools, developed an alternative concept of child development: **being together – vigilance and protection – joint learning/playing in the digital culture – [goal:] feeling at home with the digital culture**.

³ The highlighting in the quoted texts has been provided by the authors of the article.

In contrast to the first group, this group of mothers do not exclude the possibility of child development in the digital culture. On the contrary – the development fits the changing cultural context, and the process of its change is not considered a threat:

My two-years-old child can operate an iPhone. She can phone her grandma, turn the volume up and down, switch to the hands-free system, turn on the music she likes, watch the videos we made during the day. I think that this develops her (b 3).

The mothers in question did not consider mobile devices as toys (for adults) or gadgets, but as tools accompanying everyday actions: facilitating more frequent contacts with the family, documenting daily life and allowing one to learn. This type of meaning given to an object within the sphere of parental child-rearing practices minimises the temptation of its appropriation by the children as an attribute of power, “adulthood” or prestige. M(obile) mothers consistently stress the community-building aspect of the devices, referring to the development of the ability to share on the grounds of the communality:

Children should be taught to share things (b 28).

The third group of mothers (the smallest one) use tablets and smartphones primarily as their working tools (as a mobile office, for professional contacts, but also for the management of household time or finance). This group of people are the strongest supporters of the idea of the children’s mobile independence. They motivate their standpoint both pragmatically – fearing a loss (accidental damage) of the device or the data it contains (professional loss), which may take place when children play with the mother’s working tool – and ideologically (liberally), as granting the child, as every other human being, the right to privacy, entertainment, and ownership:

Apps and files are a personal business of the adult and I would not want my child to have access to them. It is also about the possible destruction in the case of the younger children (b 13).

I assume that the smartphone is a personal tool and that everyone should have their own device (b 28).

Just like any other human being, the child has the right to privacy and entertainment. Every adult has a device of this kind, so why should not we give them to children? (b 18).

This group of subjects do not form any preconditions concerning the children’s contact with mobile devices. They do not use any specific “developmental discourse” in connection with the digital culture, either. It is only worth pointing out that the subjects use the category of childhood which is understood individualistically through subjective rights, in particular the right to privacy and ownership.

Mobile devices in child development discourses

As has already been determined, many m(obile) mothers perceive digital culture in the framework of the discourse of “concern and care”, treating it as a threat to their children’s development or as a necessary and obvious element of their social world. However, in the eyes of many mothers participating in the study, the pro-developmental value of contact with cultural artefacts filtered through the sieve of parental control (time, educational value of applications, etc.) increased. The subjects most often referred to the children acquiring the necessary ability to efficiently move through digital culture and to find and process information, as well as to the stimulation of creativity, perceptiveness and manual skills.

The subjects mentioned some positive sides to the children’s participation in the digital culture:

The development of a certain intelligence allowing one to move through the digital environment, which is indispensable in the contemporary world, as well as imagination and even creativity (b 1).

Valuable apps develop their perceptiveness, make them more sensitive, give them the sense of agency, a possibility to discover and spontaneous non-schematic activity (b 31).

Owing to this, the child has an opportunity to learn faster while playing (b 48).

Broadening knowledge, effective use of electronic devices (b 37).

The child is on good terms with technology, and can find the necessary information in no time and in a concrete way (b 12).

The child learns the alphabet, counting, colours, shapes, develops his/her abilities, creativity, manual skills, memory, and perceptiveness, learns foreign languages while playing – using mobile apps for kids, teaches others how to use the devices (b 8).

The subjects stressed that the fast domestication of the Children in digital culture gives them a stronger (more balanced) position in contact with the less competent adults, making the former the teachers or guides through the world in which the latter move less efficiently:

My child is becoming a competent user, he does well with devices, and teaches his own grandma how to use them (b 23).

The subjects mentioned some benefits they achieved in connection with the children using mobile devices (e.g. a discontinuation of boredom or the monotony of travelling, end to crying, a moment of rest, etc.):

The child is not bored while travelling (b 22).

A free moment for myself and some fun combined with learning for the child, which will not differ from other children (b 2).

Rest for the parents... (b 40)

We can make him interested in the smartphone, light, sound, etc. in a crisis, for example when he cries in the car (b 11).

Another question stressed by m(obile) mothers concerns the obvious function of mobile devices – communication. In contrast to popular beliefs that children’s early contact with digital culture closes them to social contacts and limits unrestrained peer communication⁴, the m(obile) mothers mention an intensification of social contacts, in particular within the family, owing to mobile technology. It should be noted that mobile devices also effectively play the role of tools of parental control:

If we need information fast, mobile technology helps: we have contact with the child all the time (b 15).

The child is in contact with others or with parents (b 21).

Fast provision of information to mum, frequent texting (verbalisation of thoughts). Development of relationships with the peers (b 26).

A possibility of a more frequent contact with the grandparents (b 28).

Safety! She can always contact an adult, and the contact with the child is also easier (b 38).

It turned out that mobile devices bring about mutual benefits: children experience development of the network of communicative social contacts, while mothers have an opportunity to develop a more comprehensive, more intensive motherhood. For the subjects, this more comprehensive motherhood is tantamount to communicatively thick and frequently established relationships of control, care, and concern, as well as “being informed” about what happens to the child. It results from what the mothers said that the network of family relationships becomes thicker from the communicative point of view: both the children and other family members are almost permanently available. Intensive motherhood is also marked by the documentation of daily life (filming or photo-taking) and practices of “being in touch” (sending texts or MMSs), which let people feel close to each other in the communication space (Caron, Caronia 2007).

The touchscreen – developmental profit and loss account

More than a half of the m(obile) mothers participating in the study can see changes resulting from contact with mobile devices. Only five of the subjects indicated a negative nature of such changes. The children’s behaviours particularly disapproved by the mothers include: addiction to touching the screen of the device, crying when the child cannot get the device, child’s excessive interest in the

⁴ The image of a “dulled” child gaping at the computer screen, not undertaking any activities, having no interests other than the virtual world, and feeling no need of contact with the parents or peers.

course of the game, and nervousness and excitement resulting from the use of this type of equipment:

One child has a problem with finishing playing – it makes him angry (b 5).

Unfortunately, yes: obsessive thinking about what happens in the game now, who plays, what has changed. The absence of concentration, unwillingness to perform tedious tasks (b 33).

My friend's son got addicted to the touch of the Apple phone. It may seem funny, but my friend does not think so (b 34).

Negative changes! The majority of them are illiterate! (b 15)

The other mothers indicated positive changes they related to the children's contact with mobile technologies. These included: natural, fearless contact with communication devices, the younger children's earlier knowledge of colours, shapes, digits and letters in comparison to their peers, the ability to record videos independently and constructing short stories on their basis, more efficient learning of foreign languages, an interest in reading, the acquisition of general knowledge and growing confidence. These changes can be illustrated by the following statements of the subjects:

Hania has learnt almost all the letters, and she can recognize digits. The phone helps her owing to the keyboard. She develops her communicativeness, she tries to tell us more. Owing to this, she develops her vocabulary. She also develops her music skills, singing the songs I have in my music library – she loves listening to all sorts of music. She dances. The contact with the phone and learning how to operate it consolidates her memory. The videos showing her since the first month of her life broaden her vision of the world (b 2).

She is more open to the world (b 19).

Many apps installed in the iPad my son used contributed to his faster learning of digits, letters, colours, shapes, foreign languages, etc. (b 8).

She learns how to use contemporary devices. She is not afraid of them, it becomes natural for her to use them (b 10).

He reads more and is more eager to read. His knowledge is substantial (b 12).

I think that this is a change of mentality of the entire generation. The children feel that they have permanent access to information. Whenever we have any doubts, my child says: "check it on the phone". He has no problems with the operation of various mobile or electronic devices (b 24).

A subject's statement concerning generational changes in the treatment of information as readily available can be attributed to one of the leading ways of the understanding of digital culture proposed by Marc Prensky (2001a). The generation-based division into digital natives and digital immigrants as described by the author, indicating the degree of domestication in or alienation from digital culture, involves significant cognitive, cultural and social consequences. The most important ones include new cultural frameworks of learning and socialization, which constitute new types of identity.

Another change noticed in the children's behaviour (we are inclined to ascribe to the children representing the digital natives generation) is the treatment of electronic devices as if all of them had a touchscreen. Therefore, the youngest generation begins to feel that such a manner of association with reality and – perhaps – cognitive “opening” of the world with the touch is obvious, just like the touch “enlivens” and “opens” the applications installed in the device:

She treats various devices as if they had a touchscreen (b 44).

It sometimes happens that my son touches the window and wants to make the tree growing in the garden smaller with his hand (b 50).

Although the subjects did not refer to the problem more broadly, relevant literature describes it as a change with significant epistemological consequences (Castells 2004). Another result of the children's development among touchscreens concerns the efficiency of the children's operation of stationary computers. It was discovered that the children growing up in the touchscreen world, who learn to operate new mobile devices intuitively, fast and easily (as if the devices were designed with small children in mind) encounter considerable difficulties and feel frustration when confronted with traditional stationary computers (problem with the operation of a large device with an awkward mouse, inability to coordinate the movements of the mouse and the cursor, treating the stationary location of the computer and its immobile operation as a drawback). In other words, the stationary computer is becoming a difficult, boring and unattractive device for children. In comparison with the convenient and light mobile devices, it seems to be a relic of a past age.

Manuel Castells called the appearance of new technologies a mobile revolution, having in mind the cultural changes it evoked. The gist of the Castellian reflections concerning the mobile revolution is theoretically close to Margaret Mead's (1970) findings devoted to alternative possibilities of the transmission of culture (knowledge), i.e. the cofigurative (transmission of knowledge in peer relationships) and the refigurative (transmission of knowledge by the younger generation to the older generation) systems. Research into the social contexts of mobile technologies shows that children and youth have the strongest culture-creating power at this point in history. Castells believes that we are dealing with a significant cultural change and shows a close relationship between the dissemination of the mobile communication and the creation of new teenage culture along with changes in the field of language, and the organization of time and space. However, the most serious cultural change related to the mobile revolution concerns the model of learning. Although we are still dealing with a vertical model of the transmission of knowledge, its direction has been reversed – it goes from the younger to the older generations (Castells 2004).

The screen and parental control procedures

Another thread of our study concerned the problem of family principles appearing in connection with the children's use of mobile devices (the problem of adult power over children as users of mobile technologies). In the collected empiri-

cal material, the motif of control over children proved to be one of the most important problems stressed by m(obile) mothers. This time, it became prominent in the perspective of questions concerning the set of principles communicated to the children in connection with their use of mobile devices. The empirical material does not include references to the degree to which the principles are negotiable (or the children's participation in their development). We suspect that they are most probably imposed by the power of the parental authority and are hardly negotiable.

Almost all the mothers in question, when relating to the set of principles ruling the children's use of mobile devices, introduced a division of time into the strictly controlled "digital time" and the "analogue time" which was not connected with control:

I limited the time spent in front of the device to twenty minutes a day due to the child's age (b 1).

The child uses mobile devices only on weekends, for a limited time and only to use some selected apps (b 24).

I defined a daily time limit (b 44).

A number of the subjects additionally introduced a ban on the independent installation of applications, and the use of devices without a consent of an adult or before the completion of homework. These bans are grounded in the mothers' care for the location of the mobile devices in the appropriate (educational, moral, cultural) framework and for respecting the authority relationship by the child – the child has to obey the rules determined by adults:

The child may use the tablet for the maximum of 20 minutes a day; we agreed which websites she may use, and I check if she sticks to the agreed rules (b 15).

If he uses [a device], then it is during the time for entertainment. Before installing new apps, he asks me if I agree (b 13).

It is me who decides whether it is a good moment for entertainment, but on the child's request (b 32).

I limit the time for "silly things" to one hour. Afterwards each subsequent hour decreases the child's pocket money (b 35).

A ban on use without my consent (b 30).

Some of these rules are expressed in a very authoritarian way and leave no space for negotiation:

There is one rule: he doesn't use it! (b 26)

A few mothers (for whom the mobile devices have community-building value) indicated the establishment of rules connected with the directive of mutuality, such as sticking to the "one after another" sequence, remembering not to keep the device all for oneself, and sharing it:

We have the “first me, then you” rule (b 17).

When justifying the sense of the existence of family principles ruling the children’s use of the equipment, m(obile) mothers mainly mentioned their fears of:

a) developmental harm (and the children getting addicted to a smartphone or tablet):

I did not want my child to get addicted to the device or lose an interest in other types of play and activities (b 1).

Without these rules, the devices would be a threat rather than a chance for development (b 5).

b) losing control over the children and their daily activity:

Because the child also has some duties. Installation of software without my consent will be tantamount to my loss of control over what the child does (b 13).

c) the children keeping the devices all for themselves:

Because my son started to “appropriate” the iPad, which is my toy! (b 12)

To prevent arguments concerning the equipment (b 17).

d) destruction of the device:

To feel safer, to feel that I will not lose my device because my child will accidentally drop it down the stairs (b 8).

M(obile) mothers refer to a certain philosophy of child-rearing (promoted in the media), under which children feel safer in the world ordered by imposed, clearly determined rules:

In every sphere of my son’s daily life, there are rules, and therefore they are also necessary in this area. Obeying the rules guarantees order, balance, trust and the sense of safety (b 27).

M(obile) mothers also indicated the types of applications their children use most often. We present them in the sequence from the smallest to the largest number of mentions: games for children (22), educational applications (8), YouTube (8), graphic applications (7), camera (7), cartoons (4), Skype (4), interactive books (3), music player (3).

The subjects value these applications for the following reasons: convenience, simplicity of the use of the device or application (9), easiness and fastness of communication (staying in touch with people) (8), immediate access to information (8), making the daily (private, professional) life easier and more efficient (8), following the children’s development (documentation, recording) (4).

Hence, it clearly results from the subjects' statements that their positive assessments result from the fact that they see benefits behind the introduction of the devices (applications) to their daily lives (making them easier and more efficient) in the aspect of time (fast access to information) and in the field of relationships and communication connected with the organization of their daily lives.

The subjects also referred to the applications which they consider unnecessary and not valuable. These include: games (13), Facebook (3), internet shops (3), weather forecast (1), mp3 (1), advertisements (1), they do not value the things they do not use (14).

M(obile) mothers believe that these applications waste one's time, are unnecessary and useless, stupefying or irritating. However, the subjects did not discuss this subject very deeply and it was only modestly illustrated with single, usually brief assessments and statements.

In our opinion the study discussed above can be concluded with the following formula: the m(obile) mothers as users of active objects often use the benefits, facilitations and improvements offered to them by the mobile technology. However, they refer to their own children as users of these objects with a lot of caution and some prejudices.

Part II. School computer and gadgets? The problem of power and control

The Polish school faces the challenge of domesticating new communication technologies taking the illusion of the child's first contact with a computer at school as the starting point. After reading the new core curriculum for the first educational stage, we feel certain that the school prepares children for a meeting with stationary computers overlooking mobile devices inherent in the current stage of development of the information society. This surely results from the financial standing of the Polish school, but its traditional "lagging" behind the contemporary developments is also relevant. The new core curriculum for the first educational stage contains the following statements: students completing the first grade (computer classes),

know the basics of computer operation: they can switch on a program using a **mouse and a keyboard**. They know how to use the computer without compromising their health. **They comply with the limitations** concerning the use of computers (Regulation of the Ministry of National Education – MEN)⁵

Students completing the third grade can:

operate the computer: they can use the mouse and the keyboard; name the main elements of the computer set correctly; use selected programs and educational games,

⁵ Regulation of the Ministry of the National Education of 23 December 2008 on the basis of pre-school education programme and general education in the individual types of schools (Journal of Laws of 2009 No. 4, item. 17).

and use options in the programs developing their own interests; search for information and use it: **browse through the websites selected by the teacher** (e.g. **the website of their school**), spot active elements of websites, surf through websites to a limited scope, play animations and multimedia presentations; create texts and drawings: write letters, digits, and other characters, words and sentences with the help of the keyboard, and make drawings with the help of a selected graphic editors, e.g. using ready figures; they know dangers related to the use of the computer, Internet and multimedia: they realise that work at the computer tires the eyes, strains the spine, and limits social contacts; are aware of the dangers resulting from the anonymity of contacts and the provision of their address; **comply with the limitations** concerning the use of computers, the Internet and multimedia (Regulation of MEN).

Familiarisation with the core curriculum shows that the school exercises efforts to **gradually admit** the student population to participation in the digital culture (the first grade consistently remains without access to the Internet). Nevertheless, what is noticeable is the designed teachers' supervision and control strategies concerning the subsequent stages and "admissions" (for example to the websites visited under close control of the teacher). Contact with digital culture in the framework of the school is based on limitations and control, and therefore we may suspect that the school will experience the mobile revolution as a "culture shock" (due to the immediate access to the Internet and the impossibility to exercise full control over the users' activity).

Noteworthy are also other anachronisms. Early school children from environments with average culture capital are already initiated into the world of new technologies, and the early school instructions concerning the operation of a stationary computer do not cause emotions comparable to the ones accompanying the contact with the latest mobile devices (smartphones, tablets). We are obviously aware of the ideological efforts of corporations, market powers and effective marketing exerting their impact on the population of the youngest consumers, resulting in the children's desires directed towards mobile gadgets. However, what is also noteworthy is the ideological work of the school (not only the Polish one) introducing a clear division in the area of communication tools. The school treats stationary computers as good, rightful and educationally significant tools, while banning or seriously limiting the possibility to use cellular phones, smartphones, and bringing tablets to school. Mobile devices are considered to be fashionable, distracting, useless gadgets designed for empty entertainment, and owning one is a symptom of consumer enslavement and vanity.

In an effort to grasp the ideological work of the school, we carried out a preliminary analysis of the hidden programme of one of the textbooks used in the first and the second grades of primary school (*Zajęcia komputerowe [Computer classes]*)⁶ and we also analysed five primary school statutes⁷ to identify the rules pertaining to the students' (and perhaps also teachers') use of mobile devices in the area of the school. We are conscious of the limited possibility to make conclusions and

⁶ The textbook was used as a part of many educational packages of the Nowa Era printing house.

⁷ The study was performed on five primary schools in Tri-City, which agreed to make their rules and regulations (the fragments concerning electronic devices) available to us. Identification data of these schools were classified.

construct broader generalisations on the basis of a small sample of the analysed texts. They are only a starting point for further work we are going to undertake in this scope.

Zajęcia komputerowe (Kęska 2012a, 2012b) comprises a textbook and an instructional exercise book (plus a CD with educational games). The children using the textbook gain knowledge on the parts of a stationary computer, components of the basic computer set, names of devices cooperating with the computer, basics of its operation (explanation of the particular elements of the desktop) and elementary skills in the area of the use of the Windows and MS Paint programs. However, this does not mean that the messages contained in the textbook concern solely the operation of a computer. What is very interesting is the way in which the textbook presents the social uses of modern technologies together with the discourse of addictions and the “moral discourse” – a program of the appropriate use of computers (although neither these chapters nor the content are very substantial). The computer, consistently and often referred to by the authors of the textbook as a “secret box” (e.g. Kęska 2012a: 8), appears in the sphere of uses, facilitations, and improvements of work. The textbook shows places in which computers are used (work places – an office worker’s desk), or professionals connected with a concrete institution (postmen, policemen) using the computer as a part of their professional activity. We may therefore conclude that the discourse of the usefulness of the computer is located in the context of “serious” social activities. The second area is the private sphere in which the computer is presented as a device facilitating and improving the performance of many daily activities (reading, drawing, doing homework). Interestingly, the authors “censured” the context of the use of computers for fun (there are no references to playing, games, or entertainment either in illustrations or in the text). We interpret such a construction as an attempt at linking the technological world with the sphere of rational (serious) uses to possibly weaken the children’s construction: computer = entertainment.

The first chapter, entitled *W świecie kabli i tajemniczych skrzynek* [*In the world of cables and secret boxes*] is a very interesting part of the textbook. It is because the authors present here the rules and regulations of the computer lab, i.e. a collection of “principles in the scope of the correct use of computers”. These rules concern not just the school space – many illustrations under the text show work with a computer at home (an illustration presents a child’s bedroom). The catalogue of rules and regulations is preceded with a short text containing several puzzling statements: “Have you ever seen so many computers in one place? This is a computer lab. This rather non-typical room **may make you feel shy a little, but you will soon feel very much at home here.** It is here that we will discover **the secret world of computers** together” (Kęska 2012b: 4). The narrations of the subsequent parts of the textbook are consistently constructed around the following categories: a secret (“the secret box”), children’s incompetence and their “technological fear”, and the child’s gradual and controlled access to the “world of secret boxes”.

The first category – “the secret” – can be illustrated with the following textbook content:

You already know what computers are for and where they are used. It is time to see them face to face. Today you are going to learn which way the wind blows in the **secret boxes** and what tells you that the computer is on (Kęska 2012a: 10).

Secrets of the keys (Kęska 2012a: 24).

Find the games for the classes and check what **secrets** of the computer keyboard you have managed to disclose (Kęska 2012a: 25).

You have been discovering the **secrets** of the computer all schoolyear long (Kęska 2012a: 42).

During the last few weeks you have been discovering the **secrets** of a graphic program (Kęska 2012b: 28)

The second category: “the child’s incompetence and ‘technological’ fear” can be illustrated with the following fragments:

This is a computer lab. This rather non-typical room **may make you feel shy a little, but you will soon feel very much at home here**. It is here that we will discover the secret world of computers together (Kęska 2012a: 4).

Hello, Young Letter Hunters! You have already learnt a lot. You can draw and you have started to learn writing on a computer. **And it was only a short while ago that you did not know how to switch the computer on** (Kęska 2012a: 26).

The third category – “the child’s gradual and controlled access to the world of ‘secret boxes’” – can be illustrated with the following textbook fragments:

Before going to outer space, astronauts must **prepare themselves for a long time and learn a lot**. You have already acquired the knowledge necessary to start working with a computer. I am sure that you will not confuse a computer (the central unit) with a monitor. Today, **you will win your pass** to the world of computers (Kęska 2012a: 12).

Do the exercises for this subject to **win a pass** to the extraordinary world of computers in the computer lab (Kęska 2012a: 13).

Do not forget that summer holidays are the time of rest – also rest from computers. **See you in the land of the Internet in just two months’ time – in your third grade** (Kęska 2012b: 43).

It is no doubt worthwhile to reflect on the textbook’s (school’s) strategy of presenting the stationary computer as an element of the child’s cultural world. What is also interesting is the large number of references to a “secret”, children’s ignorance and shyness in the perspective of contact with electronic devices, as well as a stage-based organization of the contact. We think that this strategy reflects the children’s information technology experience much less than it creates the foundation for the possibility of an adult control over these experiences (the context of supervision and authority). We are entitled to make the above conclusions on the basis of an analysis of the rules and regulations of a computer lab – a document providing “principles of the **safe use** of computers”. These rules and regulations are repeated in an almost unchanged form (content and illustrations) in the subsequent parts of the textbook (for grades one, two, and three). The textbook for the first grade includes an exercise aimed at the consolidation of the principles. It consists in the correct placement of labels indicating the correct and

the incorrect behaviour in the table with “yes” and “no” columns. We are inclined to refer to the rules and regulations of the computer lab as a specific disciplinary programme applying to one’s body, time, place and hierarchy of authority. The principles of the safe computer use include: the correct body posture (straight back, the correct distance to the monitor), the appropriate organisation of the working space (correct lighting, clear desk, icons on the computer desktop are perfectly arranged into two symmetrical columns), the appropriate length of time (no more than an hour a day), and the appropriate authority relationships (execution of adults’ orders). The list of inappropriate behaviours also refers to these areas and includes: hunched back, looking at the monitor at a too short distance, darkness in the room, mess on the desk (apple cores, a bitten candy bar, a teddy bear, a toy car, a bottle of Coca-Cola, a mug), mess on the screen (many “open” files), prolonged use of the computer, no adult around, a sandwich in one hand and a mug of something to drink.

The disciplinary programme contained in the rules and regulations of the computer lab is very moralistic. It also shows contact with a computer as an activity requiring special preparations and procedures as well as a vigilant eye of an adult, rather than an activity spontaneously organized by a playing or studying child uncontrolled by an adult.

The problem of school authority and teacher’s control of the students’ activity related to devices is also the subject of other school regulations, such as school statutes. Under the Regulation of the Minister of National Education of 9 February 2007, changing the regulation on the framework statutes of public kindergartens and public schools (Journal of Laws of 2007 No. 35, It. 222), schools are obliged to determine the conditions ruling the use of mobile phones and other electronic devices on their premises.

Our analysis of the statutes of five primary schools from the Tri-City area shows that school authorities aim at the minimization or entire elimination of mobile devices from their premises. This is because the devices were defined as dangerous and destructive (a source of disturbance to the school order) or as toys distracting the students’ attention.

Strategy 1. Minimization of the destructive impact of electronic gadgets and toys

The gist of this strategy is the limitation of the impact of mobile devices on school life, although the school authorities are aware of the impossibility of their elimination from the school space. They also accept the parents’ right to equip their children with the gadgets; however, they also protect themselves against the students using the devices as a tool of control over the school and the teachers:

Example 1:

Minor students can keep and use mobile phones on the school premises only if they have a written consent of their parent/legal guardian. During breaks, before classes and after classes, students can use their phones only in the quiet mode.

To record sound and image via their mobile phones or other electronic devices, students must obtain a consent from the person who is recorded or photographed.

In the event of a loss of a telephone or other electronic devices on the school premises, the fact should be immediately reported to the head, teacher or any other employee of the school.

If a student breaks the principles ruling the use of mobile phones and other electronic devices on the premises of the school, the equipment will be placed in the depository. Mobile phones and other electronic devices can be collected by the student's parent or legal guardian.

Example 2:

There is a strict ban on using mobile phones during educational classes. The phones should be switched off and hidden.

Music-playing equipment of any kind (for example MP3 players) must not be brought to school.

During their stay at school, every student is strictly forbidden to photograph, film or record the images or sounds of other people without their knowledge and consent; this ban applies to all the classes organised by the school.

If a student breaks the ban specified in Items 1, 2, or 3, he/she will be obliged to place the mobile phone, camera, MP3 player or any other recording or playing device in the school depository in the school office. The devices can only be collected by the student's parents or legal guardians.

Strategy 2. Prohibition of mobile equipment in the school space

The gist of this strategy lies in an attempt at a total elimination of mobile devices from the school space: a ban on bringing and using them at school. The school culture and the mobile culture are clearly separated here; there is no common ground or possibilities for negotiation.

Example:

The school is a space free from electronic devices. There is a strict ban on bringing them. Every electronic device brought [to school] will be placed in the head teacher's depository. The devices can only be collected by the student's parents or legal guardians.

It turns out that the ombudsman for students and parents receives a growing number of complaints against teachers taking phones away from students (which is facilitated by the school rules and regulations). This is because the ombudsman believes that the taking away of a phone with private messages is a breach of the secrecy of correspondence. In the ombudsman's opinion, when a student disturbs others during a class, the teacher can lower the student's grade for behaviour, but she/he cannot take away his phone. Apart from this, the break time should be considered as a private time, during which the students can send messages or talk via the phone.

Another group unhappy about the school rules and regulations are parents equipping their children with phones so that they can control them during the day and follow their progress. For children coming to school from further locations, the phone is a facilitation – they can phone their parents so that they can be collected

at any time or inform them about changes in the lesson plan. Also, in the case of an accident on the grounds of the school, the children can contact the parents without delay. Recognising such expectations, the school authorities allow parents to make a written declaration confirming that they want their child to use a phone at school in the quiet mode.

However, in our opinion school rules and regulations are not so much about the distraction and lack of discipline caused by phones (making calls, photographing the blackboard instead of making notes), as the change of phones into tools of control – recording the course of the lesson, filming the teacher, etc.. This is because new technologies could contribute to a change of the authority relationship in the classroom and the “balancing of powers and control”.

Early education teachers – digital immigrants?

In this part of the article, we will focus on reports from research projects describing cultural factors as a source of the educational rejection of modern communication technologies. When analysing the phenomenon of male dominance in the contemporary societies, Pierre Bourdieu stressed that despite the indisputable changes, which strengthened the position of women, there are still several cultural “constants” recreating the symbolic border between the male and the female world and their hierarchy. They include the culturally-constructed female technical “disability” expressed in the form of a social permission (and sometimes even expectation of signs of such “disability” and hiding any competence) for women’s public manifestations of incompetence in the technical area, their demonstration of helplessness and the expectation of support from men, thus gaining the status of experts, regardless of their actual expertise in the field (Bourdieu 2004: 43). However, the analyses of the family context of culture as presented in the earlier part of the article do not confirm Bourdieu’s diagnosis. We might even be tempted to arrive at an optimistic conclusion that the “mobile revolution” turned out to be surprisingly inclusive in the gender aspect: the results of the *M(mobile) Mama* project show that mainly women make their own mobile devices available to their children, thus opening the children to the digital culture.

However, the research results discussed in the further part of the article indicate that a certain amount of caution should be exercised. We managed to find some analyses indicating the existence of “islands of educational resistance” towards the digital culture: resistance with a markedly gender-based nature.

When analysing the educational potentials of mobile communication technologies, Paolo Ferri and Susanna Mantovani turned their attention to the socio-cultural construction of gender (Ferri, Mantovani 2006: 63). According to the authors, hostility towards the modern mobile devices is not so much a part of the culture of the Italian school, as mainly a gender-based construction of the profession of a teacher. The female Italian early education teachers are not, as it was shown, prepared for the digital culture to be able to build their professional proficiency to some extent. On the contrary – the profile of their professional background is conservative from the point of view of culture, and for this reason, when studying at universities, they are allowed to diminish its value or even to demonise it

(due to the common omission of digital culture in the training of teachers, this context of the socialisation of children becomes the subject of demagogical criticism, multiplication of concerns and prejudices). On the other hand, the Italian female early school education teachers are – as Ferri and Mantovani argue – strongly attached to the discourse of the children’s nature, which – in order to develop correctly – should remain “untouched” by modern technology (Ferri, Mantovani 2006: 66). Thus, the teachers give themselves a professional monopoly to define what the children’s nature is, determining what social, cultural, and school conditions will give them a chance to develop most comprehensively. The attachment to the romantic concept of the children’s nature and the correctly organised (standardised) learning environment makes the Italian female teachers one of the most conservative groups defending the “purity” of the school and the “purity” (non-technologicality) of the time of childhood, often against the children and their parents themselves. The teachers’ resistance to the use of mobile devices in education is contained in the following statement: “[...] new communication technologies will change children into machines” (Ferri, Mantovani 2006: 68). The concepts of “naturalness”, “natural environment”, “correct development” and teachers’ professionalism defined as the exercising of care (control) over the “natural”, create an exceptionally strong barrier protecting the Italian education from the impact of the “unnatural” digital culture. We are also convinced that the practice of Polish early school education is not very distant from its Italian counterpart.

Ferri and Mantovani’s research does not tell us whether the said group of teachers excluded touchscreen devices from their own non-professional life as well. However, we suspect that their “naturalism” is related to not so much a specific type of personal beliefs and attitudes (freedom from technology, deep ecology practiced in their own private lives, etc.), as the specific, professionally established form of power over children and the environment of their development. Therefore, we do not think that the early school education teachers create – in view of their incompetence and the lack of ability to move in the world of mobile devices – a very specific group of digital immigrants with a hostile attitude to children (representing the generation of digital natives). However, the school culture and the concept of their profession position them in this way.

Ending

In Poland, the popularity of touchscreen devices among the youngest (and not only the youngest) generation has been growing dynamically. According to journalistic reports, smartphones, tablets, and in particular iPads, are this year’s “number one” on the list of First Communion gifts. Also a look at the internet fora (such as www.mjakmama24.pl) shows that the parents of the youngest children (three year olds) discuss the sense of buying a tablet for their child (*M jak mama* 2013). The devices in which we are interested are becoming an integral part of the children’s world⁸, a new childhood space and a new learning environment in contact with active subjects as well as an element of the construction of the children’s

⁸ We obviously are aware of the digital divide, which also applies to the children’s population.

identity. In this perspective, it will be interesting to observe the school's reaction to the invasion of touchscreen devices. The heretofore existing ways in which the Polish school "coped" with mobile technology indicate the existence of a cultural conflict rather than the use of the educational potential of new technologies.

We are convinced that the knowledge of the ways in which children participate in digital culture as well as family strategies of introducing active objects into the sphere of the socialisation, child-rearing and learning will lead to the identification and recognition of the educational potential of mobile technologies in early school (and kindergarten) education, will stimulate research in the area of m-learning and will minimize the discourse of "new communication technologies as a stark threat to the development of the child" as well as the discourse of the "calming tablet" present in popular culture.

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Summary

Children in Digital Culture

The main aim of the article is to provide knowledge on the educational potential of digital culture, the m-learning infrastructure and its educational content within the field of early education. It examines the patterns of children's learning, cognition and action within the family and school learning and socialization, and the readiness of early education teachers for elements of digital teaching in their professional domain. These studies are relevant to the pedagogy of early education, innovative pedagogy, digital teaching and the sociology of education in Poland.

Keywords

children, school, mobile culture, family, digital socialization

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