

WiDi Technology in Family Life

Technologia WiDi w życiu rodziny

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Abstract

Communication channels constitute the basis for the culture change, a new quality in the domain of interpersonal relations and social activity. Each innovation introduced into the communication sphere, according to Marshall McLuhan's theory of technological determinism, changes the lifestyle of an individual and of a community, including the family. The turn of XX and XXI century was a kind of competition between traditional media (television among them) and new media (Internet and the mobile phone). New technological solutions which try to combine different kinds of media come into use and in a new way influence culture and the lifestyle of an individual and the family.

Streszczenie

Kanały komunikacyjne stanowią podstawową przyczynę kulturowej zmiany, nowej jakości w dziedzinie stosunków międzyludzkich i aktywności społecznej. Każda innowacja w przestrzeni komunikacyjnej, zgodnie z teorią determinizmu technologicznego Marshalla McLuhana, zmienia styl życia jednostki i wspólnoty, w tym rodziny. Przełom XX i XXI wieku to swego rodzaju rywalizacja pomiędzy mediami tradycyjnymi (wśród nich telewizja) a mediami nowymi (Internet i telefon komórkowy). Pojawiają się rozwiązania technologiczne, które próbują łączyć te media, a jednocześnie w nowy sposób oddziaływać na kulturę i styl życia człowieka i rodziny. Tym rozwiązaniem technologicznym jest Wireless Display (WiDi).

Key words: WiDi Technology, TV, Internet, Family

Słowa kluczowe: technologia WiDi, telewizja, Internet, rodzina

A technological innovation of 2010 was the Wireless Display, presented at the biggest fair of electronics for consumers in Las Vegas (Consumer Electronics Show). The appliance makes it possible to transfer video files, photos and music between a laptop and a TV set wireless providing high quality picture and sound. On the one hand it is a triumph of *homo videns* who has gained a wider perception of the world using the pictures originating in the Internet, on the other hand – *homo internetus* who wants to activate passive TV viewers and mobilize them to participate in the interactive space. One and the other exist in a present day family. The mass media used by the family members influence the quality of communication and relations within the family. The question raises whether WiDi, a new developing technology, will be of any considerable importance for these relations in the future and whether it will create a new human?

Wireless Display

Wireless Display working together with the recommended portable computer Toshiba Tecra A11-13Q with Intel Core i5-520M processor

makes it possible to watch films and photos or play computer games without the necessity of using any additional cables between the computer and a TV set. Unfortunately this wireless feature is not complete. This "cooperation" between a TV set and a computer requires an adapter (the adapter is now on offer of Netgar) plugged into HDMI or AV Composite socket of the TV set. It is compatible with laptops which support Intel Wireless Display technology and have Intel Core processors (2010 models). Thus two requirements must be satisfied. The only processor that comes into play is one of Arrandale family – WiDi system may only cooperate with Intel HD module. That is why all notebooks with AMD or Nivida graphics cannot be used. And besides the WLAN module must be of Centrino 6000 series because INTEL has integrated WiDi functions for the drivers of this series. Wireless Display supports WLAN internet connections – the notebook communicating with the TV set can also be used for surfing the Internet.

Owing to this technological appliance the user can watch on HD TV screen whatever is

shown on his laptop screen. This solution will let the user browse the Internet websites sitting on his favourite sofa or in his armchair [1].

Between TV and the Internet

The research conducted in the United States of America by Pew Centre's Internet and American Life and published in 2008 entitled *Networked Families* clearly indicate the existence of a new model of communication (*new connectedness*) based on the Internet and mobile phone experience. Other studies of the same research institute *Generations Online of 2009* show the generations become engaged into new technologies and new style of communication [2]. The new generation with their new style of communication is referred to as *e-generation*, *Generation Y*, *Millennium Kids*, *Millennium Generation*, *Net Generation*, *Get Netters*, *Video Kids* [3]. This *Y Generation* comprises children and the youth born after 1977. Previous generations (*Generation X*: 1965-1976, *Younger Boomers*: 1955-1964, *Older Boomers*: 1946-1954) is characterized by a greater attachment to television, which does not mean that *Generation Y* is free of this attachment. Children aged 8 to 18 in the United States spend 6 and half hours in front of the TV and more than half of them relate that in their homes there are no rules regarding how frequently TV is watched. The results presenting average time spent by children aged 6 months to 6 years are even more interesting. It is an hour and a half daily. Similar statistics refer to European countries [4]. However a shift from television to the Internet as a trend can be noticed. Pew Internet & American Life Project research *Networked Family* shows that according to the interactive network users the Internet as a medium supersedes traditional television. The daily viewing figures increase along with the age of the respondents (18-29 years old – 58%, 30 – 49 years old – 72%, 50 – 64 years old – 80%, 65 years old and more – 89%) and the figures reflecting use of the internet slowly but systematically drop (18 – 29 years old – 29%, 30 – 49 years old – 27%, 50 – 64 years old – 22%, 65 years old and more 12%) [5].

The reflections above lead to the conclusion that WiDi technology may become a meeting place for different generations: “television” and “Internet” generations. These meeting may constitute a base for establishing interpersonal relations of a new kind, which have been limited until now by individual (non collective) use of the Internet or by collective (however inactive and silent) use of television transmission. Statistic data on the Internet

users (children and parents) and the place of the Internet access prove that WiDi may become a platform for spending time together. The Internet use among children in UE is a common occurrence. According to the parents it is 75% of children and teenagers age 6 – 17. The situation is diversified in Europe, with the lowest rate in Italy (45%), in Greece and Cyprus (50% each) with the highest in Finland (94%). Poland is one of the countries representing the average rating (89%). In most of European countries parents constitute a greater group of users than their children. The difference is of 9 percent (parents – 84%, children 75%). The opposite situation can be observed in Malta (63% to 88%), Romania (58% to 70%), Poland (89% to 82%) and Hungary (88% to 80%). These figures seem to stand in opposition to the generally accepted idea that children use the Internet more often than their parents. The differences however can be observed in the age group of 11 – 17 years old. The older children are the larger proportion of them uses the Internet (children age 15 to 17 – 86%, parents 85%). There is also a directly proportional correlation between the frequency of the Internet use among parents and their children. When parents use the Internet on daily basis the percentage of children using the Internet is high and amounts to 83. If parents are not interested in the Internet use only 53% of children use the web. The findings regarding the place of the Internet access the family uses to surf the Internet are also interesting. 9 out of 10 children do it at home (using a family computer – 64%, using their own computer – 34%). This situation encourages the whole family to use the internet and in turn creates responsible media domain use attitude [6].

WiDi technology use may also become a means of motivation for interactive communication. This form of communication requires more thinking (more *homo sapiens* than *homo videns*) and more engagement in the interpersonal relations both in the family and also outside the family. Interactive way of communication is preferred by *screenagers* rather than traditional (linear) communication media. Television, the cinema, radio, daily newspapers or book are too “unidirectional” for *Generation Y* who is familiar with the virtual reality. Linear media users have little control over the information provided. They are presented ready-made examples to follow, provided either ready made moral solutions or no solutions at all which on numerous occasions leads to moral relativism or information “chaos”. Young people are not interested in this communication type, either in media domain or in communication with

the people they care for, that is their parents and friends. They want a dialogue, that is why the web is full of so called *social software* [7]. They want to become engaged in the information process, not only absorb one way data flow [8]. This attitude alongside with WiDi being collectively used may positively influence the “television” generation.

WiDi – education and entertainment zone

The result of competition between a TV set and the Internet has not been decided yet and it will take a considerable time before the TV viewing figures drop. According to the research carried out in the United States of America in 2005 68% of 8 to 18 year old children have their own TV set in their bedroom, 37% cable TV and 31% a computer. The children of this age group spend 6 and a half hours daily using these media with 3 hours of this time spent on watching television. In American families, similar to European families, television is rated number one among all the media used (figures of 2006: TV 100%, DVD/VCR 99%, Video games 88%, Computer 85%, the Internet 56%). A TV set is located in central point of a house (98% - Living Room, 77% - Parents' Bedroom, 63% - Child's BR, 46% - Dining Area). The popularity of television is associated with the fact that for a large group of people television as a means of message transfer has become a message itself. “*Medium is the Message*” – this is the opinion of a Canadian media expert McLuhan [9]. The same information presented by different media is perceived differently. And of all the media television breaks all the records of viewing rates and thus it is no longer only a way of information presentation (*medium*) but also becomes the information itself (*message*). Because of these reasons television supported by WiDi technology may play an exceptional role in educational and entertainment family zone creation, in creation of an interactive sphere between parents and children (unity creation). It is also a chance to create a responsible and safe media space for all the family to use.

Education by means of WiDi would be applicable both for parents and children. When applied for parents, it is assumed that media competence of parents and children are explored. Parents are convinced that this is their responsibility to protect children against threats posed by the Internet use. And at the same time they are of the opinion that they lack competence, they need training in the Internet use. According to *Towards a safer use of the internet for children in the EU – a parents' perspective.*, Flash EB Series #248 over 50% of parents believe that they need more

information on how to protect their children against illicit and abusive Internet content. The Internet use competence demonstrated by parents is often lower than the competence demonstrated by their children. The survey in which both parents and children were the respondents shows that parents overestimate their knowledge on how children behave using the Internet. According to SAFT's (*Safety Awareness Facts Tools*) research 4% of parents suppose that their child might have met the person they made acquaintance with on the Internet, when 10% of children respondents declare that they have experienced this kind of situation [10]. Parents' assessment does not reflect the scale of their children using *chat-rooms*, websites containing pornographic or racist content. This inadequate assessment of children's activity requires from parents to develop self-teaching strategies of the Internet use. Parents' knowledge is very often insufficient and limited to the opinion, that despite the fact that the Internet may generate risky behaviour it is still an indispensable educational tool for children. The benefits of internet use outweigh in their opinion the threats posed by the World Wide Web. The conviction that the Internet facilitates children's education is one of the most common reasons (33%) for having the Internet connection installed in their houses, as indicated by the parents of 10 – 14 year old children [11].

Parents are right to believe that the new media, including WiDi, are useful for children's and youth's education. School curricula assume that the Internet will be used for information search, in doing homework or used as a library. By means of video-conference the pupils who are disabled or temporarily indisposed (and also children who attend kindergartens) may actively participate in classes at school or kindergarten. The new media may positively influence healthy lifestyle promotion (alcohol, drugs, nicotine dangerous diet or self inflicted injury warnings) and help parents in the process raising their children and youth becoming mature. Alas it is not always so. Television is guided by its own mission (worldview or economic issues) which is not always in line with parents' and educators' preference. Their collective use of WiDi would guarantee, to a certain extent, cooperation of parents and TV programme broadcaster or websites content.

On television each year, American children and teenagers view nearly 14 000 sexual references, innuendoes, and behaviors, few of which (less than 170) involve the use of birth control, self-control, abstinence, or responsibility. The most recent content analysis of television found that

more than 75% of prime-time shows on the major networks contain sexual content, but only 14% of incidents include any mention of the risk or responsibilities of sexual activity or the need for contraception. Since the 1997-1998 season, the amount of prime-time sexual content has increased from 67% to 77%, but there has been only a slight increase in the responsible content. Movies and sitcoms contain the most sexual content. In fact, talk about sex or sexual behavior can occur as often as 8 to 10 times per hour of prime-time television. Prime-time television is also very popular with teenagers viewers, and much of what they see contains appreciable sexual content, according to three separate content analyses. In 19 prime-time shows viewed most often by 9th and 10th grades, just under 3 sexual references per hour occurred, usually long kisses or unmarried intercourse. In action adventure series, most of the sex involved either unmarried intercourse or prostitution. One fourth of all verbal interactions on prime-time series watched by teens contained sexual content [9,12].

Kaiser Family Foundation research of 2002 is significant here: 67% of teenagers aged 15 to 17 have not talked to their parents after they have seen some erotic or sex-life related content on television. The research of the same foundation carried out in 2000 shows that teenagers aged 12 to 18 learn about pregnancy from the following sources of information: 40% from teachers or school nurses, 36% from their parents, 27% from friends and 23% from television [9,13]. The latter research results present the power of common attempt of parents, educators and television in shaping teenagers' awareness of a new life.

Young people's education is also provided by means of video games (console-type systems, personal computer, handheld systems, via the Internet) [9,14]. Video games are now well established as one of the most popular choices in the array of leisure activities available across childhood and adolescence. Even children ages 2 to 7 average about 43 minutes of video game play every day. Gender difference in time commitment to game playing are consistently reported, with boys playing more than girls at all ages. For example, in a group of first and second grades, boys played about 3,5 hours per week, while girls played about 2,5 hours. Two media use studies were recently completed by the Kaiser Family Foundation. One sample included children ages 6 months to 6 years. On a typical day, 11% children in this sample played video games, with use, not surprisingly, increasing with age. In a study of 8 to 18 years-old, on average, boys played about an hour

and a half per day, while girls played about 40 minutes. Time commitment decreased with age in this group. Most current research suggests that playing time peaks for many in middle childhood to early adolescence. In surveys of fourth through eighth grades, Buchman and Funk found that fourth-grade girls reported playing about 4,5 hours in the home in typical week, while eighth-grade girls reported playing only about 2 hours. Fourth-grade boys reported about 7 hours of average weekly home play, while eighth-grade boys reported less than 4 hours. Studying eighth and ninth grades, boys averaged about 13 hours of play per week, and girls averaged 5. A recent study in the United Kingdom also identified playing video games as an extremely popular activity, with 100% of 6- to 10-years-olds reporting play. We can speak about positive potentials of video games ("Serious Games"). These potentials are represented by the games which promote teenage healthy life style, educational games, games developing sports abilities or games whose aim is to change social attitudes. However other games (Category: Fantasy Violence, Human Violence, Sports Violence) pose the threat to physical and mental wellbeing of children and youths [9,15,16,17]. WiDi technology gives a chance for children and the youths to use video and on-line games responsibly.

WiDi - responsible media space

Family based (and also full of mutual trust) character of WiDi may be helpful in eliminating on-line threats. Children's and youths' activity in the domain of the Internet and mobile phones (communicators, e-mails, chats, SMS, social portals, discussion groups, blogs) may be associated with the risky behaviour of children and youths. Children very often provide strangers with private information concerning themselves, their families (home address, telephone number, e-mails, photos). In the course of a virtual discussion with a stranger children often become an object of sexual interest, which may lead other sexual acts when they meet in reality (*grooming*). Besides the threats of paedophile type, children are often unintentionally exposed to pornographic content present on many Internet sites children visit when looking for some other information. Very often the search engine results direct children to websites with pornographic content concealed under the names of cartoon or film characters or child TV programme titles. Parents are very often unaware of the ways strangers contact their children. Contact with pornographic contents, as presented in

the research of S. Livingstone and M. Bober, is mostly unintentional and most often initiated by new windows (*pop-ups*) appearing on the screen (38%), when searching for some other content (36%) and by means of e-mails and communicators containing spam [18]. This is an alarming fact that children do not ask their parents for help when they face a problem when surfing the Internet. According to EB only 32% of children in EU (and 33% in Poland) turn to their parents for help when using the Internet. This help is mostly required when there are technical problems with the web, viruses or children want to search for the information required for school (46%). Only few of them ask for help when they are harassed (harassment online) or encounter violence in the Internet (cyber-bullying), dangerous contacts with strangers or pornographic contents (3 – 4 %). Moreover, the dangerous behaviour of children and youths in the Internet space and when using mobile phones may result in different form of virtual violence such as *sexting* (pictures of nude people in mobile phone transfer) [19] or conversations of sexual type leading as far as *cyber-rape scenarios* offers [20,21].

Parents use different form of control over their children. According to EB the most commonly used method is a conversation with children about their activity online (75%). Other parents check the websites used by their children (43%) or their profiles in social portals (30%), control their electronic mail (24%) or they are present in the room when children use the Internet. 61% of EU parents declare that they stay close to their children when the children are surfing the Internet, in Poland this is 74% of parents. Regrettably parents' control or it is better to say watchfulness weakens as children grow up and parents realize that children are better acquainted with the Internet than themselves [22]. WiDi technology use will allow parents to have greater control over their children surfing the Internet and this way prevent them from threats or addictions. It will also be a motivation for parents to develop their competence in modern technologies learning about chances and threats they pose. Children and parents using WiDi together will be made to surf the Internet or use computer hard disc resource in a more responsible way. This way WiDi technology may develop the atmosphere of mutual trust in the family and in consequence play a community constructing role.

WiDi community constructing role

WiDi technology may in the future lay the foundations for the vision of social message and communication as the way to create community between people and family members [23]. Mod-

ern technologies – the Internet and mobile phone although they are the most interactive forms of media paradoxically denote isolation, individualism or even egoism of the users. Traditional media (television) support individual and passive use or common use without a greater feeling of community (common ritual watching of sports, cultural or religious programmes). Communication in the Internet and mobile phone space or in front of the television screen “is something more than just the idea transfer of expression of feelings, this is most of all giving yourself in love” [24,25]. Love in which the whole human participates, that is the body and the soul is a kind of interpersonal communication (internal-personal) act, interpersonal and interactive. Interpersonal quality assumes self awareness of what is true love, interpersonal quality – awareness of this love realised in people's configuration – equal subjects of activity: “I – you” and finally the interpersonal quality would mean feedback between “I” and “you”, where “you” understands love the same way as “I” and this understanding would lead to community of people: “we” [22]. Mutual understanding in love and truth about the other “I” develops mutual responsibility of a person for a person. In a family this would be the responsibility on configuration: wife – husband, parent – child, brother – sister. This way WiDi technology, limiting negative results of watching television and using new media, by means of creating community in truth and love of the family would serve the integral development of a person.

Conclusions

WiDi idea is not perfect from the point of technology. Technological requirements for it to function properly are quite high. There are not many laptops with WiDi function and appropriate processor on the market. WiDi requires an appropriate processor, chipset, graphic card, special controller and software and operating system. In other words, a brand new computer is required. The wireless quality of the technology is still limited by the cable that is required to couple a TV set with the adapter. It is worth noticing that before WiDi technology came into use there was the possibility of connection between a TV set and a computer by means of a cable. So what is new that WiDi technology brings into the lives of humans, families or societies? The idea itself combines television with the Internet as the vehicle of deep ideas which serve the purpose of person's development as a subject and as a community. According to the initial statement that technolo-

gies shape human lifestyle and culture it can be assumed that technologies will be aiming at human development and fulfilment as a person.

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