

# I. EFFECTIVE DEVELOPMENT OF TEACHERS' SKILLS IN THE AREA OF ICT AND E-LEARNING

## *HOMO INTERNETICUS* – FUNCTIONAL ILLITERACY OF CONTEMPORARY MAN

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***Abstract:** In today's computer world traditionally understood reading skills are insufficient, there is an urgent need to introduce universal functional skills. At every turn we see functional illiteracy of philosophy, economy, social and others spheres of human life. This article shows an interpretation of homo interneticus as a new contemporary man and is his qualities, which are most important for the development of educational systems that can prevent increasing functional illiteracy.*

**Keywords:** literacy, functional illiteracy, homo interneticus, ICT in education

### **1. INTRODUCTION – FROM *HOMO ORALIS* TO *HOMO INTERNETICUS***

There is something unjust in modern education, because millions of Europeans and Americans – in spite of formal education – remain illiterate in the strict sense of the word and above all functional illiterate<sup>1</sup> – which means they can't reasonably use the acquired knowledge. The sources of this state of affairs are above all visible in

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<sup>1</sup> Literacy – educational activities aimed at acquiring literacy skills of reading, writing and counting. Functional literacy – literacy method combining learning to read and write with gaining knowledge by learners directly needed in life and work [Internet Encyclopedia PWN, <http://encyklopedia.pwn.pl/haslo/3867725/alfabetyzacja.html>] (accessed: 20.07.2017).

network communication, which prevails today, and therefore modern man is connected with the Internet, namely: *homo interneticus* (or *internetus*)<sup>2</sup>.

When you heard at the moment the words *homo interneticus* you may smile, because this is a relatively new term used to classify a man from a sociobiological perspective. In short, *homo interneticus* means a man connected to the global social network. It is assumed that this concept appeared for the first time on the BBC Two website in the section run by Alex Krotoski (2010). Taking into account expressions appearing mainly in popular science publications it can be stated that *homo interneticus* is a new form of human evolution, which is based on a high state of his communication skills – the foundation of vital functions is the connection to the network. The lack of connection not only makes it difficult, but even impossible for him to function in every dimension: personal, social and professional.

Taking the evolutionary point of view and emphasizing the unique communication skills of human (*homo sapiens*) four classifications can be determined: *homo oralis*, *homo literalis*, *homo typographicus* and *homo interneticus*.

## 2. ANALYSIS OF THE CHARACTERISTIC FEATURES OF HOMO INTERNETICUS

***Homo interneticus* – chaotically learns the world.** In anthropology the term *homo sapiens* refers to people who appeared more than 1.4 million years ago and using handmade tools, including communication tools, were able to record the course of events (e.g. perform cave drawings and decorations distinguishing and differentiating items according to their destination and social status – but without the accompanying story, narration – they are completely illegible, and their meanings can only be guessed). *Homo oralis* is defined as the human species with a narrative (talking) communicative mode, developing concurrently since the emergence of *homo sapiens*. It was linguistic communication, which was probably the only way of cultural transmission up to approx. 4-3 thousand years BC. Then appeared *homo literalis*, which is a term used to describe people efficiently communicating by writing. *Homo typographicus*, in turn, means people using a modern mode of mass communication, fully developed over the last 150 years .

*Homo interneticus* appeared with the invention of the World Wide Web . Surely, a human still speaks, writes and uses printed matter, but the creation and transmission of culture has changed fundamentally.

*Homo typographicus* right from the childhood had to deal with an endless string of real printed matter. He came into the world that was truly determined: every event, every action, every war and its outcome, every accident, every crime, a mistake or a wrong assessment, even every thought (state of mind) had specific causes which

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<sup>2</sup> In the literature the names *homo interetus* and *homo interenticus* are used interchangeably.

could safely be tracked forwards and backwards. Education has always been built on this stability of the world narration – hence the foundation for literacy was to gain reading, writing and numeracy skills – today this is only the basis for functional literacy. Pre-existing *homo oralis* had also every reason to believe in fate, to think that every story has a certain form and only this one definite form, but in the oral culture there is less consistency in the story about the history and the causal relationship is less complicated – we move from one case to another (Goldhaber 2004).

To using the ability to communicate is always a key element of culture and when the mode of communication is changing, the culture is also changing. Everything which *homo interneticus* has to perform is always done by placing ten fingers on the keyboard. He has a sense of unlimited knowledge, memory, time and space, and this is because the Internet knows no distance, there is no spatial relationship in the network. Modern man is guided by involuntary attention in his action, because in the virtual world, people are placed in a personal perspective, which often differs radically from itself. His knowledge is uncertain, because in the virtual world, information is updated on a regular basis (in a continuous and permanent way), therefore appears the so called apparent knowledge, which is the basis of the apparent culture. There is a prevailing conviction that what you know today, tomorrow it may change. The basis for determining the identity is indeterminacy resulting from the ongoing changeability of the time and place of his existence.

Still developing electronized contemporary culture is not institutionally materialized, because people can manage it through the Internet, therefore there is no need to take notes and do printouts and hold in-person meetings (in the real world) are unnecessary. This culture of virtual communication affects human interaction. Attitudes towards objects and living organisms are very diverse. In the world of the Internet there is no distinction between gender and ethnic origin, because they can be also changed. Also, the human senses change with cultural changes. *Homo interneticus* is sensually distracted because his vital functions are carried out only apparently, and the Internet communication does not reveal facial expressions when interacting with other people.

*Homo interneticus* is constantly afraid that something will miss him, he is accompanied by a constant sense of discomfort due to the fear of missing out important information, the chance to experience something and establish social interactions. This is directly related to the spread of mobile devices and the development of social networking sites. The researchers of this phenomenon estimate that up to 70% of adults living in developed countries who are connected to the network and use it on a permanent basis suffer from this fear. The phenomenon was first named and described by D. Herman in the article The Fear of Missing Out (FOMO) (2010). The universality of the phenomenon can be proved by the fact that the slogan "FOMO" was added to the renowned Oxford Dictionary (2016) in 2013: The fear that the exciting and interesting event may be currently happening somewhere else, where I am not, the phenomenon often

occurring in the social media. The basic reasons for the emergence of the phenomenon of FOMO are:

- social networking sites (e.g. Facebook) – flatter the ego of Internet user, the man feels that he is among his friends: nice and intelligent people ...
- on the Internet there is always readiness to provide all the answers ...
- and if you do not look to the Internet, then there is emptiness, longing for something ...

At all times homo interneticus – is always checking something on his phone and laptop and consequently he cannot concentrate on work – this makes him exhausted and depressed. Finally, he sees the psychiatrist – with neurosis and depression. Even at the time of rest, relaxation, when *homo interneticus* – orders a cup of coffee, puts a newspaper and a phone on the table ... he does not concentrate on what is going on around him, does not meditate – is overwhelmed by emptiness and chaos. He reaches for a cup of coffee, glances at the newspaper, but then picks up a phone, puts coffee aside, and after a while he reaches for coffee again, browsing Facebook simultaneously – newspaper is untouched – and at this moment he feels anxious because he should be reading a newspaper, but he isn't. So he glances at the title and further browses the phone contents... nothing happens, and he still feels the fear of what happens when he does not check it.

We can safely assume that from today's point of view this will progressively cause some significant changes in our culture, and particularly can change today's common-sensical view of the world. Certainly, in the future the cognitive abilities of man will even more evolve following the cultural changes. And we must be prepared for this, including school, which must be prepared for this situation.

***Homo interneticus* – „I do not think, but I am” not „I think, therefore I am“.** Existing cognitive dispersion of contemporary man leads to the loss of value of knowledge in the strict sense, and thus the loss of comprehension, ability to associate facts or to build personalized, internally and externally consistent narration of the world – what counts is literalism and attractiveness of information transmission measured by the number of clicks (i.e. likes). *Homo interneticus* is convinced that this is naturally present in the environment and we do not have to strive for it, acquire and cultivate it – simply, we do not need to learn.

On the Internet there are numerous examples of this, like a web TV Matura to bzdura (MTB in short) – (Matura exam is a nonsense) provides “hits” showing deficiencies in basic knowledge and skills to use it: What is inflation? – a title of the movie with Leonardo Di Caprio ☺ (the interlocutor possibly mistook “inflation” for the famous film with the actor entitled “Infiltration”). Another example: On whose side did the Americans fight at Troy? – on our side (film remakes appearing on a regular basis on the Internet lead to the dysregulation of

time and place of events happening – you can set any historical event at any time and place).

Today learning the facts, gaining the knowledge bases in school has become extremely difficult due to the fact that for students the basic source of knowledge - and the oracle as to its authenticity – has become the Internet. Everything is arranged here not according to the logical dependencies, hierarchical structures, and the principle of free hypertext associations, e.g. “1492” on the Internet is both the discovery of America by Christopher Columbus, and the title of the film “1492. Conquest of Paradise” – and depending on what kind of message is clicked, such will be the answer to the question: *What do you associate the year 1492 with?* In the second case, historical knowledge will come down to the plot of the film. Whereby, there are a lot more hypertext links to the film and they are more attractive, because they contain illustrations and further films...

Contemporary education does not feel confident in this world as in many opinion polls such nonsense is also spoken by the adults ... people who are usually holders of Matura Exam. On the one hand, curricula adhere to an objective, recognized and justified narration, depending on the adopted model (substantive correctness), on the other hand, students are regular members of the same narration present in the network subjectively (the objective truth has been replaced by a subjective truth – what I found true at the moment of clicking is true – this is what I liked at that moment). For this reason, millions of Europeans or Americans, despite finishing formal education, remain illiterate or functionally illiterate – they do not know how to make a rational use of the acquired knowledge.

The World Literacy Foundation, investigating this issue in 2015, estimated the global number of illiterates at 796 million, and the loss caused by this fact at 1.2 trillion dollars a year (in Poland “only” 15 billion). It was agreed that this problem affects 47% of Italians, 21% of Britons and 14% of Germans.

Poland is at the average level and does not somehow distinguish itself in such opinion polls. Many countries recognize the seriousness of the situation and try to deal with it in different ways, because it raises a basic questions: whether a society in which a large percentage of people remain at almost preschool level is able to govern wisely?

Ending we can ask: what is the point of democracy if so many voters do not understand basic economic terms, do not see the cause and effect relationships between events, do not understand the language of politics and the media, do not read and do not count well?

### 3. *HOMO INTERNETICUS* – A SPHERE OF ILLITERACY – THE CHALLENGE FOR SYSTEMS OF EDUCATION

**Functional illiteracy of philosophy** is embedded around the problem of being a well-read person and it is not about reading paper books only, but books in general, not only blogs and online hypertext, because this text, without the knowledge of the canon of the reading material, leads to chaos in thinking. This is clearly evidenced by the study of the state of readership in Poland in 2015, conducted by the National Library (Rakoski 2015). It shows that as many as 63% of Poles had no contact with the book, and 37% read only one book.

Spanish BBVA Foundation in 2014 checked the scientific knowledge of the Europeans using 22 questions. The Poles gave an average of 11 correct answers, Italians and Spaniards were ranked behind us, the leaders – Danes, Germans, Dutch – knew the answers to 15 questions. Copernicus and Maria Skłodowska-Curie “saved” Poles from “a great shame” – only 7 percent of Poles believe that the Sun revolves around the Earth (in some countries this belief is shared by up to 20% of respondents). They were asked about the names of world-famous scientists, and only every fourth Pole could not mention any (only in Poland the Nobel Prize winner – Maria Skłodowska-Curie won this kind of ranking by beating Albert Einstein). The other results were poor. Half of Poles believe that people lived as early as in the era of dinosaurs. Two-thirds claimed that antibiotics fight viruses. Only 30 percent were able to select the right of the four answers to the question: what may a genetic disease in the family result in? (in Denmark, up to 80 percent). Although Poles were generally in favor of scientific progress, they broke the record when it comes to distrust towards scientists, most often stating that scientists cross ethical limits. More than half of respondents thought that way. Every third expressed the belief that scientists are lying and are dangerous.

The test also examined the numerical relationship between those who are in favour of evolutionism and the advocates of creationism in each country. On average, 63% of EU citizens believe that the man and the world are rather the result of evolution, 25% claim that this is the work of God (the rest did not give a definite response). In Poland, 37% of respondents leaned towards the evolution and 45 percent opted for the creationist view. In this respect, this is an exception, because even in traditionally Catholic Italy and Spain more than half of the respondents declared evolutionism. Only the Americans turned out to be more creationistic (where the ratio was from 30 to 60 percent). At the same time, Poles are the most optimistic when it comes to the ability to reconcile the truths of faith with scientific knowledge.

The Poles are doing quite well in reconciling faith with non-scientific beliefs. According to the CBOS<sup>3</sup> research (Report 2011) 33% believe in reincarnation (transmigration of souls), 61% in destiny (bad, good fortune). Much more often

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<sup>3</sup> Public Opinion Research Center

these people declared themselves as practicing Catholics than non-believers. More than half of Poles believe in superstitions. The most religious (practice several times a week) are two times more superstitious than non-practicing. The ranking of superstitions heralding success is as follows: keeping one's fingers crossed, a chimney sweeper, a four-leaf clover, a talisman, the number 7. Among bad omens are a broken mirror, a black cat, a handshake across the threshold, the number 13, getting up on the wrong side of the bed. This could, of course, be considered as a nice cultural characteristics.

*People who are completely mentally healthy, less educated, or with a higher education degree, cannot handle the reality that surrounds them. Small problems that can be solved on a regular basis with minimum funds grow rapidly to the size of a powerful tsunami in life. The man is ineffectual, helpless, confused, but .... when the frustration appears he often becomes demanding, impulsive, postulative and more and more steeped in aggression. Such functional and life illiterates cannot articulate what problem they need to struggle with, do not understand it and are looking for a kind of help, everywhere showing aggression and a demanding attitude (Functional illiteracy ... 2015).*

**Functional illiteracy of economic.** In studies conducted by Millward Brown for the Institute of Freedom and Raiffeisen Bank in 2014 (Report: *The state of economic knowledge...*) surprising is not only a belief in the power of numbers seven and thirteen entwined with the lack of distinction by a Polish bank loan borrower between a percentage and a percentage point (this applies to 92% of respondents). Moreover, only one in three Poles knows that in our country there are two tax thresholds now, and barely one in five understands the principle that the entry into a higher threshold does not change the calculation of tax for all income earned in a given year. Every fourth respondent gave the correct level of last year's inflation.

The results of the research presented in the report prepared by the DB Maison (for the Kronenberg Foundation) (Report: *The state of financial knowledge ... 2009*) found that at least the awareness of the economic ignorance is big in Poland – and although we are aware of that, we do not do anything to increase this knowledge significantly. Only 1% of respondents rated their knowledge as very high, and 4% as high. 62% admitted that it is poor and very poor. The consequences are probably annoying in the sense of the individual, because eight in ten Poles frankly confess that they do not know how to plan their expenditure in order to achieve economic goals, e.g. to save a certain amount. The social consequences of economic illiteracy are also visible. When CBOS (Report: *The obligations of the state ...*) asked the Poles in 2013, what obligations they have towards the state, paying taxes was mentioned by 76%. Even in 1999, 87% gave this answer.

In reality there are already social problems resulting from the economic illiteracy, for example, the Spanish Association of Entrepreneurs suggested that unskilled workers should be earning below the minimum allowable wage (...) In Spain, a

million people do not have any preparation for the job, and yet they have to be paid as qualified people. Over the years of the economic boom, thousands of students abandoned education to work in construction industry or services and earn up to two thousand euros per month. Now they belong to the so-called “neither-nor generation” – young people who neither work nor learn. It is because of them, among other things, that the level of youth unemployment exceeded 50 percent in Spain. The Association of Entrepreneurs proposes that they were paid the lowest of all. *People who are 25-30 years old now and did not finish school in childhood, cannot be paid at the same level as those prepared for the job* – says Monica de Oriol, the president of the Association of Entrepreneurs (Portal: Forsal.pl, 2014).

**Functional illiteracy of social** is undoubtedly rooted in a massive and rapid development of telecommunication services. It's not just the Internet, but above all the mobile network, especially smartphones. The statistics are as follows: in 2002 only 19% of the world's population had mobile phones (1,174 billion people). The Internet was used by only 631 million (10% of the population). At the end of 2011 the number of mobile phone users reached 6 billion inhabitants of the earth. More than 2,3 billion people had access to the Internet, while in most cases it was a mobile access. At the end of 2011 Facebook community was the third largest “country” of the world, just behind China and India.

*Modern "illiterates", often with a university degree, cannot meet the demands of competence of the twenty-first century. In the new, post-industrial reality it is no longer enough just to know the alphabet and be able to read and write. It's far too little. Reading texts and searching for data in the network is far different from "traditional" work with the book. Network resources are interconnected through millions of links and references. Conducting research and gathering information has become simple, fast, and available as never before in history. And here comes the problem* (Rymaszewicz 2016).

Computerization of society focused only on quantitative changes showed clearly that changes in quantity did not lead to changes in quality, because, paradoxically, an easy access to the network and its unlimited resources of knowledge has become one of the main causes of specific retrogression in terms of literacy, especially in terms of disappearance of the ability to understand written texts and their critical analysis. The man who is afflicted with the so-called functional illiteracy can read and write, but is devoid of critical thinking skills and analytical understanding of the messages, and thus remains closed within a limited circle of his own rigid beliefs and points of view. He remains unable to change the perception and understanding of the surrounding social world – is a social illiterate and has trouble with reading of not only bus and flight timetables, but does not understand what is privacy or a good self-image and the image of other people in the network. In the twenty-first century, social illiteracy simply means the inability to efficiently function in the world without borders or rigid resources of knowledge and without the behaviour according to set patterns.



## CONCLUSION – MAIN INDICATORS OF *FUNCTIONAL ILLITERACY*

The basic source of functional illiteracy is primarily cyberspace of virtual world, which gives the illusion of not only communication with the real world and learning this world (not just reading, writing, counting) but also the illusion of understanding and living in this quasi-real world.

Among the most frequently occurring functional illiteracy indicators are:

- reading fewer than a few-a dozen or so books a year;
- lack of knowledge of a foreign language;
- inability to write precise, concise e-mails, reports, statements;
- proclamation of arguments full of aggression and personal attacks instead of substantive discussions;
- ignorance to produce cultural and substantive commentaries on texts and statements;
- misunderstanding of written texts: instead of doing reliable analyses and drawing conclusions, carrying out pseudo-interpretations, saying popular formula “because I guess so”; “because I think so”, and “because it is on the Internet”.

There is therefore a great challenge for education in the era of the dominant and widely accepted functional illiteracy of *homo interneticus*.

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