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The Research on Visual Literacy in Transliteracy as the Main Ability to Understand and Communicate in the 21st Century

Abstract

In this paper, the author describes the cultural and technological context of visual literacy, resulting from the specificity of the evolutionarily expanding culture of image and the development of the information society, in the context of the concept of *transliteracy*. It presents the results of pilot studies of Polish university students for specific visual skills. Comparative material for research tasks of the prepared project "The legitimacy of visual literacy in the process of education" is a set of visual literacy (Visual Literacy Competency Standards for Higher Education, 2011) developed in academic and scientific environments in the USA (The Association of College and Research Libraries, ACRL).

K e y w o r d s: information literacy, visual literacy, visual culture, information culture, transliteracy, digital education

Introduction

Learning is one of the basic human tasks and challenges. In broad terms, the process of education is understood as learning, which is acquiring knowledge about the surrounding natural and physical environment, as well as the world of arts and culture. The information and skills which we acquire through experience

make it possible to build creative attitudes and to function better in the surrounding reality. Achieving necessary proficiencies during school education or through self-development, including honing talents and interests, enables one to develop one's individual personality and to use one's qualifications on the job market. One of the essential proficiencies which allow unimpeded motility in the technology dominated environment are informational competencies, which include visual competences as well. In the age of dynamically expanding multimedia resources, the possession of visual knowledge and image manipulation capabilities in the process of education and communication seems necessary. Image as a medium brings great – although still not fully exploited – potential, which is worth utilising in educational practice.

Contemporary intercultural communication is an interdisciplinary and multi-faceted symbolical, social, and ideological discussion that takes place according to specific behaviours, norms, and customs. It takes place by the creations of a specific society, including art, technology, ideology, and education, which collectively create an arrangement between the sender and the receiver, based on either mutual understanding and acceptance or their denial. We discover the world not only with words and texts but also with images embedded in real life. The visual area makes for a specific plateau of communication, in which we can distinguish the iconic and symbolic zones, which are the foundation for the language layer of interpretation. It operates with its own language of images and visual representations with references to the extensive knowledge conditioned by education, socialization, and upbringing.

In the modern world, omnipresent communication is entering various areas of life. We speak through images in politics, education, and in the mass and elite culture. Irrespective of the finesse conceptions of designers of visual campaigns and architects of information, visual images speak to us directly. The acceptance of the visual form of communication as a method supplementing the message or transforming into a form of message has a long lasting cultural tradition, and sets our senses to value the visual experiences. The scope and the quality of the messages using images determine their reception and condition the acceptance or rejection of the visual form of communication. They also specify the need for participating in such an interaction.

Symbolic goods, which are within the reach of the communication influences, are the result of the axiological and normative behaviour of specific communities. They are subject to quality assessment in the context of the development of the civilisation: *communication is cultural through its scope and polite through its quality* (Mikułowski Pomorski, 2012, p. 307).

Image in Cultural Communication

The existing symbolic world in cultural communication is an extensive area that makes communication possible. The means of communication may be physical goods interpreted in the context of meeting higher needs, including works of art, that provide the speaker with a plethora of meanings, definitions, interpretations, and messages through content, form, and medium. Coding and decoding information is no longer an issue. So difficult in regular interpersonal communication, it does not differentiate the common world of symbols and meanings.

Visual forms in paintings, sculptures, architecture, visual arts, conceptual arts, performance arts, and other messages that operate with image cause identity, stereotypes, prejudices, and otherness to become the source of knowledge, unravelling new meanings and interpretations, enriching culture through development, and creating new schemes for knowledge.

Visual Literacy

The transformation of the 21st century, which is becoming more visual rather than text based, is caused by the ubiquity of images and visual media that interfere in the life of a human being. New technologies allow one to use visual content freely as well as to create new forms of messages by everyone. Imagination is not only a supplement of information but it can be used in a creative way at the initial stage of formulating content. It can bolster interpretation skills so that people will be prepared beforehand to use and create visual content critically. Visual competencies allow for full participation in culture and visually focused community.

The transformation of a modern society and a clear domination of the visual under the influence of images and visual media make a significant impact on shaping the life of a human being. The ubiquity of visual information used in intercultural communication (education and science, social life, culture and arts, advertising, architecture) does not always go well with the quality of visual interpretations of cultural texts, and, many a time, wrongly decoded, it handicaps cognitive processes. Cultural and contextual references of visual information require knowledge coming from the cultural capital acquired through generations, including visual knowledge understood as modes of visually transmitted knowledge embedded in the education system. It allows for expanding interpretation skills of visual data, their critical and creative use, as well as acquiring new ones, simultaneously adjusting to the legal and ethical standards of their use.

Visual Communication in the Educational Process

The interpretation of the traditional image requires skill in the fields of iconology, semiotics, and symbolism – the entire spectrum of visual knowledge conditioned by cultural and cognitive competencies. The contemporary needs in the field of interpretation of images used for visual communication require research techniques which have their source in the traditional visual skills, as well as those typical for digital communication.

The definition provided by J. Debes describes visual literacy as skills that allow for reading and recording of images:

> Visual Literacy refers to a group of vision-competences a human being can develop by seeing, and at the same time, having and integrating other sensory experiences. The development of these competences is fundamental to normal human learning. When developed, they enable a visually literate person to discriminate and interpret the visible actions, objects, symbols, natural or man-made, that he encounters in his environment. Through the creative use of these competences, he is able to communicate with others. Through the appreciative use of these competences, he is able to "comprehend and enjoy the masterworks of visual communication (Debes, 1969, p. 27).

The prevailing traditional education provides limited visual "study." During their development, students acquire visual skills with respect to cultural models implemented by institutionalised educational requirements, environmental priorities, and individual needs. Manipulation and ideological implications of visual statements, which take place in the visual environment of a human being, are also pointed out at this stage of education.

Currently, due to the elevated educational needs resulting from the disseminating visuality of the 21st century society, it is essential to develop visual language skills, similarly to developing verbal language, in order to decode visual meaning (theatre, film, fashion, advertising, art, photography, public information, and education). Visual literacy is an autonomous discipline, which is not limited to the traditional history of arts, but – with the interdisciplinary cognitive background – it brings the technology and methodology of learning to education.

In order to efficiently decode and interpret images, and creatively encode and compose the meaning of visual communication, five stages of visual communication have been distinguished (Figure 1).

The first step is sensory perception – identification on the basis of individual experience; this is what one sees through lines, colours, shapes, and writing technique in relation to the individual development, acquired knowledge about the world, and perceived forms. The second step is the mental choice along with the description of these elements which build the entire representation, and of how

they influence the sense and the meaning that is captured. In the methodology of visual interpretation used in history of arts, both of these stages create what is called the pre-iconographic description. The next step is defining the meaning, naming the individual forms with respect to cultural references, semantic contents, and iconographic formats (iconographic description). The next step of the iconographic analysis is finding references for perceived forms in a broad cultural and civilisational perspective, in various possible historical, social, political, educational, and many other contexts. In the next step, described as a critical evaluation of the image, it is necessary to conduct a valuation of the meaning decoded in the previous stages with reference to independent views, rules, and values, as well as to confront it with other interpretations and opinions of the same type. It has to be an analysis and evaluation of both good and bad sides of this phenomenon, its nature being that of an intellectual inspiration, presented from a point view with specified values, for example: ethical, scientific, cognitive, aesthetical, and practical. It may concern content-related correctness (content-related criticism and empirical criticism), formal correctness (logical criticism), science (scientific criticism), methods (methodological criticism), etc.

Contemporary images we encounter every day – in commercials, journals, magazines, electronic publications – are works of designers, who digitally process photos according to graphic design rules, adapting the project to the needs of a visual message. These images are the outcome of numerous conversions and artistic manipulations which prevent the application of an objective analysis that implies the shift of visual impressions and formal differentiation of the composition onto the meaning perception and the interpretation of the conveyed content. Reflection of the reality through the image becomes more complicated because of adding meaning and contextual references. Direct associations of the meaning of the forms depend on the intentions of the creator of the visual message as well as on the interpretative capabilities of the recipient, i.e. the persons taking part in the communication process through image. According to the adopted interpretative scheme, one is assumed to conduct a formal analysis during the pre-iconographic interpretation, which includes intuitive differentiation of the simplest visual schema, and to attach justified cultural and mental meaning afterwards. By occurring relations, they will be subject to an interpretation resulting from the context of the visual presentation, conveying the intended content. The quality of the information obtained by the recipient is subject to critical analysis, depending on one's communicational comfort.

In the history of the visual message form, there have been many styles and methods of recording images. Historical reception variability, evaluation, and influence of the visual works of art, coming from the changing ideologies of the consecutive ages, is the source of the visual knowledge which currently is a component of a competence preparation of the contemporary society. When analysing a visual presentation, one cannot stop at the direct overview. References

to our visual knowledge should occur automatically, introducing interpretation to contextual links, revealing immaterial visual content (form–content–idea).

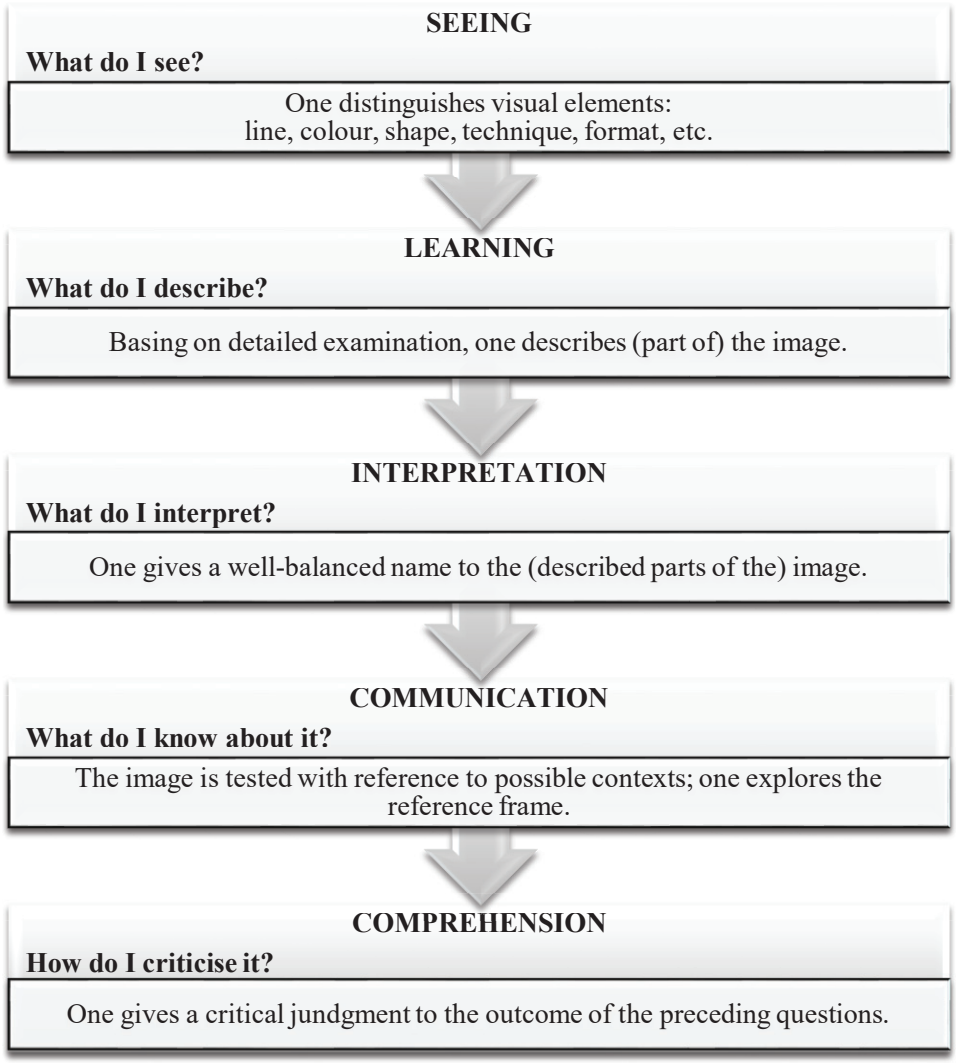

Figure 1. Visual communication in the educational process.

S o u r c e: Own work based on Velders, de Vries, & Vaicaityte, 2007. Retrieved from http://doc.utwente.nl/59769/1/Velders07visual.pdf. Accessed 29 February 2016.

Visual Literacy Programme

Contemporary culture is currently increasingly dominated by visual communication due to globalisation and the simplicity of using images, in contrast to verbal communication, which requires the knowledge of national languages.

The separation of language from the image – which has existed since the times of Gutenberg when the printed word dominated – has become less evident. Currently, elements belonging to conventional visual communication, i.e. iconography, illustration, schema, instruction manuals, charts, advertisements, comics, graffiti, websites, are combinations of verbal information and visualization. Mass visual communication based on this system is a mixture of knowledge and conventional images that are in general circulation and thus widely available. According to T. Velders, S. de Vries, and L. Vaicaityte (2007), visual communication consists of syntax and semantics in order to create a form composed of visual elements, conveying specific content.

Visual communication in education corresponds to guidelines of learning which are focused on the method and the result. Below, there is a scheme of reading, writing, and communicating through image, consisting of a structure of undertaken actions with images based on the theory of image developed so far, in the context of educational and cultural needs. The three interweaving elements of visual communication – form, meaning, and idea – find reference in the educational process, in creating visual messages at the message conveying level (Figure 2).

Similarly to the three levels of verbal language – grammar, dialectics, rhetoric – in the visual literacy programme one can distinguish three levels of visual language, such as visual elements, visual dialectics, and visual rhetoric (Velders et al., 2007).

Visual elements (form–pre-iconographic description–symptom) present phenomena through a system of perceived details. The basic elements outlined by the eye are: line, colour, shape, as well as amplifying elements: form, space, and composition, dependent elements: repetition, point of view, and time, and material elements: texture, technique, and innovations. Dialectics (content–iconography–signal), understood as a method of study and conversion of the world, is the ability of having a dialogue with the use of an image. It is based on the knowledge of signs and symbols used for visual communication which have a universal character. However, visual rhetoric (idea–iconology–symbol) is focused on images we use in symbolic communication in order to persuade someone. It is both the practical creation of persuasive messages and their analysis. The spectrum of exploration conducted with the use of visual images concerns the persuasive purpose set in the previous stages, when choosing form and meaning.

The construction of visual didactic statements in the framework of e-learning with the use of computer networks and the Internet is an original solution for the information architecture in such forms of education as iconography, interactive and multimedia presentation, and network visualisations. It is based on natural human cognitive methods of visual and verbal utterance – repetition, abstraction, schematisation, integration, association, focus of attention, comparison, and profiling. In *Metafory komputerowe w e-kursach* (Kushtina, Różewski & Susłow, 2007), the authors identify an independent knowledge unit in a so-called computer metaphor.

VISUAL LITERACY

FORM visual language structure	**CONTENT** visual communication	**IDEA** visual rhetoric

- in iconographic-iconological analysis (*Iconography. Iconology*, 1999)

Pre-iconographic description (and pseudo-formal analysis)	**Iconographical analysis**	**Iconological interpretation**
•Primary or natural subject matter constituting the world of artistic motifs (A) factual, (B) expressional. •Practical experience (familiarity with objects and events). •History of style (insight into the manner in which, under varying historical conditions, objects and events were expressed by forms).	•Secondary or conventional subject matter, constituting the world of images, stories, and allegories. •Knowledge of literary sources (familiarity with specific themes and concepts). •History of types (insight into the the manner in which, under varying historical conditions, specific themes or concepts were expressed by objects and events).	•Intrinsic meaning or content, constituting the world of "symbolical" values. •Synthetic intuition (familiarity with the essential tendencies of the human mind), conditioned by personal psychology and *Weltanschauung*. •History of cultural symptoms or "symbols" in general (insight in which, under varying historical conditions, essential tendencies of the human mind were expressed by specific themes).

- in educational process (Velders et al., 2007)

SYMPTOM	**SIGNAL**	**SYMBOL**
•grammar •visual elements	•dialectics •visual conventions	•rhetoric •visual metaphors

Figure 2. Visual communication in the educational process.

S o u r c e: Own work based on Velders et al., 2007; *Iconography. Iconology,* 1999. Retrieved from http://w3.gril.univ-tlse2.fr/Proimago/LogiCoursimage/panofsky.html. Accessed 10 June 2012.

It is an illustrative form of projecting reality, a simplified version of content in graphic form, possible for verbalization. As a visual form of information it conveys meaning and allows for immediate understanding in various symbolic systems. By means of visualization or illustration, the computer metaphor is a way of combining object semantics (describing meaning) with semantics of its surroundings in the form of a shared graphic model. Its purpose is to evoke mental activities, for example concept structuring in the field of graphic elements such as: map, diagram, concept hierarchy, hypertext, or semantic network (Kushtina, Różewski, & Susłow, 2007).

In the face of continual learning, e-learning methods meet the needs of different age and professional groups in the framework of required knowledge and planned professional actions of the students. Every kind of activity – cognitive, psychomotor, and emotional – takes place when interpreting terms presented in the visual form, their analysis and intellectual deduction being based on the ability to self-study. Psychomotor abilities serve as tools for observation, simulation, and processing of the graphically illustrated reality and virtual reality. Emotional activity, which is connected to experiencing and building values, is evoked by carefully designed computer metaphors, which are manifestations of attitudes towards the surrounding reality. Simultaneously with the acquired knowledge, the emotional background is also created, which can influence its durability.

The contemporary visual message is structured as an integrated system, differentiated with respect to the level of difficulty and functionally categorised. It consists of a network of intellectual links and references to mental meanings of a high level of symbolism and abstraction. The cognitive approach to the role and function of the image in the current educational system allows for using the visual message as an independent knowledge unit in message conveying (Schnettler, 2011). Being the modern form of communication, visualisation faces the cognitive needs of the contemporary society; the changing lifestyle forces the creation of adequate means of communicating knowledge, adapted in form and functionality for more demanding users in the framework of transliteracy (Duffelmeyer & Ellertson, 2005).

Research on Visual Literacy

Extensive studies conducted by the author of the project "Legitimization of visual literacy in the learning process" consist of a multicultural and technological context, evolving from the specifics of the evolutionary culture of the image. This programme encourages the information technology skills to be used in practical ways in the learning process. The assumption of the research project implemented in academic bodies is to release the creativity and the cognitive potential of the young generation in the scope of the visually transmitted information (conception, searching and acquisition, interpretation, assessment, usage, designing, and sharing). There will be an analysis of the effectiveness of learning in visual literacy

based on the results from the seven cognitive areas. The study on visual skills tests objects as well as social standards and activities in the context of interpreting culture, in connection with evaluating the effectiveness with regard to IT. Having visual competencies, humans should also be critical consumers of visual media and competent participants of the culture in visual knowledge.

Working with visual information should be based on searching skills, usage, sharing, and creating visual materials and as well as on the ethical and legal awareness of sharing and distributing visual content. It is one of the elements of the information competencies skill set of the contemporary society, which combines information skills, interpretation, culture, and visual communication with technological capabilities in terms of using digital media.

In the context of global learning, *Visual Literacy Competency Standards for Higher Education* (2011) is a positive example of actions meant to unify the strategic competence and didactic priorities that create new possibilities for using and evaluating visual methods of work and their professional development. Categorisation of visual competencies is marked by the behaviour of the contemporary information society which information needs may be met through new emerging visual interpretations of knowledge (http://scimaps.org/). Abstract thinking elicited by images, similarly to traditional linear memorising, responsible for expanding knowledge and intellectual development, refers to the intercultural intellectual resources. In light of the endless amounts of contemporary information, their acquisition depends on the specific mode of recording information which facilitates cognitive processes of structuring, systematising, symbolising, generalising, abstracting, etc. The image as a synthetic set of various contents – data, relationships, phenomena, hypotheses, conclusions, ideas – meets the cognitive needs even of the most sophisticated academic environments, and it currently functions as an independent body of knowledge susceptible to analysis and research according to specific disciplinary dogmas. In countries with an advanced information potential, the visual methods are commonly used in learning for theorising, making a point or proving hypotheses.

The analysed standards and competencies within visual literacy may be a step forward for the Polish education system at the academic level in order to spread the visual methods within the higher education system, reaching out to the needs of the modern multicultural information society.

Visual Literacy in Transliteracy

Transliteracy includes all current literacies (information literacy, media literacy, digital reading, digital literacy, visual literacy, etc.), allowing the use of the media and giving users technology and information base for communication, education, and discussion. By definition, it is "the ability to read, write and interact across a range of platforms, tools and media from signing and orality through handwriting, print, TV, radio and film, this digital social networks" (Thomas et al., 2007). It is

based on the convergence of media, forcing them to adopt a new, comprehensive perspective of interpretation. Transliteracy is located at the intersection of many disciplines, i.e. the humanities, social sciences, and technological disciplines. It is the basis of contextual interpretation of contemporary cultural texts based on cultural and intellectual event information. It is more the concept of working with modern media than the skill, which aims to strengthen the cognitive and social benefits by the participation of new technologies and the opportunities they offer.

In formalised education around the world, the reference to educational actions in higher education is a set of standards which precisely explains the competences required for working with information at the academic level (Wieczorek-Tomaszewska, 2014; *Information Literacy Competency Standards for Higher Education*, 2000). In 2011, a similar document dealing with visual skills was created in academic environments in the USA (The Association of College and Research Libraries (ACRL)) – *Visual Literacy Competency Standards for Higher Education* (2011). It describes a set of dispositions concerning abilities such as: searching, interpreting, using, creating, describing, spreading (according to law) of visual content, which are a part of visual communication.

Among the visual communication standards in force at the academic education level, the following skills appear in the document:

1. defining one's informational needs, including types of necessary visual materials;
2. effective and efficient searching for images and visual media in the available resources;
3. interpreting and analysing the meaning of images and visual media in the cultural, social, and historical context;
4. evaluating images and verifying their sources;
5. using image forms in order to effectively visualise terms, phenomena, and processes;
6. designing and creating own visual messages; and
7. having the knowledge of ethical, legal, social and economic issues related to the process of creating and using images and visual mass media, including the familiarity of the legal systems defining the scope of copyrights (*Visual Literacy*…, 2011).

In *Standards*, the attention has been focused on the awareness of individual informational needs in the scope of visual materials through defining the situation, in which such needs evoke the efficient use of images. The conscious user of visual materials is able to independently define the criteria for the selection of concrete presentations, and specify the goals of these actions (illustration of terms, process models, construction schema, and photography). He or she can also identify the available visual resources and types of media.

The unlimited capacity of the World Wide Web is the source for creating collections of visual materials, potentially meeting the cognitive and creative user

needs. In the framework of visual competences, the ability to find images and graphic materials in many different sources plays a fundamental educational role. In order to take advantage of this ability, what is necessary is the knowledge of sources: where they are, what their limitations are, and what the conditions of using them are; in order to do this, one can use search engines for photos, images, clip arts, etc. The choice of the appropriate search engine is a substantial difficulty for many people, similarly to a properly edited Works Cited section.

Apart from the awareness, the searching ability, and the description, the next step within a specific competence in the framework of visual communication is image perception, decoding of meaning, and interpretation along with the analysis in the context of existing conventions, and environmental, social, or cultural conditions. The interpretation occurs on the basis of the visual knowledge, the context and the intertextuality of the meaning. The visual knowledge is constructed along the process of education and socialisation of a person; it can be acquired through interaction with other members of the society, i.e. through gathering opinions and establishing terms. It is an element of knowledge and cultural competencies, a cultural capital, a component of one's habitude as a member of the society in which he or she lives and grows up.

Thanks to this knowledge, one can conduct an analysis and an evaluation of the content from different perspectives, that is – position the message in informational, cultural, and historical contexts. It is connected to another competence skill in the scope of visual communication, i.e. the evaluation and verification of the sources of the visual messages. It results from the need to shape informational consciousness with respect to the used procedures, allowing for manipulation of data and facts. In this case, the estimation of credibility of the recorded sources – the origin of the images and visual messages – constitute basic visual qualifications.

Information consciousness is a state allowing for creative and efficient use of visual representations in a form that is appropriate to the context, i.e. as a quotation, illustration of an object or term, proofs of claims and hypotheses, visual models, phenomena visualisation. Information consciousness is also an independent unit of knowledge built according to its internal structure, whose purpose is to accomplish the cognitive objective. In the framework of a creative use of visual forms, there is a possibility of going outside the known schema and experimenting, which enriches one's own work, giving it an unconventional scientific character through using visual thinking skills in order to explain and solve problems.

The next area of competence concerns workshop and technological skills allowing independent preparation and construction of graphical forms to deliver the informational and educational content. It is an element of the visual knowledge where, apart from cultural, content-related, and informational knowledge, there exists a condition of technological efficiency which ensures effective communication. Because of this, there will be a possibility of building single messages or entire narrations in a visual form, i.e. iconographies, posters, schema, presentations,

mind maps, etc. The rules for designing informational visual messages regulate competence conditions of correctly constructed images, including disposition of the sender, as well as perceptive skills of the recipients, for whom the message will be adapted. Currently, the professional informational statements in a visual form are works of artists and computer graphic designers. Such materials are used by the educational, public, and industry sectors (Pulak & Wieczorek-Tomaszewska, 2012). It should be assumed that with the spreading of graphic software and the increase of the technological skills of the society, there will be a shift of graphical design skills as a voicing element in many areas of life, including education and science.

The successive competencies covered in *Standards* are ethical and legal conditions concerned with acquiring and using informational material from the web. The need for shaping competencies in the field of understanding legal issues, the familiarity of licence regulations that ensures the appropriate use of information, visual as well, is currently – in the light of global social protests (Jurczyszyn, Kołtan, Kuczyński & Rakusa-Suszczewski, 2014) – a subject of prioritised educational treatments. The habits of illegal copying, downloading, and abusing copyrights are common and indicate that there is a necessity of making users aware in the field of issues concerning intellectual property and its practical use in conjunction with social, economic, and ethical issues. The appropriate use of images and visual media, identification of typical licence limitations, allowing for appropriate use of image and the awareness of personal laws as the creator of the image for intellectual property is a subject of study conducted by the two authors in the further part of the presentation.

The presented visual literacy scope of competence, developed for higher education by ACRL, defines the level of skills and the spectrum of knowledge. It allows the students to search for visual information, conduct formal and iconographic analysis, give visual presentations, read contexts and applied conventions within scientific disciplines, and understand cultural references. As a conscientious user of information, a student, one should recognise the need for using visual forms, and as a participant of digital culture one should have the knowledge to acquire necessary images for creating own documents and studies, one should be familiar with publically available visual and audiovisual resources, and one should be able to select visual materials using adequate evaluation criteria. Preparation with respect to information technology and computer graphics helps define the appropriate data format, design own visual materials using numerous graphics editors, as well as use visual forms as a supplement for textual messages. The entirety of these behaviours will be called informational behaviours and the visual information, and working with it, in this context, will constitute an element of the information culture of the contemporary society building its standards of behaviour with respect to own cognitive needs for learning through entire life.

Visual Competencies in the Light of Own Research

Methodology

The selected research methods were determined by the goal of the project, save the unilateral analysis of the visual literacy phenomenon (statistically in the aspect of the representativeness of the results as well as acknowledging the quality). The project included the quantity approach as well as the quality approach. In order to organise the obtained information, the SWOT analytical tools were used, which are a starting point for further explications. The triangular method used in the project, meant for the supplementary usage of diverse techniques (two types of reconnaissance, questionnaires, data analyses) and sources of data (Polish and American students), makes for obtaining a depiction of the phenomenon from different perspectives and allows for better explaining the visual skill issue of the studied group as well as for determining the factors which influence the increase in the education activity in that field.

There is an analysis planned on the effectiveness of learning in the field of *visual literacy* based on the results from the seven cognitive areas. The author's goal for the participants of the research project was to play the role of critical consumers of visual media as well as competent participants of the visual knowledge culture.

The assumed classification in the project, based on *Visual literacy competency standards for higher education* (2011) is aimed at analysing the actions of the participants in an interdisciplinary environment of information of the higher education system in the context of defined competencies (Table 1).

Visual skills are considered to be a part and an extension of the information competencies of the contemporary multicultural society, which allow for freedom of movement in the intricacies of the information and communication systems. Within the information culture, they bring together *information literacy*, interpretation, and visual communication with technological skills in the scope of using digital media (Batorowska, 2013). Images make for individual objects of knowledge that retain their structure and logic (infographics, simulations, schemes, multimedia messages), and are susceptible for interpretation and academic analysis. They are aesthetic conceptual objects, designed to take the human perception to different levels of analysis. In environments based on standard textual methods of obtaining knowledge, they require specific cognitive skills which facilitate modelling of conscious and abstract thought processes. As a tool for the information architecture, they introduce structural designing of the information space meant for organising information.

Table 1.
Designed criteria and indicators for research
Seven groups of visual competences. Tasks and indicators

Competences tasks within visual literacy	Indicators
S-I Define your needs in terms and an image	Areas of exploration Sources Criteria Generating ideas Types and formats
S-II Find images	Research programs Identification Selection Discoveries Organisation
S-III Interpret and analyse an image	Observation Textual data Context Understanding the mining
S-IV Access image usefulness	Source usability Effectiveness Aesthetics Transformation accuracy
S-V Effectively use images	Goal of the research project Using technology Impact of the project Communication Visual conceptions Choosing of the project
S-VI Create new images	Graphical representation Experimenting Creative reusing of visual motifs Visual conceptions Choosing of the best project
S-VII Ethically quote images and videos	Intellectual property Copyrights Censorship Privacy Documentation

S o u r c e: Own work based on *Visual Literacy Competency Standards for Higher Education*, 2011.

Report on the Pilot Research Programme of the Visual Literacy in the Academic Environment

The presented report on the pilot research programme is an introduction to the project implemented under the author's research: "Legitimization of visual literacy in the Polish academic environment" (*VLS No. A*). The project consists of groups of students selected from academic circles all over the country, based on the quota sampling. On the basis of the presented stage of the research project which included five focus groups in five academic centres (Pedagogical University in Cracow,

University of Science and Technology in Cracow, University of Silesia, Warsaw Polytechnics, and The University of Gdansk), the main focus was on the analysis of understanding the definition of the visual information in the context of Lengler and Eppler's typology (Lengler & Eppler, 2007) and on the diagnostic measurements of the scope and type of *visual literacy* in the context of *Visual Literacy Competency Standards for Higher Education* (2011).

The first stage of the research (diagnostic tools of *Visual Literacy Standards No. A*) consisted of study activities aimed at making an initial diagnosis of the explored phenomenon by defining the appearance of the focus group, analysed with respect to the knowledge of the studied skills (Figure 3).

The research results show that respondents do not have difficulties in determining the goal, type, and scope of conducted visual activities (*1.*). They can properly define the need for using images in specific situations and plan the effectiveness of their visual activities in relation to the set learning goals (98%). A similar proficiency is declared with respect to workshop and logistics related skills (*2.*) of searching, acquiring, and sharing visual materials on the web. The two above skills do not pose any problems whatsoever for the respondents because their source is in the natural activity coming from the need to "exist" on the web, using its resources and communicating with people. The respondents were less prepared with respect to other analysed *visual literacy* standards, connected with the quality approach to the visual information, i.e. (*4.*) evaluating the image and its source and (*5.*) choosing the visualisation method for efficient visualisation of data, relationships, and ideas – these are the skills which were declared by 60% of the respondents. Even less of the respondents (58%) declared that they accurately interpret and analyse the meaning of images (visual activities) with an appropriate reference to cultural, social, and historical texts (*3.*). The creative approach in terms of visualisation (*6.*) connected with the ability to create visual messages would be used by only 40% of the respondents. The rest of the respondents did not have the chance to try out their visual information skills, be it using traditional or digital methods, during their institutional education process. Yet, a worse score was obtained with respect to the standard whose main focus is the ability to properly function in the Internet reality (*7.*), connected axiologically to the set of norms and rules in the modern information society. As much as 75% of the respondents do not possess the sufficient knowledge on ethical, legal, and economic topics connected with the process of creating and using images, and visual means of mass media.

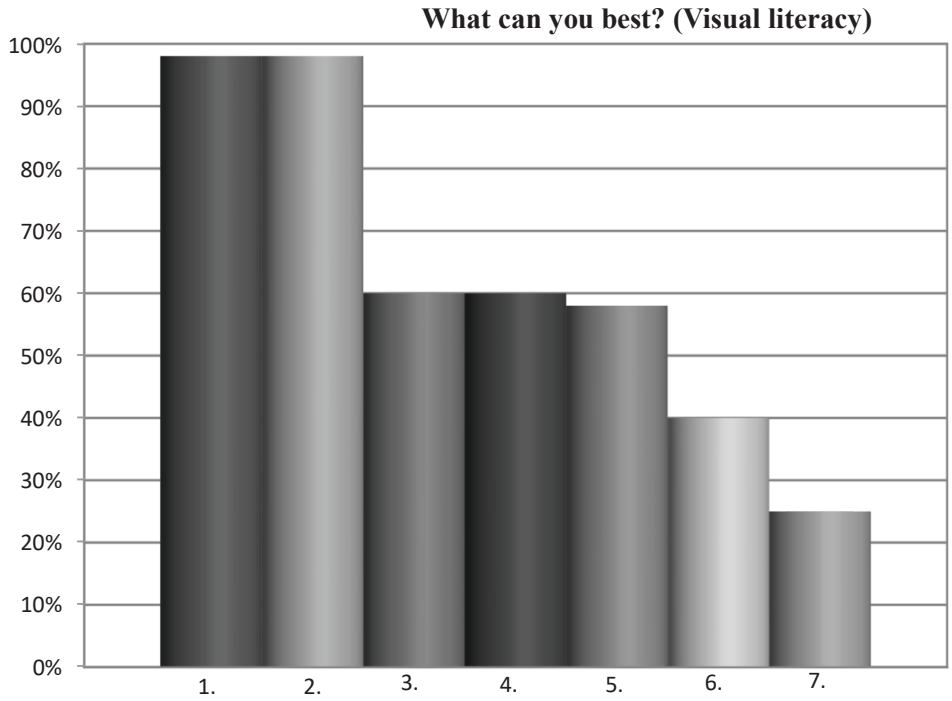

Figure 3. Results of survey for students. Diagnostic study on *Visual Literacy Competency Standards for Higher Education* (Initial form). Visual competency levels (*Visual Literacy Standards No. A*).

S o u r c e: Own work

Conclusion

The appearance of the focus group outlined in the study shows individuals treating their visual activities as highly superficial. The recorded activities show a significant number of declarative behaviours rather than competent activities based on solid knowledge aimed at creating an efficient information visual message. Similarly, with respect to creativity, the research shows the activity of the respondents on a mediocre level. One of the most positive features registered in this section of the research is the desire to master and supplement the knowledge on the issues raised by the focal group which conducted a focused reconnaissance of the issues. The need for supplementing this particular area of knowledge brings certain suggestions in relation to strengthening the standards of preparing young people at initial stages of learning.

The fact that the respondents know so little about the rules of acquiring and sharing visual materials – especially copyrighted materials – indicates an immediate need for education, all the more that the activity of the Internet users in relation to "speaking with images" corresponds to lowering the education standards of the society. If we do not take educational steps towards developing visual competences, we may be faced with distorting the cultural message, recreated by generation after generation, filled with new values and meanings, with respect to the evolutionary multicultural society.

Currently in the society of the 21st century, transliteracy – which puts the accent on understanding and communication skills – is required for the effective functioning. Visual literacy as a component of transliteracy and a result of media convergence is a natural bridge for the transfer of intergenerational cultural capital through digital media. It creates friendly learning environment for a young person, which is a guarantee of obtaining information, correct understanding, and an inspiration for creative behaviour, non-contradictory to accepted norms and values.

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Małgorzata Wieczorek-Tomaszewska

Badania *visual literacy* w *transliteracy* jako główne zdolności do rozumienia i komunikowania się w XXI wieku

Streszczenie

W opracowaniu autorka opisuje kulturowy i technologiczny kontekst alfabetyzmu wizualnego, wynikający ze specyfiki ewolucyjnie rozwijającej się kultury obrazu i kształtowania się społeczeństwa informacyjnego w kontekście koncepcji transliteracy. Przedstawia wyniki badań pilotażowych polskiej młodzieży akademickiej w zakresie określonych umiejętności wizualnych. Materiałem porównawczym dla przygotowanych w projekcie „The legitimacy of visual literacy in the proces of education" zadań badawczych jest opracowany w środowiskach akademickich i naukowych USA (The Association of College and Research Libraries, ACRL) zestaw visual literacy (Visual Literacy Competency Standards for Higher Education, 2011).

S ł o w a k l u c z o w e: alfabetyzacja informacyjna, visual literacy, kultura wizualna, kultura informacyjna, transliteracy, edukacja cyfrowa

Małgorzata Wieczorek-Tomaszewska

Исследование визуальной грамотности как основной способности понимать и общаться в 21 веке

А н н о т а ц и я

В этой статье автор описывает культурный и технологический контекст визуальной грамотности, берущей начало из специфики эволюционного расширения культуры имиджа и развития информационного общества в контексте концепции медиа грамотности. Представлены результаты экспериментальных исследований студентов польского университета для конкретных визуальных навыков. Сравнительный материал для подготовленного проекта «Легитимность визуальной грамотности в процессе образования». исследовательские задачи разрабатываются в академических и научных кругах США (Ассоциация колледжей и научных библиотек, ACRL); набор визуальной грамотности (стандарты визуальной грамотности компетенции для высшего Образование, Чикаго 2011).

К л ю ч е в ы е с л о в а: информационная грамотность, визуальная грамотность, визуальная культура, информационная культура, цифровое образование

Małgorzata Wieczorek-Tomaszewska

La investigación de la alfabetización visual en la multialfabetización como capacidad principal de comprender y comunicar en el siglo XXI

R e s u m e n

En este artículo, los autores describen el contexto cultural y tecnológico de la alfabetización visual, resultante de la específica evolución expansiva de la cultura de imagen y del desarrollo de la sociedad de la información en el contexto de la denominada multi-alfabetización. Presenta los resultados de estudios piloto de las habilidades visuales específicas en los estudiantes universitarios polacos. Los materiales del análisis comparativo para las tareas de investigación se han desarrollado por académicos y científicos del grupo de alfabetización visual de EEUU (La Asociación de Colegio y Bibliotecas de Investigación, ACRL), pertenecientes al proyecto ‘The legitimacy of visual literacy in the process of education’, un conjunto de alfabetización visual (Visual Literacy Competency Standards for Higher Educación, Chicago, 2011).

P a l a b r a s c l a v e: alfabetización informacional, alfabetización visual, cultura visual, cultura informacional, multialfabetización, educación digital.