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A photograph of a modern building's interior, showing a large, curved, white, ribbed structure that resembles a dome or a large staircase. The structure is illuminated from within, creating a warm, golden glow. The sky is visible through the top right corner, showing a clear blue sky and some green foliage.

**CONFERENCE
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9-10 NOVEMBER 2020
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VISUAL LITERACY MEETS INFORMATION LITERACY: APPLICATION IN UNIVERSITY INFORMATION ENVIRONMENT

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Abstract

By the age of 21, the average student will have spent 10 000 hours on video games; talked for 10 000 hours on a cell phone; read for under 5000 hours, and the time spent on social networks, such as Instagram, TikTok, Facebook, etc. will escalate even more. That is why a new learning approach is needed. The presence of visual elements in today's learning is increasing as the integration of images and visual presentations with text in textbooks, instructional manuals, classroom presentations, and computer interfaces broadens and that happens for a reason. The new 21st century skills are essentials and are now obligatory for every student and visual literacy, as one of those skills, is a critical part of information literacy. The paper aligns both visual literacy and information literacy competency standards, revealing connections and opportunities for practical integration in education, because a new deeper level of connection between students and teachers is needed, so the first ones could learn information, without considering it boring. Visual literacy and information literacy in today's digital world go hand in hand and are built into the educational process together. As a combination of knowledge, skills, practices for dissemination of information and knowledge in a new innovative way solve socially significant tasks that arise from real situations in everyday social life. In 2019 a project funded by the Bulgarian National Science Fund started, entitled "Creation and development of educational and scientific facilities for documentary and applied photography as part of the training of students in the professional field 3.5 "Public communications and information sciences" (2018-2020), Contract № KP – 06 – M30/3 from 13.12.2018, led by Chief Assist. Kamelia Planska-Simeonova, PhD. The main objective of the project was the research and practical activities related to the formation of the visual literacy of students who are trained in specialties in the professional field "Public Communications and Information Sciences", at ULSIT in hours of documentary and applied photography. Now, one of the last projects of ULSIT "A Conceptual Educational Model for Enhancing Information Literacy in an University Information Environment" (2019-2021), financed by National Science Fund of the Bulgarian Ministry of Education and Science, Contract № KP – 06 – H35 / 10 from 18.12.2019, led by Prof. DSc Stoyan Denchev, aims to study the state of information literacy, with a special focus of intellectual property literacy in an university information environment among learners and trainers by challenging a civil debate on raising culture on issues of intellectual literacy among academics, which is extremely timely and necessary. The connection of both projects is revealed, as they are both aimed at those new skills, essentials for the whole community, especially in university information environment.

Keywords: visual literacy, information literacy, project, ULSIT, education, university information environment.

1 INTRODUCTION

The conceptual level in the educational practice is changing in unison with the innovations in the educational practice. Globalization is changing both the visual culture and the necessity to increase the information needs of each of us. The competencies that today's society has are related to the values, attitudes, skills, knowledge, and critical thinking. Digital competence, including digital literacy, information literacy, visual literacy, is a necessary set of knowledge and skills, thanks to which multicultural literacy, innovative thinking, adaptability is developed, continuous improvement is stimulated. In fact, the visual filled the everyday life, adapting to each area of activity. The consumer of information resources – regardless if it is text, illustrative material, multimedia, is also a creator of media content, therefore it is necessary to create competencies and habits in terms of information and visual literacy. Practical courses and seminars, representing a creative workshop, are applicable. Students not only need to learn to use their knowledge and creative approach, but they also need to be aware of the more issues related to the ownership of works – intellectual property, because they themselves become content authors.

2 METHODOLOGY

The paper studies and briefly analyses the nature of visual and information literacy. Emphasis is placed on the presentation of project's results and research activities in the field of visual literacy, indicating sample projects implemented by educational and cultural institutions, whose main objectives are related to increasing the competence of visual literacy of pupils and students.

3 RESULTS

In 2016, the Information Literacy Framework in Higher Education was adopted, according to which information, research and science are linked to practice and knowledge [1]. Continuous improvement of skills for working with information sources and the creation of visual messages is a necessary condition for the critical and competent user of visual media. It is therefore crucial that training methods are constantly evolving, depending on what the tools are for managing and using information resources and providing access to them [2]. In 2011, the Association of College and Research Libraries introduced visual literacy standards (fig. 1), which also changed the educational paradigm.

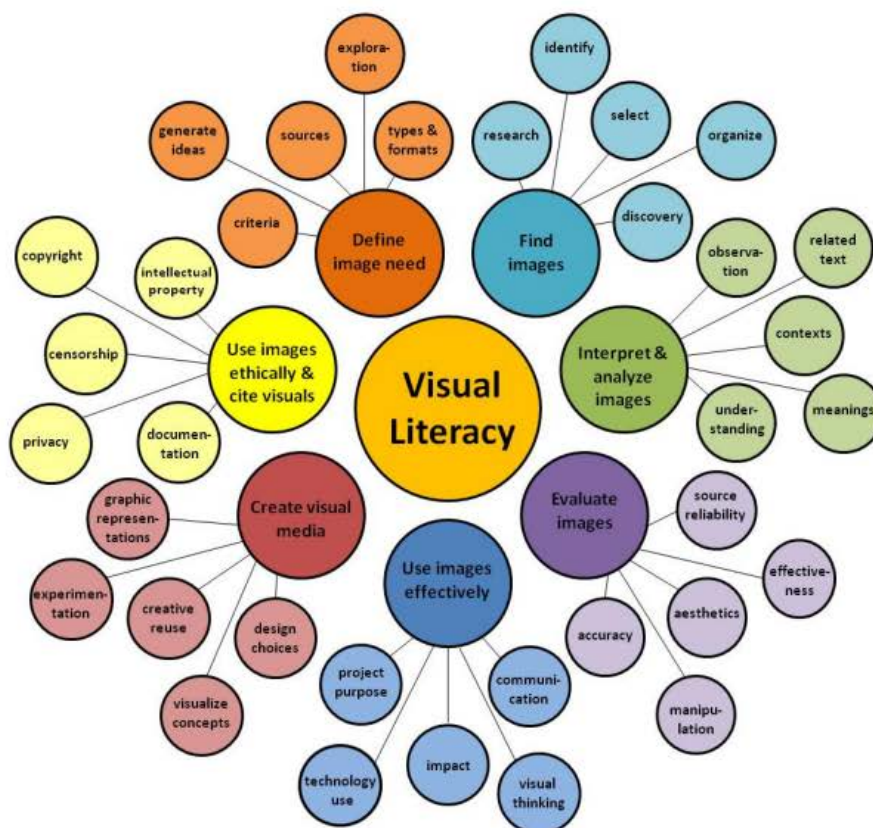


Figure 1. Visual Literacy Array based on ACRL's Visual Literacy Standards by D. Hattwig, K. Bussert, A. Medaille. © 2013 The Johns Hopkins University Press (Hattwig, Bussert, & Medaille, 2013) [3]

As a result of the conducted researches on the nature, role and importance of information and visual literacy, we believe that key knowledge should be developed in terms of:

- searching and finding information.
- the organization of the information.
- information processing.
- creative look.
- sharing experiences.

Young people can be passive or active recipients of visual content; they can make critical choices, they can use visual media to inform, persuade or entertain themselves. The constant flow of visual information oversaturates the senses of the viewers, on the one hand, but on the other hand it spreads

faster and is more effective. Therefore, critical thinking, lifelong learning (self-learning) and communication are leading for visual and information literacy. Images are not used so much for entertainment as a means of communication.

Another aspect in which visual literacy is considered is the application of visual means in the academic environment during the learning process.

The inclusion of visual literacy training in students' curricula encourages the use of specific skills and competences. A question of interest is what the practical tasks are that students must perform to develop their visual thinking. And indeed, what kind of professionals need to develop their visual culture. The skills that are developed with the study of visual literacy are: finding, interpreting, evaluating, using, and creating visual images. Their mastering leads to the ability to produce and use visual materials that help to understand the contextual, cultural, ethical, aesthetic, intellectual, and technical specifics.

According to a research by Julia Schellenberg, in specialties such as Astronomy, Biology and Biochemistry, Communication Studies, Geography, History, Linguistics, Psychology, Sociology, Teacher Education, Visual Arts, Practices across Subjects, the visual literacy training is extremely important due to the possibilities for interpreting and experimenting with visual content in different ways. Library institutions also contribute to the development of visual competence and information literacy [3].

Another study hypothesizes that visual education is needed not only in primary and secondary education, but also in higher education. Visual means help to facilitate the learning content, stimulate creativity, improve memory, and visual evidence inspires students to draw their own conclusions. The ideas that learners can express visually are the result of verbal-to-visual transmediation practices, process of noticing, conceptualizing, constructing, and conveying [4].

The study by Julia Schellenberg hypothesized that each teacher encourages the students to be both users and authors of images and visual media [5]. This, in turn, requires special intellectual property training to familiarize students with possible ways to use and protect copyrighted works.

3.1 Projects related to visual literacy

It is imperative in the contemporary information and communication environment to learn to create and analyse visual content and not only – it is necessary to develop entrepreneurial skills, creative thinking and logic, confidence, ability to transform traditional forms into new ones [6]. In this part of the paper, a study was done regarding the project and research activities related to visual literacy. Specific examples are given to illustrate the multifaceted nature of visual literacy education activities. In addition, it can be concluded that such training promotes the authorship of learners, which in turn requires them to be familiar with basic concepts in the field of copyright and related rights. In fact, both visual literacy and information literacy related to intellectual property are needed due to their multifaceted application in various fields of science, culture, and business.

3.1.1 *European Framework of Reference for Visual Literacy (CEFR-VL)*

In 2016, the European Network for Visual Literacy (ENViL) published a prototype of the Common European Framework of Reference for Visual Literacy (CEFR-VL), based on an analysis of 37 European visual education curricula. As a result, there are 16 subcompetences: analyse, communicate, create, describe, draft, empathise, envision, experience aesthetically, experiment, interpret, judge, perceive, present, realize, use, and value [7]. This project is aimed at teachers of Arts, Design, Art Education, Visual Communication. The aim is to attract visual skills in the classroom and informally [8].

3.1.2 *Ersilia*

An innovative approach in educational methodology is the creation of the Ersilia platform in 2017, which presents a pedagogical tool for “reading” visual information. Ersilia is being developed within five years. It has created cooperation between artists, teachers and students, and the result has been the creation of new approaches to teaching, learning and knowledge sharing. The platform contains a large set of images, texts, and games, through which individual projects can be realized during the lesson or outside the classroom. Combined are:

- experiential learning through sensitive discoveries.

- transversal analyses drawing on a variety of expertise (semiology, aesthetics, history, politics, sociology, media studies).
- horizontal collaborations between teachers, students, and artists.
- emancipatory and non-didactic approach enabling the users to create their own projects in the classroom.

The tool is constantly growing with new themes and resources and is accompanied by LE BAL Labo – a group of volunteer teachers who try out and feedback on new content. The platform can be used for exercises in disciplines of social sciences, visual arts, literature, history, languages, civic education [9].

3.1.3 *BKKB – Visual Literacy in Cultural Education*

The project was implemented in the period 2016-2019 [10]. It is divided into two sub-projects “BKKB-Assessment” and “BKKB-Instruction”. The goal is to explore the connection between visual literacy and cultural education. Funded by the German Federal Ministry of Education and Research (BMBF). The cooperative project aims to gain new insights into the process of how visual literacy can be empirically measured (“BKKB-Assessment”) and how art instruction can foster visual literacy (“BKKBInstruction”). The assessment instrument is based on the European Framework for Visual Literacy [11].

3.1.4 *New Transgenerational Visual Literacy Project*

The project started in 2012, and its concept is related to the creation of interactive visual competence and visual literacy through cooperation between young people and adults. Institutions and non-governmental organizations from Greece, Spain, Slovenia, Turkey, Poland, and Bulgaria are partners. On the one hand, the lack of organized training and activities related to visual competence has been identified, and on the other hand, and the lack of qualified teachers training in visual competence has been identified. Part of the project activities is the creation of a platform for distance learning, conduction of seminars and workshops [12].

3.1.5 *The Center for Digital and Visual Literacy*

The Center for Digital and Visual Literacy is a suitable place for teachers and students who could improve their digital and visual literacy by using specialized software products in the material base, training seminars, presentation of guest speakers. The teachers at the center help the students to create their own digital portfolio, to use photographic and video technologies with free software [13]. I.e. the trainers are content authors.

3.1.6 *Colour Literacy Project. Designing an Inter-disciplinary Resource for Teaching Colour in the 21st Century*

This educational initiative started in 2019 and is applicable in the fields of science, art, and industry. The Colour Literacy Project is a joint project of the Inter-Society Colour Council and the International Colour Association. Visual literacy in combination with scientific literacy is the essence of Colour Literacy, i.e. education is a compilation of science and art. The Literacy Keywords are Curiosity, Knowledge, Ability [14].

3.1.7 *The Visual Literacy Project*

The goal of the Visual Literacy Project is to integrate visual media into the traditional classroom curriculum. The Project was created by Junius Wright. The project is aimed at the ones learning arts. The website provides links to various text and video training resources, blogs, galleries, and more [15].

3.1.8 *Visual Literacy Project by High Museum of Art, Atlanta, Georgia, the USA*

The High Museum of Art in Atlanta with the Georgia Department of Education's Advanced Placement and English Language Arts departments implements a project on Visual Literacy. During their visit to the museum students get acquainted with art objects but develop their skills to analyse individual objects [16].

3.1.9 Canva for Education

It is a “go-to platform for project-based learning”, which is used during the learning process, and as a result of the training students can create: designs, documents, presentations, webpages, posters, videos. Canva provides access to educational templates, images, videos, fonts with common classroom software (Google Classroom, Dropbox, etc.) [17], [18].

3.1.10 The ViLi project Visual Literacies

The ViLi project Visual Literacies is implemented in the period 2016-2018. Programme: Erasmus+, Sub-program: Cooperation for innovation and the exchange of good practices, Action: Strategic Partnerships for higher education. The aim of this project is to train higher education teachers to use visual and video technologies. In addition, the aim is to develop open educational resources, a platform for free training. The project includes a study of video literacy and teacher practice: videos, vlogs, video conferences and holographic teleportation. Visual information is key in the learning process of students in distance learning and online courses [19].

3.1.11 Visual Literacy for Engineering Education (VLEE)

VLEE is an EU Erasmus+ Project bringing together partners and experts from Poland, Spain, Denmark, Ireland, United Kingdom. The goal of the project is to apply visual literacy education in professional engineering training, as a result of which students will effectively use digital visual technologies, not only as competitors, but also as authors. This project is extremely innovative, considering that in engineering education there is generally a lack of visual literacy training. In 2018, the topic of “digital education” and the fact that digital technologies enrich learning in different ways are discussed, so innovative pedagogical strategies can develop the necessary competencies for our time [20], [21].

3.1.12 Pop Up Festival: Visual Literacy

The project envisages the development of a program that includes visual literature and storytelling. The program will engage children’s authors, university tutors, students, and researchers to deliver a rich and immersive three-year program which will aim to transform schools’ literacy and English offers. The project is three years long, and in 2022 the results of the conducted surveys will be presented. Participants will be primary and secondary schools, and schools for children with special needs in Birmingham and the surrounding area.

The package for schools will include:

- New books (picture books, comics, and graphic novels) matched to every class, every year, 15 provided per class.
- Half-day children’s illustrator workshops in every class, every year, supported by illustration students.
- Connected educational experiences for teachers and pupils in local galleries.
- An annual one-day INSET for every teacher delivered by children’s authors.
- An annual three-day “visual storytelling” course at BCU for up to 30 teachers per year.
- Access to Pop Up Hub, an online platform where teachers make, and share resources and pupils publish stories.
- Free Pop Up Magazine for every pupil and home, every year, with 80 pages of new content by the authors and illustrators of books in the programme.
- Opportunities for every pupil to create work and be featured in an annual illustration exhibition.
- BA illustration student mentoring experiences for pupils to develop their illustration skills.

Organized are the so-called LIVE PROJECTS: National Children’s Literature Festival for Schools, Inspiring Teacher CPD from professional authors, The Rainbow Library, Pathways into Children’s Publishing, Pop Up Festival: Visual Literacy, inspiring young readers to write and draw [22].

3.1.13 *Visual-Literacy.org*

The project represents an online visual literacy training for students from 14 universities studying different specialties. The aim is to improve the analytical and conceptual skills for visualization, the transformation of abstract thought into graphic, tangible forms, through key principles of visual literacy [23], [24].

3.1.14 *Visual Literacy Forum — Project Vis*

The project is implemented in the period 2014-2018 and is aimed at teachers and students and especially in improving their ability to create and analyse visual media. Two methods for assessing visual literacy have been developed: analysis of visual materials, work with power point presentations. Project Vis works closely with the MDOCS DocLab to provide a range of support to faculty and staff projects incorporating visual material, including workshops and classroom support for visual media software, one-on-one consultations on video production and storytelling, and technical and institutional support and guidance for innovative courses incorporating visual media production [25].

3.1.15 *A Conceptual Educational Model for Enhancing Information Literacy in an University Information Environment*

In December 2019, the University of Library Studies and Information Technologies ULSIT (Sofia, Bulgaria) launched a project directly related to information literacy with a focus on intellectual property in various accredited fields of knowledge. The project is entitled “A Conceptual Educational Model for Enhancing Information Literacy in an University Information Environment” with Contract No. KP - 06 - H35 / 10 of 18.12.2019, led by Prof. DSc Stoyan Denchev. The main objective of the project is to systematically and purposefully to investigate the issues related to raising information literacy in the university information environment in the field of humanities and social sciences, both among students and trainers in Bulgaria, by creating and validating an educational model for enhancing information literacy, in particular intellectual property competence. The project is funded by the National Science Fund of the Ministry of Education and Science of the Republic of Bulgaria, implemented by ULSIT and aiming to make the connection between theory and practice, thus establishing the so-called “knowledge gap” and propose an approach to resolve it. Information literacy assumes the acquisition of knowledge and mastery of skills for legal defence and use of intellectual property objects under the supranational legislation, including on the Internet [26].

3.1.16 *“Creation and development of educational and scientific facilities for documentary and applied photography as part of the training of students in the professional field 3.5 “Public communications and information sciences”*

The project is implemented within 2 years – 2018-2020. As a result of the activity an educational-scientific base for documentary and applied photography has been created, special experimental trainings have been conducted with students specializing in Library and Information Management, Archives and Documentary Studies, Library Studies and Bibliography, Press Communications, Information Resources of Tourism, Communications and Information, Public Policies and Practices. Masters in the field of Digital Marketing and Web Design, who are trained in the professional field 4.6 Informatics and Computer Science, also take part.

3.1.17 *Visual literacy @ lesley*

Working with collections of resources is a great way to create and use visual information. For students to understand the value of information in intellectual property classes, discussions always begin with questions related to the creation of the work and its creator. It is noticed that students have different attitudes when they are in the role of users and when they are creators. To get into the subject of intellectual property, teachers offer various cases related to industrial property rights and copyright [27], .

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- Graphs, maps, and design thinking: interpreting and generating visual information [28], [29].

4 CONCLUSIONS

Visual literacy is a disciplinary field with wide application. With the visual language of expression comes a new thought in virtual space. Providing adequate means to facilitate visual learning and activities includes appropriate learning spaces, visual resources, and tools for multimedia projects. Successful information and visual literacy training need to go beyond institutional goals, which can be achieved through new curricula and teaching methods, tutors' training modules, improved access to resources, multimedia equipment and training facilities. Another important step is to develop strategies regarding training objectives, outcomes, and evaluation. This is achievable with the project and research in teams of students and young scientists. Interaction between education, innovation, economics, and regional development are the approaches that will be used to teach students with creative thinking, respecting intellectual property [30], [31].

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