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Research Insights
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DIGITAL STORYTELLING AS A METHOD OF ACHIEVING VISUAL LITERACY

Dr. Silvana Karagyozova, Assist. Prof.
Sofia University "St. Kliment Ohridski" (Bulgaria)

Abstract. The research aims to explore the pedagogical benefits of the digital storytelling tool on the acquisition of visual literacy among higher education learners, as well as their personal attitudes during the process of completion of the specific task. Two main questions were asked: "Does digital storytelling support the development of key skills related to visual literacy?" and "Do the learners feel sufficiently engaged and motivated in the specific pedagogical tool of digital storytelling?" A qualitative approach was used using the method of direct observation and a survey with free-text answers. As in our case, Digital story is intended for students studying audiovisual disciplines in higher education, we have significantly raised the performance and assessment criteria so as to be adequate to the level of professional training to be covered by the relevant academic degree. The subjective evaluations of the students clearly showed a positive attitude towards the learning process, and the objective teaching observations brought out the presence of achievements in an upward direction. The important teaching conclusions are that, in a pedagogical aspect, Digital story fulfilled its purpose – to assist in a light and fun way to master audiovisual technical and creative skills at a high professional level, to engage learners with course content, to have a lasting impact on higher order visual literacy skills, to effectively develop visual thinking.

Keywords: digital storytelling; visual literacy

As a form of information delivery in the digital environment, the visual aspect is highly prevalent all around us. It is agreed upon that modern society is visually oriented in terms of digital content consumption. This strong affinity for the visual presentation and reception of information is partly explained by the advancement of digital technology, which makes it possible for almost everyone to create and share images (static and dynamic) on social media. "Yet the pervasiveness of images and visual media does not necessarily mean that individuals are able to critically view, use, and produce visual content"[1] – a skill associated with the concept of visual literacy.

Visual literacy

Visual literacy is considered and defined with different nuances depending on the different subject perspectives. In a broad sense, the concept is associated with the ability to derive meaning from visual information – to correctly understand, appreciate, and interpret the visual image (in a contextual, cultural, ethical, aesthetic, intellectual, and technological sense[1], and in a narrower sense means how to properly use visual symbols, like words, to successfully convey an idea and evoke a feeling or mood (Oring 2000). In defining visual literacy, some authors emphasize the processes of image consumption – interpreting, analyzing, and constructing meaning (Giorgis et al. 1999; Bamford 2001; Kennedy 2008; Ewing 2017), while others include the ability for visual expression by making original audio-visual forms (Lesley & Farmer 2015; Flannery 2015; Delello 2016). Originally appearing in the field of education, reflecting the emerging "techno-cultural environment" (Ausburn & Ausburn 2006, p. 291) in the 1970s (the concept is associated with the name of Debes 1968), the term visual literacy has acquired a more general use and is recognized in the European Framework for Key Digital Competences as an essential ability that an individual in the 21st century must possess.

A basic principle of visual communication is to consider the visual as a written language – similarly to it, it has its own vocabulary, grammar, and syntax that must be mastered. It is a language of expression massively imposed by the spirit of our time, which provoked George Lucas to ask the question: "If students are not taught the language of sound and images, must they not be considered as illiterate as if they left college without to be able to read or write?" (Daly 2004). The tendency is to talk more and more about "multiliteracies" (Cope & Kalantzis 2016), part of which is also visual literacy, which explains the general direction of visual communication, visual language, visual learning, visual perception, and visual thinking as inextricably linked with visual literacy (Pettersson 2023, p. 25), to be an institutional educational imperative everywhere all over the world (Metros & Woolsey 2006).

The best mechanism for acquiring the skills included in the concept of visual literacy is for the learning experience to be saturated with features and situations that develop learners' abilities in this direction. The digital story/digital storytelling method fully meets the criteria that various authors discuss as necessary for developing visual literacy:

– to provide an opportunity to make a meaningful visual statement and to motivate the learner to practice his ideas visually (Debes 1968);

– to cultivate critical thinking skills in the context of visual images; to introduce learners to image production, different manipulation techniques through different software; to ensure a balance between visual and text literacy in the learning process; to encourage critical inquiry, analysis, and appreciation of qualities inherent in images (Bamford 2001);

– to encourage the ability to think in real time; ability to search and evaluate the

form, structure, and characteristics of visually/graphically presented information (Rasheva-Yordanova & Planska-Simeonova 2018);

– to support the development of technical knowledge necessary for audiovisual communication in a digital environment (Peña 2018).

Digital storytelling

Digital storytelling has proven to be a complex practical form for the application of knowledge, skills, and the creation of useful habits - a prerequisite for acquiring a number of key special abilities supporting the meaningful visual communication that is now an integral part of the life of young people. At its core, digital storytelling has been described as using computer technology to create a form of visual self-expression centered around the audiovisual presentation of personal emotional content (Kent 2010; Lambert 2010; Meadows 2003; Meadows 2009; Rosenthal 2015). According to Morra (2013), digital stories bridge different content areas and provide opportunities for students to expand their understanding of literacy. "This is a "Gutenberg" moment where communication and storytelling have changed so drastically that it "shakes up" our cultural, social, and academic norms" (Morra 2013). Positioned as an educational practical approach in the field of professional higher education, digital storytelling corresponds to all descriptors for learner outcomes in the eight levels of the European Qualifications Framework (2018)[1], starting from the acquisition of the most basic knowledge and skills necessary for the performance of simple tasks, through in-depth highly specialized knowledge in a certain field and skills demonstrating innovation in solving complex unpredictable problems in the specialized field and reaching the original and innovative thinking developed by critical thinking, synthesis and evaluation of the points of contact between different fields.

Along with these common characteristics, Rosenthal (2015) points out that creating a digital story favors the development of communication skills, writing skills, and expressive and fluent speaking, language, acting, presentation, and publishing skills in an electronic environment. To this, we can add the improvement of the technical and informational abilities related to the correct work with the basic technical devices and software programs necessary to prepare the task.

As a constructivist educational approach, digital storytelling activates creative thinking, collaboration, and commitment to learning and increases motivation (Standley 2003; Dakich 2008; Garrard 2011; Smeda, Dakich & Sharda 2014). Alismail (2015) goes further and argues that the digital story tool develops higher-order thinking because it incorporates the processes of inquiry, information evaluation, and product creation.

The effectiveness of this relatively short format (2-3 minutes) is determined by the seven key elements, which are also criteria for the qualitative assessment of the digital story (Lambert 2010). These are: achieving a clear focus of perspec-

tive; a correctly posed dramatic question built on the dyadic relationship "problem/conflict-resolution"; the presence of emotionally charged content that engages the audience's attention; personalization of the story through one's own voice, which is the main carrier of information and a certain mood, and its convincing use will cause an empathetic connection of the viewer with the narrator; properly chosen music, which has the function of bringing all the other components together and has the natural tendency to set rhythm, subtext, emotional depth and an additional second layer of communication; economy of the means, which must be selected with a view to achieving the maximum presentation of direct and indirect information through a minimal but optimal amount of words and the corresponding visual elements to them; a good rhythm to set the sense of organization and move the narrative forward in linear time.

Given that the students who produced the digital story were majoring in audiovisual technology and had previously studied sound and visual conventions, we added two additional criteria related to audiovisual design. The audiovisual design aspect pays attention to the construction of a balanced composition of the shot, the correct lighting of the scene, the correct exposure of the shots, and the grading corresponding to the mood, as well as the directorial skills if the story is dramatized; and from a purely technical point of view, the parameters of the digital video and audio signal must cover the professional standard for the audio and visual subject area.

Research design and methodology

The research aims to explore the pedagogical benefits of the digital storytelling tool on the acquisition of visual literacy among higher education learners, as well as their personal attitudes during the process of completion of the specific task. The main question asked is: Does digital storytelling support the development of key skills related to visual literacy? The second sub-question was asked: Do the learners feel sufficiently engaged and motivated in the specific pedagogical tool of digital storytelling? To reveal the answers to these questions, a qualitative approach was used using the method of direct observation and a survey with free-text answers to the following three questions:

1. Do you think creating a digital story was a useful pedagogical tool for you? If so, why? If not, why not?
2. What specific skills did you improve through digital storytelling?
3. What did you find most challenging in the process of creating a digital story?

The study took place in the academic year 2023 over five weeks in the discipline "Audiovisual Design", during which the students mastered the study materials related to digital storytelling and finalized their stories. There were a total of 13 participants. We did not inform the students in advance that their opinion would be surveyed, with the aim of generating spontaneous articulation of their own

observations of the learning experience. Since the survey is not anonymous, the students completed it after completing the course and forming the summative assessment.

The learning material and related micro-tasks were distributed according to the following methodological model:

Week 1 – introduction to the digital story.

– Objective: to familiarize students with the definition, characteristic elements, and story types.

– Educational resources: educational videos and textual information.

– Tasks: Initial ideation, in relation to the proposed categories of digital story; initial planning of the project title; setting the story goals.

– Activity: Description of the planned digital story presented in text format.

Week 2 – creation of a scenario and storyboard of the digital story.

– Objective: To familiarize students with the topics: script writing; creating a storyboard; copyright and fair use of copyrighted content.

– Educational resources: Educational videos and textual information.

– Tasks: Creating a draft of the script; finding/creating sample images to visualize the text; creating a storyboard.

– Activity: A completed storyboard (in pdf format) that includes a description of the topic, the purpose of the digital story, and its target audience.

Week 3 – introduction to the role of music and visual techniques that enhance the emotional impact of the digital story. Discussion of the technical assurance of the production process.

– Objective: to acquaint students with the different types of roles of music; to determine the technical means and environments for the actual production stage of the digital story.

– Educational resources: educational videos and textual information.

– Tasks: Thinking about music, listening to libraries offering a sound database; determining the right technical tools for making the digital story.

– Activity: Presentation of several possible variants of music tracks relevant to the story's emotion (wav file) and description of the available technique with which the voice will be recorded, the video footage will be captured and the audio and video stream will be processed.

Week 4 – creating the digital story. Production stage.

– Objective: students create a complete digital story according to their own creative and technological parameters.

– Tasks: To record the voice to be edited; to put the visualization frames on the created sound framework; to add music and sound effects (if selected); to add gradients, effects, and graphics where needed; to export the finished assembly.

– Activity: transmission of a completed digital story in specific technical parameters – mp4/H264/15bps and 1080p/25fps.

Week 5 – group discussion of the created digital stories.

– Objective: students are to receive constructive feedback, not only from the teacher (in the form of an assessment), but also from the other participants; students have the opportunity to reflect and share their personal experience of the different stages of creating a digital story.

– Activity: View and discuss the pros and cons of all digital stories; answer the questions - Why did you choose this topic?; What type of visual content did you use and why?; How do the decisions you made about music, transitions, and visual effects reinforce the message of your story?; What technology, hardware, and software did you use to create the script, storyboard, and digital story itself?; What did you find most difficult about the process?; and others.

As an important remark here, we must point out that the stage of familiarization with the specific software for processing digital audio and video information, which would traditionally be present in the methodology of creating a digital production by the trainees, is not necessary here and was accordingly omitted. The students in the study group were studying in a technology major related to multimedia technologies. They had already taken courses related to sound and video in previous semesters of their curriculum.

Results analysis

The analysis of the written answers identified four positive markers: the meaningfulness of the task, the acquisition of skills, emotional resonance, and personal growth. The challenges were formed in two indicators: conceptual and technical problems. The teacher‘s observation was focused predominantly on the development of subject skills.

A. Positive findings

Marker 1. Value of the task

The overall conclusion is that the Digital storytelling task was a useful, interesting, and valuable exercise through which students had the opportunity to show their creativity and improve their audiovisual content creation skills. All answers emphasize the pleasure of applying the acquired theoretical knowledge and recognize the Digital story as a creativity-stimulating assignment. Students note that putting them through each stage of video production – creating the idea, creating the script and storyboard, shooting the footage, recording the voiceover, and post-production – improves their understanding of the audiovisual content creation process and creates impulses for the discovery of new ways of conveying a story or narrative. Expressing individuality is another affordance that students recognize when creating a digital story. Other more specific positive findings

related to the value of the task are that the Digital storytelling is a useful tool for developing the imagination and the skill of improvisation, and a pleasant way for the students to understand more about each other and their personal interests. Ya. states: "This task sparked my desire to work on video projects and proved that I can achieve anything as long as I let my imagination run wild and show patience and courage in realizing my own ideas". K. shares that creating digital story is a good way of practicing the studied theoretical part. Another positive value of the task that the students highlight is providing a good basis for future projects of the same type. A significant contribution is also the discovery of the internal impulse that the creation of Digital story provokes – L. expresses: "I discovered a new sphere in audiovisual art and a new way of conveying a narrative or story."

Marker 2. Skill acquisition

Quite understandably and inherent to the video production activity itself, improving work with video software (Adobe Premiere) was the most frequently cited skill by respondents. As more concrete skills related to the audiovisual specifics of creating the Digital story, students note familiarity with or improvement of skills related to script/storyboard writing, photography, file conversion, sound recording, sound design and music layout, editing and processing of the frames, audio mixing (use of compressor, DeEsser, equalizer), work with light. In the dramaturgical aspect, maintaining a logical connection of the narrative, rhythm, logical sequence of images, and accurate re-creation of the idea are points that the learners were indirectly provoked to consider while creating the task. The freedom that the task gives in a purely creative perspective provokes the organizational abilities of the trainees – to think carefully about the sequence of their actions and to prepare for each stage of the process. V. shares: "Unlike other types of tasks, which have much stricter instructions and methodology of working on them, working with such a wide variety of video and audio possibilities has put me too many times before the question 'Now what?'. This task made me put a lot of thought into the order of actions." T. formulated his experience with the task in the opinion: "the best-told story is the one that is thought out and prepared in advance." – the self-reflection, in this case, led to the conclusion that the high level of the skill of creating video content lies in making the finished video appear improvised and concocted in minutes, when in fact it is very well thought out and developed.

Marker 3. Emotional resonance

Despite some difficulties that the students shared they encountered, the creation of a Digital story definitely left a positive valence in the personal psychological environment of the learners. Some of the words used by the respondents to summarize it are: "the task is my favorite, and it was an excellent experience for me", "I was happy to do all the work", "when something is close to you, the work is easy and pleasant", "the task took me out of my rut and made me introspect", "challenging but fun."

Marker 4. Personal growth

The self-analysis that completing the survey provoked in the learners showed some aspects related to the individual's personal development. For some, the assignment caused them to step out of their comfort zone, making them "more daring to reveal a part of themselves in a story", "more confident in front of a camera", and feel "more comfortable to work among people without worrying about their looks and opinions." V. says that facing problems and dealing with them has given her the confidence that she can "react quickly when I get stuck", J. says that solving her task gives her an incentive to work on future video projects and has the belief in herself that through courage and patience one can achieve the realization of one's ideas. This shows that the students are aware of the impact of the task on their further development. They define it as a good basis for future work and differentiate the strengths and weaknesses of their work, which gives them a clear orientation for the mechanisms to improve their performance in the subsequent creation of personal, authentic content.

All respondents see the result as progress in their development.

B. Challenges

Marker 5. Conceptual challenges

Nine out of thirteen people shared that the most challenging thing for them was coming up with the idea and theme, which was the key to getting the project off the ground. We do not attribute this lack of clear concept to any aspect of digital story itself. Instead, we assume that the presence of complete and unfettered freedom in the choice of topic initially caused the so-called "paralysis of choice", which is related to the psychological assumption that the more choices there are, the harder it is to make a decision, also known as the paradox of choice (Barry 2005).

Constructing the idea in a short-form video, creating from scratch, and moving through the process step by step are other challenges the students faced.

Two students cited the need for more time as a factor in their not-so-good (subjective judgment) performance. R. says that he considered his decisions – the idea itself, the mise-en-scène, the filmed material, its processing, the coloristic – with the presumption of how others will perceive the story when they see it, whether they will understand its purpose and whether they will like it, and "this is a creative process that cannot always be devised and implemented in a given period". The process of the organization was also difficult for D., who stated that arranging his materials took "a lot of time and a lot of work".

One student shared that he had to use stock footage in addition to the footage originally shot by him, which he saw as a loss of uniqueness for his story.

Marker 6. Technical problems

One student reported technical problems with the software, which led to prolonged interruptions in the work process. Another student reported that his main difficulty was the filming stage due to the need for more professional camera

equipment and lighting required for his purposes. The difficulties experienced by the students, led them to find adequate approaches to solve them.

C. Teacher's observations related to the development of skills related to the subject

Marker 7. Reaching a high level of skills in the field of professional practice

The purpose of using Digital stories in the Audiovisual design course is to achieve learning outcomes that correspond to descriptors associated with a high qualification level in the specific study area - acquisition of the latest knowledge, improvement, and specialization to the highest degree of skills and techniques needed to solve key problems in the field of professional practice and having independence and a continuous commitment to developing new ideas in a cutting-edge learning context[3]. In this sense, from a teacher's perspective, it can be firmly stated that the Digital story subgenre, implemented as an exercise in the learning process, fully meets the specified profile, as it is a complex task that gives the opportunity, in a motivating way, to master fundamental knowledge and skills closely related to the professional direction.

Marker 8. Improvement in terms of creative and technical solutions

Compared to previous assignments, the students were much more creative and bolder in the tools they used to convey their ideas more clearly and compellingly. The project provoked them to look for new and interesting shooting and editing techniques and effects they had not used before.

Marker 9. Rationalization of visual syntax and semantics

The acquisition of visual literacy was didactically supported by requiring students to shoot their own footage, without using other people's original visual material, thus stimulating the rationalization of visual syntax and semantics – students being able to present specific ideas through symbolic thinking and to provoke meaning through the placement of the composition of the shot, through the use of perspective, the size of the plan and camera movements and other elements of film convention in specific contexts. The Digital storytelling task prompted reflection on the technical applicability and content coherence of audiovisual material, on how to use the footage/images argumentatively – what they mean, how they create a particular type of experience, and how it all contributes aesthetically to the narrative.

Marker 10. Skipping over the script/storyboard creation stage

The multi-component nature of the task also created some challenges for the trainees, and to the greatest extent, they had difficulties writing the script and creating the storyboard. For several students, these processes were omitted as a step, preventing them from specifying the direction which the narrative would take and enhancing the improvisational aspect in their work. This perhaps explains the emergence of opinions such as: "I had to improvise", in a negative sense.

Marker 11. Perception of the student-generated content

The topics chosen by the students were focused on basic archetypal concepts – friendship, art, family, transformation, inner psychological world, culinary

temptation, which contributed to the easy perception and empathy of all students when presenting the videos. The emotional curve during viewing of all completed digital stories varied continuously, with participants moving through states of laughter for the comedic and light-hearted themes; of heated discussion on philosophical and socially significant topics; of empathy for poetic and revealing themes of uncertainty and personal search; of curiosity in topics related to travel, art and cooking.

The music that the students had chosen as the musical background of their stories fully supported the emotion associated with the quintessence of the messages they wanted to convey, determining the correct interpretation of the narrative content. One student had not used music, which led to the other students' emotional neutrality in perception. This only proves that the absence of this mediator between our sensory perception and emotions cannot create a valence mental subjective-evaluative attitude towards the object. Accordingly, one essential moment of the characteristics of digital history is lost – emotion.

The important teaching conclusions are that, in a pedagogical aspect, Digital story fulfilled its purpose – to assist in a light and fun way to master audiovisual technical and creative skills at a high professional level, to engage learners with course content, to have a lasting impact on higher order visual literacy skills, to effectively develop visual thinking. The subjective evaluations of the students clearly show a positive attitude towards the learning process, and the objective teaching observations bring out the presence of achievements in an upward direction.

Conclusion

It is notoriously known that the convergence of the theoretically acquired knowledge with its practical consolidation is the surest way to form permanent changes in the individual's abilities concerning specific scientific subject area sets of knowledge, skills, values, and habits. A digital story is a suitable method to enrich almost any theoretical educational situation. Its relatively easy implementation, when there are no additional requirements beyond those defined by Robin (Robin 2008), validates it as a well-calibrated learning activity concerning the globally imposed requirements for multiliteracies. As in our case, Digital story is intended for students studying audiovisual disciplines in higher education, we have significantly raised the performance and assessment criteria to match the level of professional training to be covered by the relevant degree. However, demotivation to participate was not observed. The freedom that is characteristic of the Digital Storytelling genre was given to the students, establishing a certain rigor in terms of technical and film narratological performance in order to achieve a visual literacy adequate to academic norms. That did not prevent the achievement of originality, individuality, artistic presentation of the subject, and personal interpretation.

After observing and analyzing the answers to the survey questions, we can say that the digital story contributes to the successful transfer of knowledge and the development of key skills related to visual literacy while being a good tool for maintaining a commitment to the learning process through which opportunities to create social value are also identified – telling a meaningful narrative shared with the community (Rosenthal 2015). As part of the arsenal of constructivist pedagogical tools, digital story "enables learners to adapt their own constructs and interpretations of knowledge to its application in practice and real life" (Karagyozova 2020). There are skill enhancements in all aspects of video creation, such as developing creativity in project preparation and confidence to transfer the acquired skills to subsequent projects of a similar nature.

Working on each stage of the product creation added value to the task as it added to the skill set related to visual literacy an enhancement of research skills; the skills of formulating a point of view and writing it down in a script; organizational skills; technological skills; presentation skills in front of a camera and an audience; problem-solving skills (Robin 2006).

The digital story fully meets all five crucial characteristics of meaningful learning (Jonassen et al. 2002) – to provoke activity (learners are engaged in real-world tasks), to be constructive (learners build on their own mental models), be conscious (learners have clear goals and act purposefully), be authentic (learners create their own content of real value), be cooperative (learners support each other).

Learners showed a positive attitude towards the learning process, clearly recognizing Digital storytelling as a bridge between the expression of their creative talents and the acquisition of technological skills; they associate it as an unconventional and exciting way to integrate different aspects of their own experience – cultural, social, mental, practical, communication.

The main conclusion is that digital storytelling, applied adequately according to the specifics of the respective field, is a good creative tool for the immediate expansion of technological experience. The students positively received the idea of developing professional knowledge related to visual literacy through an emotional, creative activity, generating interest, attention, and motivation for a good performance in the final result. In pedagogical terms, it can undoubtedly be one of the various forms and strategies for the acquisition of digital literacies, in particular visual ones, and in social terms, given the global sharing of audiovisual stories everywhere in the electronic information environment surrounding us, it can contribute to receiving a more professional and visually competent answer to the question: What is my story?

Limitations of the study

Like any qualitative study, this has its quantitative unrepresentativeness. The respondents' answers could be filtered toward the socially acceptable answer only when it comes to the second research question related to the subjective assessment

of the research subject. The conclusions related to the first research question are valid and related to objective results.

NOTES

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✉ **Dr. Silvana Karagyozova, Assist. Prof.**
ORCID iD: 0000-0003-2630-1621
Department of Music and Multimedia Technology
Faculty of Educational Studies and the Arts
Sofia University
Sofia, Bulgaria
E-mail: skkaraguoz@uni-sofia.bg

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Research Insights
Изследователски проникновения

МОДЕЛ ЗА ВТОРИЧНА СОЦИАЛИЗАЦИЯ И РЕСОЦИАЛИЗАЦИЯ НА СТУДЕНТИ СЪС СПЕЦИАЛНИ ОБРАЗОВАТЕЛНИ ПОТРЕБНОСТИ В АКАДЕМИЧНА СРЕДА

Гл. ас. д-р Ана Попова
Русенски университет „Ангел Кънчев“

Резюме. Настоящата статия интерпретира проблеми и предизвикателства в интеграцията на студенти със специални образователни потребности (СОП) в академична среда, като предлага модел за тяхната вторична социализация и ресоциализация във висшето училище. На базата на резултатите от емпирично изследване с приложението на три инструмента – анкетно проучване, дълбочинно интервю и фокус група, статията идентифицира проблемни зони в образователния процес на студенти със СОП, най-сериозните от които са: недостатъчен обем на индивидуализираните подходи и подкрепа, проблеми в системата за оценяване на студентите със СОП, недостатъчен обем на специализираните дидактически пособия, пригодени за студенти със СОП, необходимост от институционализирането на структурно звено, което да решава в комплекс проблемите с интеграцията на студентите със СОП в академична среда. Предложеният модел за социализация и интеграция на студенти със СОП е доказал своята ефективност в Русенския университет „Ангел Кънчев“ и може да бъде мултиплициран в системата на висшето образование в България, паралелно с инициирането на национален нормативен акт, регламентиращ работата със студенти със СОП, по аналогия със съществуващата Наредба за приобщаващо образование в българските училища.

Ключови думи: студенти със СОП; социализация и ресоциализация на студенти със СОП; приобщаващо образование

Въведение

Социализацията и интеграцията в академична среда на студенти със СОП е сериозно предизвикателство пред системата на висшето образование в България. Основна причина за това е своеобразният нормативен вакуум, който се създава след преминаването от училищно към университетско образование, тъй като, за разлика от действащата Наредба за приобщаващо образование[1] в началния, прогимназиалния и гимназиалния курс, висшите училища решават