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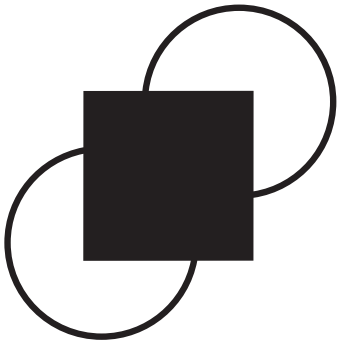

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INNOVATIVE STRATEGY OF INTELLECTUAL PROPERTY EDUCATION IN THE DIGITAL AGE

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Abstract

Introduction: The current report is dedicated to build up a strategy for improving the existing level of IP literacy in an university environment by use of digital technologies. The text explores new paths and innovative tools for optimizing education in the field of both: industrial property rights and copyright in the context of the general EU law frame. The paper will analyze the main aspects that require new approaches to educational optimization. The millennials of generation Y are not the passive consumers from the recent past. They are mobile and extremely interactive citizens of the world, who do not follow trends, but create them! In this perspective the IP law drags behind the burst of technologies and the national legislations are always "under reconstruction" because of the requirements for harmonization at a European level. In this sense it is essential to find the right way forward and which pedagogical innovations to apply in order to educate today's students who are the future creators, lawyers, filmmakers, business managers or even politicians how to respect and protect IP property.

Presentation: the present survey follows the step-by-step creation of an educational strategy that will significantly improve and optimize the level of IP literacy in universities. The goal is not only to achieve a detailed and pragmatic educational guide, but also to detect the incentives that will inspire the students.

First step – Be intelligent: research matters. For a start it is a must to investigate the existing level of IP literacy among university students on a national level. During the next stage the researchers have to exchange results with EU universities and make up a comparative study enhancing the good foreign experience. Afterwards, the opening aims to summarize the international experience in this field and draw conclusions about the best practices.

Second step – Be Creative: Inspiration is the way to creativity. It is of major importance to differentiate the educational courses and to create basic IP and advanced IP content. IP basics would contain introduction to elementary aspects of IP and different types of IP: trademarks, patents, designs, geographical indications, trade secrets utility models etc.as well as copyright. It should be aimed at clarifying the main theoretical concepts and components of the IP system, duration and scope of protection. The advanced IP course will include modules on IP management, IP search tools and startup of different business models based on usage of protected content. Some of the lecture courses might be presented on line using the variety of functionalities offered by web platforms. The students will have access to PowerPoint presentations, virtual and educational multimedia, online tutorials and virtual workshops.

Third step – Be popular: IP rights vs plagiarism. At this stage of the process the promotion of the achieved results in the field of IP literacy should take place by initiating national and international conferences on IP topics with the active participation of students, publishing their reports, involving them in TV disputes on plagiarism issues, even encouraging students to make short movies or videos and streaming them on the internet.

Fourth step – Be digital! Be an IP influencer! The final step consists of the use of contemporary digital marketing tools to popularize the cause of IP protection in everyday life. The spread of the belief that It is always cool to use the original, not the deep fake, or to get a proper license instead of infringing IP rights. It would be a valuable experience for the graduates to learn how to create their own e - content and manage it on streaming platforms, trying to attract followers by using social networks, video bloggers and influencers, and even involve famous creators to stand publicly for non-violation of IP regulations.

Keywords: IP rights, copyrights, digital technologies, education strategy.

1 INTRODUCTION: THE CHALLENGES OF THE DIGITAL EPOCH

The creators nowadays face global challenges due to the media convergence and technological boom, that allow content sharering worldwide. In Digital age we all witness decentralized exchange of digital files using P2P technology, torrent trackers, content aggregators, OTT streaming platforms or online retailers. The production costs for web content are drastically reduced and the distribution channels are multiplied. In this perspective everyone can easily become be an author or be glorified as an artist. The Millennials are probably the most ethnically and racially diverse generation representing utterly different consumers, who want to have a personalized and interactive cross-border access to e-content. “They are the first generation in human history who regard behaviors like tweeting and texting, along with websites like Facebook, YouTube, Google and Wikipedia, not as astonishing innovations of the digital era, but as everyday parts of their social lives and their search for understanding.” [1] In brief, they do not follow the trends in digital environment, they create them. In this context the university students being creators and consumers at the same time should have the knowledge to respect the intellectual property law and not to infringe the copyrights of others. In the long run the social media and the up to date advertising tools have invented a new profitable profession: an influencer. The whole concept of modern digital marketing is based on searching insights to understand the consumers ‘needs in most uncertain times. Especially when the coronavirus pandemic has shaked the social balance and its impact has been felt by everyone all over the world. In this regard education has to adapt to the altered realities and become more digitally adequate in search for new teaching formats and alternatives in order to cultivate in students twenty first century skills. The existing social- emotional learning /SEL/ resources are aimed at cultivating in students abilities like: self-management, social awareness, empathy and positive relationship. It would be appropriate for the existing system to experience transition to open digital learning after a proper process of “inventory and evaluation”. [2] The principles and rules of the recent analog past need to be creatively reconsidered in order to create the right IP educational strategy that takes into account the peculiarities of digitalization. The innovative educational concepts require new approach in line with the specifics of the local scholarly traditions and national law systems, interpreted in the general EU frame. The goal is to create step by step an effective strategy that would not only be a practical guide for successful IP education, but would have the potential impact to inspire students’ creativity.

The present report focuses on improvement and optimization of IP courses at universities on the territory of Bulgaria, grinding in a postmodern mill the national educational traditions with the foreign experience in the area. In this regard the first logical step is to make attempts to explore profoundly the foreign teaching experience in this field.

2 FIRST STEP – BE INTELLIGENT: RESEARCH MATTERS

It is appropriate to start the renewal of the existing educational traditions with a consistent measurement of the level of IP literacy in the universities. Different research methodologies can be applied: surveys, interviews, tests, etc. In this case, the selection and wording of the queries is of great importance. The results of the research must be summarized and compared with the data of similar surveys on international level. The synthesis of the conclusions from the research will outline the general picture of IP literacy with indication of the existing gaps and discrepancies. Moreover, this can grow into a kind of SWOT analysis of the existing teaching system which can result in valuable recommendations for optimizing the teaching techniques and tools. The creation of a comparative study with the joint efforts of different universities would be very helpful. It can be carried out under the guidance of some leading European universities in the IP field and to summarize long-term experience and innovative practices. The study should be peer-reviewed as scientific publication and become available online on the model of open access to knowledge. In this regard, the concept of free access to scientific information can be realized by creating a repository that includes any other current publications on the subject. In this way, scientific data will always be updated according to current processes and factual changes.

3 SECOND STEP – BE CREATIVE: INSPIRATION IS THE WAY TO CREATIVITY

Since intellectual property reaches into everyone’s daily lives, it should not be taught as a discipline - theoretically sterile and detached from daily routine or business. On the contrary, the students must realize from the very beginning the value of different IP rights as an essential business asset in today’s

knowledge – based economy. In this aspect special attention has to be paid to the stricture of the lecture courses. The Intellectual Property Teaching Kit ought to contain two divisions: IP basics and IP advanced according to the recommendations of the European Patent Academy. [3]

IP basics includes a general introduction designed for students with little or no prior knowledge of IP in order to provide them with essential information on key concepts. It is reasonable that this educational section should comprise modules on various objects of IP rights as follows: patents, databases, designs, trademarks, trade secrets, utility models, geographical indications, plant variety not neglecting the full range of copyrights and neighboring rights of protected content. The theoretical concepts need to be clarified in relation with the harmonization of national legislation with European intellectual property law. The basic lecture course is dedicated to the types of IP, scope of protection and its duration, the identification of protected objects and the relevant right holders, the public domain status, the exceptions and limitation of copyrights, established in public interest and the IP infringement and respective remedies. The initial curriculum should in addition provide exercises that demonstrate the actual use of IP not only in the real world, but in the virtual reality as well. Over time these training formats would become the intersection between theory and practice and a major source of inspiration for the students by motivating their personal involvement in the process. And since in the digital age images are all that matters, the learning material is visualized by Power Point presentation slides or by online access to IP open sources, examples from local experience in the enforcement of national IP law etc. Encouraging students to solve IP cases can also be an inspiring experience for them. At this point the students are already ready enough to distinguish the lawful licenses from bad practices of intellectual piracy. Some of the lectures or even the exercises might be conducted online, taking advantage of free distance learning web based platforms like: Zoom, Moodle, Skype, Microsoft Teams, Gsuite.google or Facebook classroom.

The advanced IP section is structured to upgrade the primary IP lessons and to further encourage the students to develop their own projects. The course would deal with IP management and popular business models, presenting consistently conventional distribution practices in counterpoint with modern digital marketing tools. Apart from the endeavor to synthesize theory and practice to a greater extent, the advanced lecture course pays special attention to the individual approach in the learning process. The students are required to design and analyze business or non-commercial projects of their own, related with management of IP rights. These IP tasks would stimulate the creative potential and personal responsibility of each student regarding the conditions and terms of use of protected objects and e content. In this case however knowledge is acquired through personal experience and expertise and this goes far beyond strictly academic tasks. Learning is no longer a boring process under the full control of the lecturer, but above all it is a way of sharing knowledge through personal involvement and self- motivation of the students, ensuring their gratification. That is why the Digital age imposed widely the neologism “edutainment”. After all, the main goal of innovative and modern teaching methods is to make the training on the difficult and complicated subject of IP enjoyable and even fun for the majority of the university students. Let us not forget that one of the most famous representatives of the individual form of education foretold the coming of the digital era. Ada Lovelace the sole legitimate daughter of famous poet Lord Byron has been trained individually by some of the most prominent mathematicians of the nineteenth century: Augustus De Morgan and Mary Somerville.Under their guidance she grew up as a visionary revealing that mathematics could be a poetical science and is truly “the instrument through which the weak mind of man can most effectually read his Creator’s works.” [4] This is a bright historical example of how to inspire true innovators through consistent implementation of individual educational approach. Ada Lovelace created the Bernoulli number algorithm, thus becoming the first computer programmer and a predecessor of the Digital age. But the “post-Google epoch” would be defined by today’s students and they must be fully prepared for the near future when intangible assets and digital content will be by all means predominant. Moreover, this complex future will undoubtedly be subject to the idea of lifelong learning. “The European graduates of tomorrow will enter a labor market which is increasingly based on innovation and creativity.” [5] Learning IP is the right way to make students understand how to grow their business projects through IP and derive higher revenue out of it. How to use trademarks, design or other objects of industrial property as business identifiers. They have to be well aware that IP is a powerful driving factor in the EU economy, and due to the digital and technological boom of the past two decades, an increasingly important part of everyday life. This perspective requires constant update of IP lecture courses and following revolutionary technological trends, as well as relevant legislative changes.

Content structure of IP Basics and IP advanced is important and must comply with two other significant issues: Time and Target. Let us remember the “golden rule” of the Digital epoch: Right

Person, Right Message, Right Time. So, as far as time is concerned, it is appropriate to teach IP Basics to undergraduates, while IP advanced is designed to meet the higher criteria and professional ambitions of the post –graduate students and to make them gain free personalized support. Besides that, the IP lectures has to be structured in compliance with the particularities of the studied discipline. Universities, training students in scientific fields of technical, economic and other exact sciences should focus on the study of industrial property, while those in the areas of humanities/social sciences or arts have to deal with priority with training on copyright and related rights. For example, at the faculty of Screen Arts in the National Academy for Theatre and Film Arts / NATFA, Bulgaria/ the students in a master's degree in "Management in screen arts" study copyright through individual approach and customized methodology, based on a carefully conceived balance of theorethical knowledge and practical skills. Students are assigned the learning task to compile individual film projects and to annotate them in terms of copyright. Each student faces a requirement to make a complete list of right holders with which should clear the rights for the creation and subsequent use of the audiovisual work. Afterwards under the supervision of the lecturer, the future producers independently draw drafts of primary license agreements for the copyright clearance. Their final exam consists of a presentation of the project and the license agreements including oral argumentation of the attached documentation. “In this way, by using the method of a case based study, the students get used to solve real life tasks and meet the conditions of team work collaboration. The feedback is accomplished by evaluation and self-assessment of the achieved results which is a must for the future film producers and art managers.” [6], [9].

On the other hand, “Universities themselves deal with IP issues on a daily basis, in terms of research, technology transfer and management of their own IP portfolios” [7] They might be owners of intellectual property rights and in this regard, it is important to draw up appropriate Internal Rules for rights’ management. Those regulations must also ensure that the IP rights of students are respected when they are creators of protected content in the learning process. In this way the students may develop legal awareness as right holders and a stable attitude not to violate the rights of others. So, the next logical step in their training is to learn how to share the lessons learned and how to defend their rights [12].

4 THIRD STEP – BE POPULAR: IP RIGHTS VS PLAGIARISM

The idea of sharing is not an invention of the Digital age, after all writing is sharing. But it was in this age that the idea of sharing came to paroxysm. Students can take advantage of all modern technological tools for learning IP, for interaction and sharing like: e-learning courses, instructional strategies, lesson plans and assessments, virtual workshops and conferences online. They can connect for some collaborative activities or receive individualized instructions, or even take part in group discussions. It would be helpful for them to be motivated to participate in national and international events with reports or research studies on issues of intellectual property. In this regard, universities can also take advantage of all the opportunities provided by the digital environment. They have to sustain a strategy for constantly updating and diversifying their e – resources, thus providing students with innovative opportunities for distance learning, self-expression and self-assessment. For example, universities might develop cloud based IP Learning Systems, available at any time to all students, including the alumni. They should invest, wherever possible, in next-generation learning platforms that give teachers the proper tools to deliver high quality instructions in a virtual environment. Investment of such kind is intended not only to prepare true professionals, but also to create conditions for the implementation of the strategic educational concept for lifelong learning. The open education platform activities would contribute to reach the following proclaimed goals, adapted to the field of IP:

1 Build and Sustain Community

2 Increase Educational Access and Equity and

3 Use Policy to Open Education Opportunities for All” [8], [10].

These joint efforts would support in public the cause of protection and non-infringement of intellectual property rights. The students have to be stimulated to join rights protection campaigns, to appear in television debates or even to create educational videos and other e –content and to stream it on the Internet. Thus the message that intellectual property protects the creations of the mind can reach the largest possible audience. Plagiarism and other forms of IP infringement would be publicly disgraced [14].

5 FOURTH STEP – BE DIGITAL! BE AN IP INFLUENCER!

The system of IP education should be adaptive and geared towards preparing students as present and future IP influencers. They have to be encouraged to promote and support the protection of intellectual property on social networks. In the final educational stage, they have already acquired sufficient skills to sustain the IP protection on all social media. Besides that, the students have to make their first close to professional attempts to license legitimately their own content. Following the famous aphorism of Digital age: “Content is King, But Distribution Is Queen and She Wears the Pants” [9], they need to learn the specifics of various licensing practices and emerging business models. In this sense they have to create integrated digital marketing concept for distribution of viral web content. In addition to learning the intricacies of digital rights management, they will become devoted proponents of the idea that it is always better to use the original, not the fake [11].

6 CONCLUSION

The four steps outlined above, constitute a possible rather than a mandatory strategy of IP education. It does not claim completion, infallibility or uniqueness. But it should not be ignored that the strategy is based on four points of reference: knowledge, inspiration, originality and influence. These are the key words for education in all ages [13]. In Digital epoch however, we witness how technologies transform traditions by introducing innovative teaching methods, tools and devices, overturning conventional educational policies. Universities need to be well acquainted with the best digital technological advantages and continue to uphold the genuine educational values and above all in this context, the value of IP rights. Rethinking the paradigm of IP educational system will assimilate the existing traditions and will outline new priorities as: information literacy and expanding distance learning opportunities, open access to knowledge and reworked teaching kits, underlining the importance of value and management of IP rights in the digital world.

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REFERENCES

[1] S. Keeter, P. Taylor. The Millennials. *Accessible at:* https://www.pewresearch.org/2009/12/10/the-millennials

[2] S. Chandra. Inventory and evaluation of existing social-emotional learning resources for the transition to open digital learning. *Accessible at:* https://creativecommons.org/2020/08/31/cc-open-education-platform-activities-fund-six-winners/

[3] European Patent Academy and OHIM – Intellectual Property Teaching Kit. IP Basics. An introduction to Intellectual Property. European Patent Office, Munich, EPO 2014

[4] W. Isaacson. The Innovators: How a Group of Hackers, Geniuses, and Geeks Created the Digital Revolution”, First Simon and Schuster hardcover edition, 2014 – p.18

[5] I. Trenchev, R. Mavrevski, M. Traykov, D. Stoykov. (2019) Mathematical approaches for creation of complex 3d models and their application in education. In: Conference Proceedings ICERI 2019, pp 4909-4914.

[6] IP Teaching Kit. *Accessible at:* https://euipo.europa.eu/knowledge/course/view.php?id=1738

[7] M. Lazarova. Copyright education in screen art studies in the Digital age. In: *Conference Proceedings* of The Future of Education, 7th conference edition, edited by Pixel, Libreriauniversitaria.it edizioni, Florence, Italy, p.21 – 24, 2017

[8] Denchev, S. & Trencheva, T. “Intellectual Property as a Basic Part of the University’s Information Literacy”, Proceedings of ICEMS 2016 Conference, 28-29th May, DEStech Publications, Beijing/China, 2016, pp. 74-78.

[9] Creative Commons Open Education Platform. *Accessible at:* https://network.creativecommons.org/cc-open-education-platform/

[10] T. Kiryakova-Dineva, M. Hadzhipetrova-Lachova, and Y. Chankova. Intercultural Dialogue For Education In The Mediterranean Region. In: Conference Proceedings of EDULEARN17 Conference 3-5th July 2017, Barcelona/Spain, pp. 3920-3926

[11] J. Perelman. *Accessible at:* https://www.pinterest.co.uk

[12] E. Zdravkova. Media literacy as a key competency for the safe and effective use of media, In Conference Proceedings: 12th International Conference on Education, Research and Innovation, Seville, Spain, 2019, pp. 7467-7473

[13] S. Dimitrova. E-content – intellectual property aspects // 11th International Conference on education and new learning technologies, EDULEARN19 Proceedings, Palma, Mallorca, Spain, Vol. 11, 2019, pp. 6061-6065.

[14] T. Todorova, I. Peteva. Information Literacy Competency of LIS students in SULSIT with a Special Focus on Intellectual Property. In Worldwide Commonalites and Challenges in Information Literacy Research and Practice : ECIL 2013. Istanbul, Springer International Publishing Switzerland, pp. 610 – 617, XXIV, 2013