

D2.2 Report on:

Educational use of blockchain

Sunday Oyelere, S., Tomczyk, Ł., Bouali, N., Friday Joseph, A. (2019). Blockchain technology and gamification – conditions and opportunities for education In Jaroslav Veteška (ed.). *Adult Education 2018 – Transformation in the Era of Digitization and Artificial Intelligence*. Česká andragogická společnost/Czech Andragogy Society, Praha/Prague 2019, s.85-96 [ISBN 978-80-906894-4-2]

Blockchain technology and gamification – conditions and opportunities for education

Solomon Sunday Oyelere, Łukasz Tomczyk, Nacir Bouali, Agbo Friday Joseph

Abstract:

The paper focuses on two solutions supporting education. One of the aspects shows the potential of the modern blockchain concept, whereas the other refers to the forms of work based on the natural learners' need to compete, namely, gamification. Both areas have been intensely developed as part of the implementation of ICT in the detailed didactics, including adult education. The presentation of both ICT-mediated solutions is the result of Authors' participation in the project Smart Ecosystem for Learning and Inclusion.

Key words:

Blockchain, new trends, gamification, adult education.

Introduction

Recent global high-tech trends concentrated on four areas of groundbreaking technologies, comprising of Artificial Intelligence (AI), Internet of Things (IoT), Augmented Reality / Virtual Reality (AR/VR) and Blockchain technology. These technologies have great impact on human lives in recent years. For example, Blockchain has been applied in education (Ocheja, Flanagan, & Ogata, 2018), finance (Wu, & Liang, 2017), health (Ito, Tago, & Jin, 2018), commerce (Yuan, et al., 2018), etc. The application of blockchain to support teaching and learning is quite new and promising. This study therefore summaries existing solutions of educational blockchain.

New ICTs are successfully used in both school and adult education (Potyrała, 2017). In addition to the traditional networking of knowledge. like in the case of the

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Global Sharing Pedagogy

Tomczyk, Ł. & Oyelere, S. S. (2019). ICT for learning and inclusion in Latin America and Europe. Cracow: Pedagogical University of Cracow. DOI 10.24917/9788395373732

Each chapter of the monograph seeks to bring the concept of global sharing pedagogy closer to the national context

CHALLENGES AND THE USE OF TECHNOLOGICAL INNOVATION GLOBAL SHARING PEDAGOGY AND DIGITAL STORYTELLING

ICTs can favor new methodological practices in education. With the collaborative tools support one can promote experiences that will enrich the process of teaching and learning of school contents. In this context, it is necessary to create pedagogical strategies capable of mobilizing teachers and students in different times and spaces, in a collaborative perspective (Silva and Castro Filho, 2017).

Collaborative work is facilitated with ICTs through free online tools such as Collabora (<https://www.collabora.com/>), Socrates (<http://www.virtual.ufc.br/socrates/>), Google tools, AWS tools, Microsoft tools, among others. These tools support groups of students to exchange information and make decisions together. In this way, it encourages students to share their opinions, resolve conflicts during decision making leading to collaborative learning (Ishikawa et al., 2018)

In Brazil, some punctual efforts have been made to work on elements in the teaching-learning process that integrate active student-driven knowledge creation, collaboration,

GLOBAL SHARING PEDAGOGY

In the country, there are organizations that offer this type of learning such as AFS Dominican Republic, which is responsible for preparing the leaders of the future by improving their competence and intercultural skills to have a positive impact in a globalized world.

Another initiative offered by the State Department of the United States, through the American Embassy in Santo Domingo, is the „Global Exchange Program (UGRAD)”, which is responsible for awarding scholarships to undergraduate students from more

Digital storytelling

Tomczyk, Ł. & Oyelere, S. S. (2019). ICT for learning and inclusion in Latin America and Europe. Cracow: Pedagogical University of Cracow. DOI 10.24917/9788395373732

Each chapter of the monograph seeks to bring the concept of global sharing pedagogy closer to the national context

DIGITAL STORYTELLING IN FINLAND, CASE STUDY OF FINNABLE 2020

In Finland, DST has been introduced in classes as a 21st-century skill for teaching and learning (Mäenpää, 2013). For example, mobile video experience has already been used for educational purposes in Finnish schools and internationally for learning storytelling (Hannele et al., 2014). By telling digital stories for pedagogical purpose that emanates from their life experience, teachers and students are able to build relevant contents that is shared for learning (Helminen, 2012). Digital Storytelling and the ways it can support in students' learning experiences were investigated as part of the FINNABLE 2020 research project (Harju, Viitanen, & Vivitsou, 2014). The FINNABLE project creates a learning ecosystem that allows learning anywhere. The key objective is to develop and create technology-driven practices that add value to learning and teaching. The goal is to create new methods for sharing knowledge and experiences and to promote the skills of the 21st millennium that emphasize creativity and problem-solving skills.

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Link: <https://depot.ceon.pl/handle/123456789/17957>

Oyelere, S. S., Silveira, I. F., Martins, V. F., Eliseo, M. A., Akyar, Ö. Y., Costas Jauregui, V., ... Tomczyk, Ł. (2020). Digital Storytelling and Blockchain as Pedagogy and Technology to Support the Development of an Inclusive Smart Learning Ecosystem. *Advances in Intelligent Systems and Computing*, 397–408. doi:10.1007/978-3-030-45697-9_39




[World Conference on Information Systems and Technologies](#)

WorldCIST 2020: [Trends and Innovations in Information Systems and Technologies](#) pp 397-408 | [Cite as](#)

Digital Storytelling and Blockchain as Pedagogy and Technology to Support the Development of an Inclusive Smart Learning Ecosystem

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Conference paper

First Online: 18 May 2020

4

581

Citations Downloads

Part of the [Advances in Intelligent Systems and Computing](#) book series (AISC, volume 1161)

Abstract

This study presents the work-in-progress implementation of a smart learning ecosystem being developed to support learner centered pedagogy such as digital storytelling and recent technologies such blockchain and microsites. The implementation of the ecosystem follows the design science research framework and the universal accessibility guidelines to provide the

Link: https://link.springer.com/chapter/10.1007%2F978-3-030-45697-9_39

Akyar, Ö. Y., Demirhan, G., Oyelere, S. S., Flores, M., & Costas Jauregui, V. (2020). Digital Storytelling in Teacher Education for Inclusion. *Advances in Intelligent Systems and Computing*, 367–376. doi:10.1007/978-3-030-45697-9_36








[World Conference on Information Systems and Technologies](#)

WorldCIST 2020: [Trends and Innovations in Information Systems and Technologies](#) pp 367-376 | [Cite as](#)

Digital Storytelling in Teacher Education for Inclusion

Authors

Authors and affiliations

Özgür Yaşar Akyar , Gıyasettin Demirhan , Solomon Sunday Oyelere , Marcelo Flores ,
Vladimir Costas Jauregui 

Conference paper

First Online: 18 May 2020

554

Downloads

Part of the [Advances in Intelligent Systems and Computing](#) book series (AISC, volume 1161)

Abstract

In this paper first we share concept of workshop-based digital storytelling which we adopted for an International project called SELI (Smart Ecosystem for Learning and Inclusion) and its educational value in terms of inclusion. Secondly we give information about the context of teacher education in the case of Turkey and Bolivia by explaining the context of different target groups as physical education teachers and people from alternate cultures where the heritage written is not important. Finally, we share the architecture of our digital storytelling solution

Link: https://link.springer.com/chapter/10.1007/978-3-030-45697-9_36

Flipped learning

Tomczyk Łukasz, Solomon Sunday Oyelere, Angel Puentes, Gloria Sanchez-Castillo, Darwin Muñoz, Burcu Simsek, Ozgur Yaşar Akyar, Giyasettin Demirhan (2019). Flipped learning, digital storytelling as the new solutions in adult education and school pedagogy In Jaroslav Veteška (ed.). *Adult Education 2018 – Transformation in the Era of Digitization and Artificial Intelligence*. Česká andragogická společnost/Czech Andragogy Society, Praha/Prague 2019, s.69-83 [ISBN 978-80-906894-4-2]

Flipped learning, digital storytelling as the new solutions in adult education and school pedagogy

Łukasz Tomczyk, Solomon Sunday Oyelere, Angel Puentes,
Gloria Sanchez-Castillo, Darwin Muñoz, Burcu Simsek, Ozgur Yaşar Akyar,
Giyasettin Demirhan

Abstract:

The paper is a brief overview of the possibilities of using new, ICT-based teaching solutions. It presents the positive results of integrating flipped learning, digital story telling methods into the learning and teaching process. The text refers to the latest solutions from the border areas of media pedagogy, adult education and ICT. It was written as part of the international project Smart Ecosystem for Learning and Inclusion.

Key words:

Flipped learning, digital storytelling, didactics, adult education, media education.

Introduction

The more wide-spread use of the Internet, the greater is influence of the new, networked media on the human life, social interactions, higher education and economy. Transformation of different social, economic and cultural structures is visible all over the world. One of the most noticeable achievements of education during the last decade is the common implementation of e-solutions which facilitate learning, testing, communication between the learners and networking of educational institutions (Zuowei Zhao, 2018; Lihua Fu, 2018). The growing number of ICT-based solutions that support learning and teaching entails the development of the research into the educational value of: devices like tablets or smartphones, tools to augment the reality (VR, AR) and digital services (websites); the solutions almost every teacher-coach may easily implement in their school or adult education practice (Stošić, Stošić,

Link: <https://erepo.uef.fi/handle/123456789/7906>

Personalized learning

Oyelere, S. S. & Tomczyk, Ł. (2020). ICT in teaching and digital inclusion - the perspective of selected countries from Latin America, Caribbean and Europe. Joensuu: University of Eastern Finland – in Progress

The book describes the educational needs of pre-service teachers and in-service teachers in SELi countries

ICT in teaching and digital inclusion - the perspective of selected countries from Latin America, Caribbean and Europe

Results of quantitative research among pedagogical staff and pre-service teachers from: Bolivia, Brazil, Dominican Republic, Ecuador, Finland, Poland, Turkey, Uruguay

Editors:
Solomon Sunday Oyelere
Łukasz Tomczyk

Link: <https://erepo.uef.fi/handle/123456789/23468>

Tomczyk, Ł., Muñoz, D., Perier, J., Arteaga, M., Barros, G., Porta, M., Puglia, E. (2019). ICT AND PRESERVICE TEACHERS. SHORT CASE STUDY ABOUT CONDITIONS OF TEACHER PREPARATION IN: DOMINICAN REPUBLIC, ECUADOR, URUGUAY AND POLAND. KNOWLEDGE – International Journal, Vol.32.1, July, 2019, p. 15-24.

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ICT AND PRESERVICE TEACHERS. SHORT CASE STUDY ABOUT CONDITIONS OF TEACHER PREPARATION IN: DOMINICAN REPUBLIC, ECUADOR, URUGUAY AND POLAND

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Abstract: The paper aims at presenting the most important indicators teacher preparation in the context of the developing information society. The text was written as part of the SELI project. It is the international study which seeks to answer the question about the factors determining the efficient use of ICT among the pedagogy students. This theoretical study joins the debate on the curricula and local, national and global conditions related to the education of teachers of the future. The text presents data from three countries from Latin America and the Caribbean region and one from Europe.

The development of Information and Communication Technologies (ICTs) is key for any society that wishes to develop and face the local and global challenges that arise every day. However, teachers play a fundamental role in ensuring that these technologies are taught and reach the entire population adequately. During this process, an important number of challenges and problems must be faced, as a result of the current context in which the Dominican Republic, as a developing country, finds itself. In the present work we make a brief description of the main challenges and defies faced by ICT teachers.

In the section referring to Ecuador, a general outline of the academic education for preservice teachers is presented. The numeric data are presented about the education system and the preparation of future teachers. The legal grounds

Link: <https://ikm.mk/ojs/index.php/KIJ/article/view/1397>

Tomczyk, Ł, & Włoch, A. (2019). Cyberbullying in the light of challenges of school-based prevention, International Journal of Cognitive Research in Science, Engineering and Education (IJCRSEE), 7(3), 13-26 DOI: 10.5937/IJCRSEE1903013T

Tomczyk, Ł, & Włoch, A. (2019). Cyberbullying in the light of challenges of school-based prevention, International Journal of Cognitive Research in Science, Engineering and Education (IJCRSEE), 7(3), 13-26

CYBERBULLYING IN THE LIGHT OF CHALLENGES OF SCHOOL-BASED PREVENTION

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cyberbullying,

prevention,

Poland, teachers,

school,

ABSTRACT

The main goal of the paper is to present opinions about cyberbullying prevention in Poland in the light of teachers' experiences. The authors show the current state of knowledge of electronic aggression and cyberbullying among the youths. They also present an overview of the difficulties educators face, the challenges and expectations of kids and youth regarding media prevention, as well as challenges related to the effectiveness of the modern, innovative prevention of risky behaviours. The study was conducted in the Pedagogical University of Cracow, in the first half of 2019, using a focus group method. The results provide new guidelines and findings which may be valuable for school practice and media pedagogy. The interviewed teachers declared that the effectiveness of the hitherto implemented preventive activities varies. They declared their need to develop their own digital literacy and were willing to participate in trainings focused on the practical aspects of anticipating cyberbullying and solving difficult cases (e.g. related to sexuality, image protection or attacking teachers via the Internet). The respondents admitted the necessity of joining efforts with police and local

Link: <http://www.ijcrsee.com/index.php/ijcrsee/article/view/565>

Wnęk-Gozdek, J., Tomczyk, Ł., Mróz, A. (2019). Cyberbullying prevention in the opinion of teachers. *Media Education (Mediaobrazovanie)*. - 2019, Vol. 59, iss. 4, s. 594-607. DOI: 10.13187/me.2019.4.594

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Cyberbullying Prevention in the Opinion of Teachers

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Abstract

The paper sets out to present the opinions of teachers regarding the implementation of cyberbullying prevention programmes for children and youth. Such perspective is to facilitate a better understanding of the role of the prevention of Internet-mediated risky behaviours in the school environment. The text was created using the interpretative paradigm of the qualitative pedagogical research. The study was conducted using focus group technique with over a dozen of teachers participating. The text was written as part of the project SELI – Smart Ecosystem for Learning and Inclusion, in the second half of 2019. The data collected showed that cyberbullying prevention is a complex phenomenon and requires active engagement not only from the teachers but also from the third parties, parents and students themselves. The teachers who took part in the focus group listed a range of protective factors related to the elimination of cyberbullying: increasing digital literacy, developing universal skills (communication, personal culture, respect to others, critical thinking), support from the police and related institutions, building family relationships, engaging in leisure activities. The teachers agree that rapidly developing technology outdates the knowledge of people involved in media education, making lifelong education necessary.

Keywords: cyberbullying, teachers, prevention, school, parents, digital literacy, Poland.

Link:

https://www.researchgate.net/publication/337717677_Cyberbullying_Prevention_in_the_Opinion_of_Teachers

Tomczyk, Ł., Potyrała, K. (2019). Bezpieczeństwo cyfrowe dzieci i młodzieży w perspektywie pedagogiki mediów. Kraków: Uniwersytet Pedagogiczny.

Publication written in Polish - contains issues of individualisation of learning in the context of media pedagogy (risk paradigm).



Link: <http://www.wydawnictwoup.pl/776/Bezpieczenstwo-cyfrowe-dzieci-i-mlodziezy-w-perspektywie-pedagogiki-mediow.html>