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Creatively and Informally: Scratch and the Remix Culture

Abstract

The purpose of this paper is to demonstrate the focus of education on creativity achieved by the use of coding (“code to learn”), in view of modern pedagogical theories. Social interactions between young creators are an important factor. The paper describes an initial stage of the research on the phenomenon of the remix of simple computer games created by the community of users in the Scratch environment. It presents selected problems of young creators connected to sharing their own work with other community members: authorship acknowledgement, formal acknowledgement for the first author placed on derived products (games), reactions of the first author to the creative development of their ideas or influence of school grades on the will to share the project. There will be further research on the achievements of the same group of students aged 15 to 16 after a series of lessons concerning creating computer games in the Scratch environment.

K e y w o r d s: education for creativity, connectivism, constructionism, code to learn, Scratch, culture of remix

Introduction

What is creativity in the net – a network of creators or maybe something else?
How to share your own creativity under certain rules and with respect for other

people's (co-authors') work? Out-of-school and from home. Informally or even occasionally. In an interesting way. In a new formula.

What is the culture of remix as proposed by the Massachusetts Institute of Technology, Media Lab (USA)? Is a young programmer creative or not? Does he or she learn how to code or does he or she code and learn along the way?

In part one of the paper, the author briefly describes the definition of creativity and creative work. Subsequently, the author presents the characteristics of a web cooperation environment for young creators.

In part two, connectivism and its critique lead to a proposition how to construct knowledge in a connective way.

Part three is a description of the Scratch environment, the idea of remix and the "code to learn" idea.

In the last part, the results of the initial survey among students aged 15–16 are presented. The research tackles the question of sharing one's own coding projects with other members of young creators' community.

Creativity, Education for Creativity

In the mid 20th century Morris I. Stein wrote that "the creative work is a novel work that is accepted as tenable or useful or satisfying by a group in some point in time" (Stein, 1953, p. 18). By "novel" Stein means that the creative product does not exist previously in precisely the same form. It arises from a reintegration of already existing materials or knowledge, but when it is completed it contains elements that are new (Stein, 1953, p. 311).

Władysław Tatarkiewicz in his work entitled *The history of six definitions (Dzieje sześciu pojęć)*, analyzing the transformation of the definition of creativity, understands it broadly as pancreationism. This concept emphasizes that creativity is not related only to outstanding realizations and talents of a very small group of people; instead, everyone can be creative if one does not limit themselves to repeating and copying, but gives something back (Limont, 2010, p. 265).

A creative work of young people requires a proper environment: an environment in which they would be able to use the works of others, but also give something to others, give something back, make a contribution.

An optimal environment seems to be the one that would always be accessible to young creators. On the one hand, it would allow them to work within the frames of formal education; on the other hand, due to its accessibility (preferably: 24/7) it should encourage students to do their individual – informal, sometimes occasional – work.

The environment of an active creator should allow not only for activities forced by school education (finishing work from the lesson, preparing additional homework) but also for those triggered by the social context of work creation: the need for comment reaction, encouragement or critique, the need for reaction to presented work or reaction for the co-users' ideas.

An active creator would immediately notice the possibility to develop the recently viewed work or to present their peer's idea. An environment of an active creator should enable them an immediate creative reaction – an immediate start of work.

Modern ICT tools, the Internet with its social context and a properly chosen material form solid foundations of education for creativity.

We can point directly to:

- web applications (operating in a web browser) – as easy ICT tools that do not require installation or update;
- the Internet – as such – and its social context provided by Web 2.0; and
- solving interesting problems connecting information technology (algorithmics), music, animation and computer games – as the material able to engage a young creator.

What binds the two first elements listed above is the Internet as the area of social interactions and as a transmission medium in a more technical sense.

We Connect to Create

Connectivism

One of the tasks of education – including education for creation – is to prepare students to live in the world we are now unable to imagine and to work in professions that have not yet been invented. Nowadays, students have to be aware that they will learn throughout their whole lives and that probably they will change their places of professional (assigned) jobs frequently. This will also cause the need for constant education.

Does school based mostly on the memory and generic approach prepare students to function in the future world? Does teaching by the “memorize, pass, forget” method still make sense in the world where the so-called “useful” knowledge resources (used for work and learning) can no longer be grasped by the human mind?

People should combine their learning abilities and a critical source analysis with the ability to access quickly the resources that have long been stored beyond their minds: in an analog or (today mostly) digital way. Only this kind of combination may result in a professional or academic development of an employee and a student. This nurturing of connections is called connectivism.

The authors of connectivism – George Siemens and Stephen Downes – having analyzed the limitations of other modern pedagogical theories, propose a new concept of learning. The starting point is the fact that technology has a significant influence on our lives, on the way we communicate and the way we learn (Polak, 2010).

In the connective vision of learning the pressure is on “know-where” instead of “know-what” or “know-how,” especially because a part of today’s knowledge rapidly becomes useless in the face of new discoveries (Siemens, 2005).

Siemens describes this phenomenon using the notion of the “half-life knowledge.” It is the time span from when knowledge is gained to when it becomes obsolete. Half of what is known today was not known 10 years ago. The amount of knowledge in the world has doubled in the past 10 years and is doubling every 18 months according to the American Society of Training and Documentation (ASTD) (Siemens, 2005).

Connection is the central metaphor of the learning process in connectivism (Polak, 2010). Nurturing the connections themselves is equally important as the amount of resources accessible to us, their condition and the specific abilities of an individual, making it easy to use them. Nurturing the connections must be a creative process; it must become the time for *learning*, and even the time to *create learning*, *create knowledge*.

The Critique of Connectivism

Janusz Morbitzer represents the critical approach to connectivism. He accuses this notion of being built on two false premises:

- knowledge is located on the Internet, and
- the metaphor of learning generates connections between network nodes.

Moreover, he claims that the latter silently assumes the former (Morbitzer, 2013a, pp. 37–38).

Morbitzer states that knowledge is an individual interpretation of selected fragments of reality saved in human minds. He quotes Peter F. Drucker (1909–2005), who claims that wisdom and knowledge are not located in books, computer programs or the Internet. What is there is information. Wisdom and knowledge are always embodied in humans: they are gained and used by the person learning (Morbitzer, 2013a, pp. 37–38).

Also Maciej M. Sysło denies the possibility of knowledge existing beyond humans, undermining, like Morbitzer, the assumptions of connectivism. Sysło therefore defines the role of education as training the competence in the development of one’s own knowledge (Sysło, 2010).

Can the development of one’s own knowledge be conducted in a connective way? Can knowledge – as the individual interpretation of selected fragments of reality saved in human minds – be developed as a result of connecting with the web? Yes, of course.

Constructing Knowledge in a Connective Way?

Morbitzer himself notices a chance of combining connectivism with constructivism. According to him, connectivism based on technological premises is only a way to get information with IT tools, whereas constructivism is the necessary intellectual aspect – the belief in the power of the human mind, which is essential for understanding, interpreting and converting information into knowledge (Morbitzer, 2013b).

He further advocates against fearing constructivism, which is still a theory, and encourages not to resign from using the brain as the most powerful tool to create and process information (Morbitzer, 2013b).

Taking into account constructivism supported by connectivism, we must not forget that – with the development of communication technologies and unprecedented access to external sources – the role of a teacher changes. A teacher is no longer “an oracle.” Their words may quickly undergo the students’ critique based on the most recent knowledge from current sources.

Teachers should be aware of the shift in their role in the process of teaching and learning. Teachers nowadays become guides, advisors, animators of the situation where students begin to learn on their own. They can have disputes, based on sources, with students. Then learning (as a process) “happens” in a situation of an argument.

Let us consider the three factors that have been mentioned so far. That is the constructive approach to education with the strong (connective) use of the web for creating favorable situations to develop creativity. Therefore, we have everything to bring up the environment proposed by the Massachusetts Institute of Technology, Media Lab (USA): *Scratch – Imagine, Program, Share*.

Digital Fluency of Creators

Scratch

Resnick’s team has designed a free environment for young creators. Scratch is a free programming language and online community where you can create your own interactive stories, games, and animations. Scratch has been created especially for children aged 8 to 16, although it is being used by people of all age groups in over 150 countries and it is available in over 40 languages (Scratch – About).

“Scratch builds on the constructionist ideas of Logo (...). To help users make their projects personally engaging, motivating, and meaningful, Scratch makes it easy to import or create many kinds of media (images, sounds, music)” (Maloney et al., 2010, p. 3).

The origin of Seymour Papert's theory of constructionism lies in constructivism. According to this theory, the most effective method of creating new skills is including pupils or students in actions during which they can create a specific and interesting product. In this sense, it expands constructivism, which emphasises solving problems practically, using not only mind but also hands (Lapeš & Tocháček, 2012, p. 22).

Papert claims that doing is a good way to learn, but we learn best of all by the specific kind of doing that consists of constructing something outside of ourselves. Children who are building a tower, writing a story, constructing a working robotic device or making a video game are all examples of constructing and the list goes on indefinitely (Papert, 1999, p. XIII).

The author of this paper – taking into consideration his own experience as an IT teacher – values the educational potential of Scratch that shows in:

- no fee for using the environment;
- decent Polish language version of the product;
- availability of the version in both on-line and off-line mode;
- availability for operating systems: Microsoft Windows, Mac OS X and also Linux;
- lack of error notifications – commands should fit each other by a shape of the puzzle on which they are saved;
- eye-catching interface, attractive to kids at the age of 8 and older;
- constantly growing community of users; and
- possibility of project remixing.

Scratch unites programmers from the whole world and enables them to express themselves in languages comprehensible to them (not necessarily in natural languages).

Digital Fluency and Learn to Code, Code to Learn

For Mitchel Resnick from the Massachusetts Institute of Technology, Media Lab (USA) the modern “digital fluency” should mean designing, creating, and remixing, not just browsing, chatting, and interacting (Resnick et al., 2009, pp. 60). He states that it is comfortable for many young people to send text messages, play online games and browse the Internet. However, he wonders whether it really makes them fluent with new technologies. Young people interact with digital media on a regular basis. Yet, very few of them are able to create their own games, animations or simulations. Resnick compares them to people who are able to read, but not write (Resnick et al., 2009, p. 62).

While teaching (or learning) to code, we simultaneously teach (learn) by means of coding. Resnick concluded it in the slogan: Learn to Code, Code to Learn. He also sees the biggest challenges for the future in not in the technological field but in the cultural and educational ones. He notes that a change in the way we think is required in order for people to start to see coding not only as a good job

opportunity, but also as a new form of expressing oneself and a new context for learning (Resnick, 2013).

Resnick thinks that in the process of learning to code, people learn many other useful things and he enumerates for example: “strategies for solving problems, designing projects, and communicating ideas. These skills are useful not just for computer scientists but for everyone, regardless of age, background, interests, or occupation” (Resnick, 2013).

When teaching algorithmics and coding at school, we teach children and young people to solve problems creatively and express themselves in the language of 21st century.

The Culture of Remix

Scratch users share their ideas by creating remixes of projects. On the Scratch Web site they are provided with a social context. This allows users to share their Scratch projects, receive feedback and encouragement from their peers, and learn from the projects of others (Maloney et al., 2010, p. 3).

Resnick and his co-workers mention that, in the beginning, some Scratchers felt upset about other users reixing their projects. They felt as if others were stealing their work. There were many discussions held on the Web site’s forums about the importance of sharing and the ideas behind open source communities (Resnick et al., 2009, p. 65). The goal of Scratch originators is “to create a culture in which Scratchers feel proud, not upset, when their projects are adapted and remixed by others” (Resnick et al., 2009, p. 65).

The complete information about the evolution of a shared project is stored as a „remix tree” (Figure 1), which grows out from the base project.

In February 2016 the Pizza Chef project by ttseng gathered:

- 307160 views,
- 817 remixes (derived products) marked on the remixtree,
- 1179 marks as “favourite” (stars),
- 1480 marks as “beloved” (hearts), and
- 1262 comments.

These figures indicate the power of web interactions among young creators. Interestingly, one of the remixing members of the community was Scratchteam (<https://scratch.mit.edu/users/Scratchteam/>) – the team of Scratch creators from the MIT.

It goes as far as to say that the figures can imply grades in the web of young creators. Such grades give the creator a fuller picture of how the project is received by the community than the teacher’s grade.

All user-generated content that creators submit to Scratch is licensed to and through Scratch under the Creative Commons Attribution-ShareAlike 2.0 license. This allows others to view and remix the content of each creator. This license also allows the Scratch Team to display, distribute, and reproduce the content of

creators on the Scratch website, through social media channels, and elsewhere (Scratch Info, 4.3).

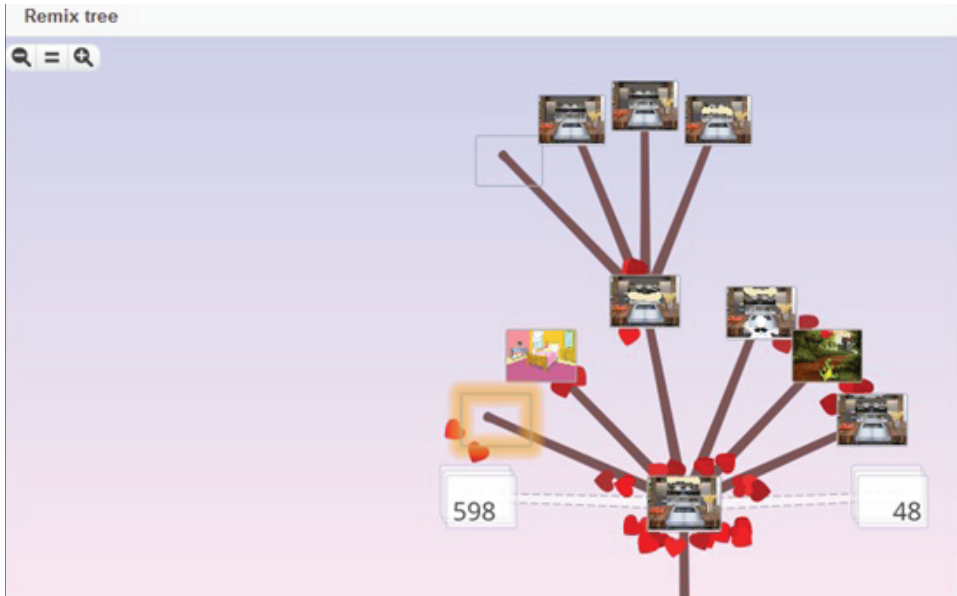


Figure 1. Remix tree of the *Pizza Chef* project by tseng

Source: <https://scratch.mit.edu/projects/10015802/remixtree/>.

We should remember that the goal of the actions described here is not to educate a horde of excellent programmers. The goal is to use coding as a specific background, which allows the arrangement of a situation in which a student in order to write (create) a fragment of working script (a fragment of working program code) needs to acquire knowledge or gain new skills.

Moreover, a student can use the projects of other members of the community and modify them creatively, comment on them and mark them as favorite or beloved, thus providing their creators with a valuable feedback.

What Kind of Creator Will You Be? – Initial Research

Introduction

In autumn 2015 the middle school third-graders (girls and boys, 15–16 years old) were asked about their opinion concerning sharing their work with other young creators. Eighty-five students of a single school participated in the online survey.

The school is located in Bielsko-Biała – the city with 180 thousands inhabitants, the capital of the region called Podbeskidzie in southern Poland.

This was an initial research. An implementation of a series of lessons concerning creating computer games in the Scratch environment started afterwards. Another students' survey was scheduled for the end of the series of lessons – spring 2016.

The initial research results presented below are a reflection of young creators' views at the beginning of their adventure of creating their own computer games. It was a completely new experience for the majority of them.

The author, comparing the initial research results to the ones scheduled for spring 2016, wishes to examine whether the students' work on their own games, their efforts in creating and making the games will change their views on sharing their coding projects with other members of the young creators' community.

How Willingly Will You Share Your Work?

In part one of the survey the students had to assume they were the authors of a simple computer game created in the Scratch environment, who were offered to share their game so that other creators would be able to use their ideas.

They were asked to answer a question about how willingly they would share their work (in the given situation).

They used the following scale to provide their answers: from 0 (I don't want to share, I'll do it if I have to) to 5 (I'll willingly share). Table 1 shows the students' answers.

Table 1.

How willingly would you share your work (in the given situation)?

Answer	Number of answers	Percent of answers
0 (I don't want to share, I'll do it if I have to)	6	7,06%
1	3	3,53%
2	10	11,76%
3	23	27,06%
4	20	23,53%
5 (I'll willingly share)	23	27,06%
Total	85	100,00%

Source: Author's research.

Over 7% of the students chose the answer 0 – they would not like to share their game created in the Scratch environment (in the given situation).

Over 22% of the students chose the answers 0, 1 or 2 – we may assume that they do not support the idea of sharing their work.

However, almost 78% of the young creators would share their work with others (answers 3 or 4) or would even do that willingly (answer 5).

What Is Important to You as a Creator?

In part two of the survey the students had to imagine that the game they had created was made available to other young creators who could modify it and try to boost it.

First, they had to answer the question about how important it was to them to have their authorship formally acknowledged.

They could choose their answers from the following scale: from 0 (It isn't important to me) to 5 (It's very important to me). Table 2 shows the students' answers.

Table 2.

How important is it to you to have your authorship formally acknowledged (the information about you as the author of the game)?

Answer	Number of answers	Percent of answers
0 (It isn't important to me)	4	4,71%
1	6	7,06%
2	8	9,41%
3	18	21,18%
4	29	34,12%
5 (It's very important to me)	20	23,53%
Total	85	100,00%

Source: Author's research.

Answers 3, 4 or 5 – indicating that the authorship acknowledgement is an important matter – were chosen by almost 79% of the students.

Another question concerned the value of a formal acknowledgement that might be placed on derived products created on the basis of the student's game.

The students could choose an answer from the following scale: from 0 (It isn't important to me) to 5 (It's very important to me). Table 3. shows the students' answers.

The percentage of answers 3, 4 or 5 – indicating the importance of a formal acknowledgement placed on derived products – is over 70%.

The third question of part two concerned the creative development of the student's game.

They could use the following scale to answer the question: from 0 (It isn't important to me) to 5 (It's very important to me). Table 4. shows the students' answers.

Table 3.

How important to you is it to have a formal acknowledgement placed on derived products (games created on the basis of your game)?

Answers	Number of answers	Percent of answers
0 (It isn't important to me)	7	8,24%
1	6	7,06%
2	12	14,12%
3	24	28,24%
4	26	30,59%
5 (It's very important to me)	10	11,76%
Total	85	100,00%

Source: Author's research.

Table 4.

How important to you is it that another person can creatively develop your ideas, correct your mistakes, in other words boost your game?

Answers	Number of answers	Percent of answers
0 (It isn't important to me)	5	5,95%
1	0	0,00%
2	8	9,52%
3	19	22,62%
4	31	36,90%
5 (it's very important to me)	21	25,00%
Total	84	100,00%

Source: Author's research.

Answers 3, 4 or 5 – indicating that the chance for a creative development of their game by others is an important matter for the students – were chosen by almost 85% of the students.

It is worth comparing the answers to the third question presented above with the fourth question of part two, in which the students were asked to grade the level of their satisfaction (or its lack) if the work of another person (based on their game) turned out to be more interesting (better).

This time the students could choose an answer from the scale which ranged from –5 (I'll be very displeased), through 0 (I'll be indifferent), to 5 (I'll be very pleased). Table 5 shows the students' answers.

What is notable is a large number of answers between “displeased” and “indifferent” (–2, –1 and 0): over 48%.

Table 5.

Grade the level of your satisfaction (or its lack) if the work of another person (based on your game) turns out to be more interesting (better)

Answer	Number of answers	Percent of answers
-5 (I'll be very displeased)	8	9,41%
-4	7	8,24%
-3	3	3,53%
-2	10	11,76%
-1	16	18,82%
0 (I'll be indifferent)	15	17,65%
1	1	1,18%
2	8	9,41%
3	4	4,71%
4	4	4,71%
5 (I'll be very pleased)	9	10,59%
Total	85	100,00%

Source: Author's research.

The last question of part two was an open one. The students were asked to write a short message to those, who would like to creatively develop their game. Table 6 contains the most characteristic students' answers divided into categories.

Table 6.

What message would you give to someone who would create their own game on the basis of yours (create a remix)?

Category mark	Category description	Number of answers	Percent of answers
A	Encouragement to work, congratulations, joy of using their game (by remixing)	31	36,47%
B	Request for saving the information about the original author of the game or where the idea comes from	13	15,29%
C	Negative comment about the people using the game	10	11,76%
D	Other answers (including the answer: I don't know)	12	14,12%
E	A lack of answer	19	22,35%
	Total	85	100,00%

Source: Author's research.

Over 36% of the students expressed their positive attitude towards the creators who would develop their game, that is – create derivate products according to the remix rules.

Almost 12% of the students would not be pleased about their game being used by other people, which they expressed by giving answers like: *I want her to remove the game* or *Next time I would like her to try to stick to her own ideas*.

School Assessment and the Will to Share Your Work

In part three of the survey the students were asked about the will to share their work (game) that would be assessed at school.

The same question was asked three times. Each time the students had to grade their will to share their work (game) in the future depending on their school grade for it. Table 7 contains the answers to the last three questions of the survey.

The students had to use the following scale: from 0 (I don't want to share my game) to 5 (I'll be very happy to share).

School grades were divided into three categories:

- A (grades 1 and 2) – the lowest grades,
- B (grades 3 and 4) – average grades, and
- C (grades 5 and 6) – the highest grades.

Table 7.

The school grade and the will to share your game

School grades category	Grading the will to share your game: from 0 (I don't want to share my game) to 5 (I'll be very happy to share)					
	0	1	2	3	4	5
A (grades 1 and 2)	57	8	9	4	3	4
B (grades 3 and 4)	9	12	24	24	11	5
C (grades 5 and 6)	2	2	5	12	24	40

Source: Author's research.

It is interesting to analyze the changes in the distribution of the grades from 0 to 5 in each of the three school grades categories (A, B and C). It is shown in Figure 2.

It can be noted that 57 out of 85 students (over 67%) do not wish to share their work if they get school grades from category A (grades 1 and 2 – the lowest grades).

For the grades from category B (school grades 3 and 4 – average grades) the distribution of the answers concerning the will to share their game is close to the normal distribution.

64 students (over 75%) would willingly share their work if they got school grades 5 or 6 (high grades).

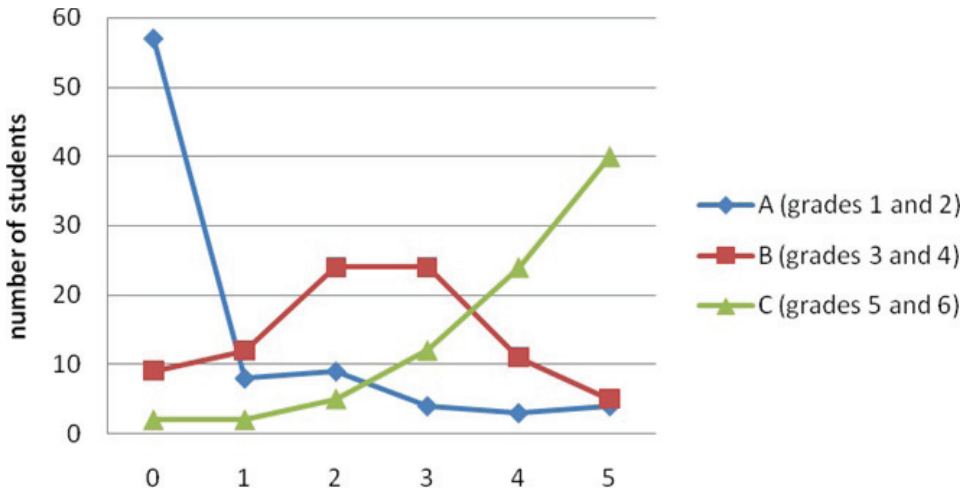


Figure 2. School grades and the will to share the game

Source: Author's research.

It goes as far as to say that the higher the school grade is, the more willing the students are to share (show off) their product.

Lower school grades may block the will to share the projects with other young creators. At the same time, a school grade (an element of formal education) may block further development of the projects, of which the primary production leaves a lot to be desired (was graded low).

Conclusion

In this paper, the author presents the results of his initial research on the phenomenon of simple computer games remix in the Scratch environment. The author attempts to show the relation between education, i.e. modern pedagogical theories, and creativity. The research is based on the use of coding (“code to learn”).

The research will be repeated at the end of a series of lessons introducing the techniques of creating computer games in the Scratch environment to middle-school students. Young creators will have the chance to verify their ideas concerning sharing their work with other coders.

Even today we may indicate the areas worth attention during the second phase of the research that will target the same group of students, e.g.:

- determining the importance of the link between school grades and the will to share the students' products (games);

- sustaining or changing the students' opinion about those aspects of creating and sharing their products within the social web of creators, which were considered important (very important) by the students in the initial research or on the contrary – which were of little importance (no importance); and
- second analysis of the level of satisfaction (or its lack) if another person's work based on someone else's production turns out to be more interesting (better).

The author of this article would like to ask and encourage the readers to submit comments and suggestions concerning the problems of using coding in teaching children and teenagers for creativity.

References

- Lapeš, J., & Tocháček, D. (2012). *Edukační robotika*. Praha: Univerzita Karlova v Praze.
- Limont, W. (2010). Pedagogika twórczości, czyli edukacja ku twórczości. In B. Śliwerski (Ed.), *Pedagogika. Subdyscypliny i dziedziny wiedzy o edukacji*, vol. 4. Gdańsk: GWP.
- Maloney, J., Resnick, M., Rusk, N., Silverman, B., & Eastmond, E. (2010). The Scratch programming language and environment. *ACM Transactions on Computing Education (TOCE)* 10(4), article No. 16.
- Morbitzer, J. (2013a). Konektywizm – edukacyjny przełom czy niespełniona nadzieja? In M. M. Sy-sło, & A. B. Kwiatkowska (Eds.), *Uczyć się będąc połączonymi IwE 2013: X konferencja „In-formatyka w Edukacji” 5–7 lipca 2013 UMK Toruń* (pp. 35–42). Toruń: Wydawnictwo Naukowe UMK.
- Morbitzer, J. (2013b). *O konektywizmie kilka krytycznych refleksji*, EDUNews.PL – portal o nowoczesnej edukacji. Accessed 17 February 2016. Retrieved from <http://www.edunews.pl/badania-i-debaty/dyskusje/2333-o-konektywizmie-kilka-krytycznych-refleksji>.
- Papert, S. (1999). Introduction: What is Logo? And who needs it? In *Logo Philosophy and Implementation*, Logo Computer Systems Inc., USA. Accessed 15 February 2016. Retrieved from <http://www.microworlds.com/company/philosophy.pdf>.
- Polak, M. (2010). *Konektywizm: połącz się, aby się uczyć*, EDUNews.PL – portal o nowoczesnej edukacji. Accessed 17 February 2016. Retrieved from <http://www.edunews.pl/badania-i-debaty/badania/1068>.
- Resnick, M., Maloney, J., Monroy-Hernández, A., Rusk, N., Eastmond, E., Brennan, K., Millner, A., Rosenbaum, E., Silver, J., Silverman, B., & Kafai, Y. (2009). Scratch programming for all. *Communications of the ACM* 52(11), 60–67.
- Resnick M. (2013). Learn to code, code to learn. edSurge. Accessed 15 February 2016. Retrieved from <http://www.edsurge.com/n/2013-05-08-learn-to-code-code-to-learn>.
- Scratch – About*. Accessed 15 February 2016. Retrieved from <https://scratch.mit.edu/about>.
- Scratch info – Imagine, program, share. The Scratch terms of use*. Accessed 15 March 2016. Retrieved from http://scratch.mit.edu/terms_of_use/.
- Siemens, G. (2005). Connectivism. A learning theory for the digital age. *International Journal of Instructional Technology & Distance Learning* 2(1). Accessed 15 February 2016. Retrieved from http://www.itdl.org/journal/jan_05/article01.htm.

Stein, M., (1953). Creativity and culture. *The Journal of Psychology: Interdisciplinary and Applied* 36, 311–322.

Syśło, M. M. (2010). Commentary to: Sawiński J. P., *Konektywizm, czyli rewolucja w uczeniu się?*, *EDUNews.PL – portal o nowoczesnej edukacji*. Accessed 20 February 2016. Retrieved from <http://www.edunews.pl/badania-i-debaty/badania/1077>.

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Twórczo i nieformalnie: Scratch i kultura remix'u

Streszczenie

Artykuł ma pokazać umocowanie edukacji ku twórczości, prowadzonej z wykorzystaniem programowania (code to learn), we współczesnych teoriach pedagogicznych. Ważne są społeczne interakcje młodych twórców. Artykuł opisuje wstępne badania nad zjawiskiem remixu prostych gier komputerowych tworzonych przez społeczność użytkowników w środowisku Scratch. Przedstawia wybrane problemy młodych twórców związane z dzieleniem się własną pracą z innymi członkami społeczności: uznanie autorstwa, formalne podziękowanie pierwszemu autorowi umieszczone na produktach pochodnych (grach), reakcje pierwszego autora na twórcze rozwinięcie jego pomysłu przez innego twórcę, czy wpływ oceny szkolnej na chęć dzielenia się własnym projektem. Opisane tu badania grupy uczniów w wieku 15–16 lat będą powtórzone na zakończenie cyklu lekcji poświęconych projektowaniu i tworzeniu gier w środowisku Scratch.

Słowa kluczowe: edukacja ku twórczości, konektywizm, konstrukcjonizm, code to learn, Scratch, kultura remixu

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Творчество неформальность: Скратч и ремикс культура

Аннотация

Целью данной работы является демонстрация связи обучения творчеству, проведенного с использованием кодирования (код учиться) и современных педагогических теорий. Социальные взаимодействия между творческими молодыми людьми являются важным вопросом. В статье описывается начальный этап исследования явления ремикса простых компьютерных игр, созданных сообществом пользователей в среде Скретч. Она представляет выбранные проблемы молодых авторов, связанные с обменом их собственными продуктами с другими членами сообщества: признание авторства, официальное подтверждение для первого автора, размещенное на созданных продуктах (игры), реакция первого автора на творческое развитие его идей или влияние школьной оценки на решение поделиться проектом. Исследование на группе студентов в возрасте от 15 до 16 лет, описанной здесь, будет повторяться как подведение серии уроков, касающихся создания компьютерных игр в среде Скретч.

К л ю ч е в ы е с л о в а: обучение креативности, коннективизм, конструктивизм, Скретч, культура ремикса

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Creativa e informal: Scratch y la cultura de mezclas

Resumen

El objetivo de este documento es demostrar el vínculo de la educación con la creatividad, dirigido con el uso de la codificación (el código para aprender) para teorías pedagógicas modernas. Las interacciones sociales entre creadores jóvenes son un asunto importante. El documento describe un preludio a la investigación sobre el fenómeno de nueva mezcla de juegos de ordenador sencillos creados por la comunidad en el entorno Scratch.

Presenta problemas seleccionados por los jóvenes creadores conectados para compartir sus propias creaciones con otros miembros de la comunidad: el reconocimiento de autoría, el reconocimiento formal para el primer autor situado en productos derivados (juegos), las reacciones del primer autor al desarrollo creativo de sus ideas por otro creador, o la influencia de la evaluación del colegio/de los alumnos sobre la voluntad de compartir el proyecto. La investigación sobre un grupo de estudiantes de entre 15 y 16 años aquí descrita, será repetida como la conclusión de una serie de clases relacionadas con la creación de juegos para el ordenador en el entorno Scratch.

Palabras clave: educación para la creatividad, conectivismo, construccionismo, código para aprender, Scratch, cultura de mezclas