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Using Web 2.0 Tools in Primary School Students` Assessment

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Abstract. The emergence of Web 2.0 has marked a change in how the Internet users benefit from a number of tools that allow them to browse for information, exchange data, collaborate and interact with others. The existing applications Web 2.0 facilitate learning and knowledge sharing, develop creativity, prepare the young for the future and bring together people from various places, with the most diverse experiences.

The need to improve the practice of assessment in primary schools is widely recognised. Assessment's impact on student learning is well established, including technology-based assessment. Web 2.0 innovations in primary education have appeared in recent years, however, it is still not clear to what extent students' Web 2.0 activities are formally assessed, or what affordances Web 2.0 offers specifically for assessment. Using Web 2.0 to assess student work can pose challenges for institutional values and policies.

Web 2.0 may well be able to offer affordances for every stage of assessment, from designing and implementing it, through supporting and grading it, to evaluating its effectiveness. Web 2.0 might offer ways to make assessment more authentic, personalised, engaging or problem-oriented.

The aim of this paper is to offer a basic introduction to some new possibilities in using of Web 2.0 technologies in primary school students` assessment and to analyse the importance of using web 2.0 as formative assessment tools. The paper describes the theoretical aims, design, implementation and evaluation of web 2.0 as formative assessment tools and supports the argument for the educational use and pedagogical importance of using web 2.0 technologies for assessment in primary schools. The paper also highlights potential problems and limitations of the web 2.0 as an assessment tool.

1. Introduction

The development of educational technologies has resulted in a fundamental shift in the educational paradigm with learning no longer equating to the assimilation of knowledge transmitted by textbooks and instructors but by personally building and communicating knowledge.

There are many new technologies that can be utilised by primary schools available through the internet and online learning platforms. The need for educators to access these technologies in the classroom is becoming increasingly significant as young people are already exposed to these media in their everyday, social contexts.

The influx of technology into classroom teaching affords opportunities to create conditions for student learning and for assessment options. Digital tools may provide opportunities for differentiated forms of assessments. Not only can digital measures of student learning provide assessment tools,

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virtual mediums create new ways for students to showcase their work and to work collaboratively with others. The Internet users can use different applications in order to provide their skills, abilities and competencies and moreover to enhance their digital and 21st skills: communication, reflection, sharing, thinking critical, collaboration, social skills etc.

In Romanian schools were made important progresses regarding IT infrastructure, Internet access, and the opportunity for teachers to participate to trainings in order to develop their IT skills and, as a consequence, to make teaching more effective and attractive. More, teachers have named IT as one of the most important classes that teachers should follow during continuous training. This indicates that this category of teachers with significant didactic experience is aware of their need to develop informatics skills in order to adapt to their pupils profile and nowadays knowledge society. Teachers emphasize the role of using new technologies to facilitate learning, to involve students more during lessons, to develop a contextual learning, to capture their attention and to increase school motivation.

Throughout history, educators have always been interested by the question of how technology can be used to transform education, enhance student learning [1] and improve assessment practices. One of the most recent technologies that have captured the attention of many educators around the world is Web 2.0, a term coined by O'Reilly in 2004 to explain the concept of grouping a set of design and functional characteristics for web pages [2].

Web 2.0, which is also known as the read-write web [3], allows two-way communication between the site and users. In its most basic form, Web 2.0 refers to a concept which allows individuals to collaborate with one another and contribute to the authorship of content, customize web sites for their use, and instantaneously publish their thoughts [4,5].

With Web 2.0, individuals can now contribute to the Internet with little technical know-how (e.g., using a Web editor or writing HTML code). Individuals can now become contributors to web sites instead of being mere readers reading the contributions made by others [5]. As a result, the content of Web 2.0 sites is constantly changing because content can be updated by multiple authors. It is therefore not surprising that Web 2.0 technologies are hugely popular around the world [6]. Nevertheless in Romania the application of Web 2.0 for primary school students` assessment is still very little explored.

2. Web 2.0 as Formative Assessment Tools

In the educational process, any teacher who wants to be in touch with the updates in some areas, cannot remain outside the new Web 2.0 technologies which facilitates this.

The Web 2.0 age of information technology has introduced a potential force for a paradigm shift in the way we teach and learn. In societies and sectors of education where knowledge instruction has been declarative only and learning has been equivalent to reiterating learned material, there has emerged a big scope for transforming conventional practices by relocating the focus on interactivity and learning outcomes. This is such a vast arena of social technologies [7] like wikis, blogs, podcasting etc. where new methods, new strategies and new standards shall be built.

Assessment is said to be formative when it yields information which can be used by teachers and students "to modify the teaching and learning activities in which they are engaged". Black and William divides the practices that make up formative assessment into five categories including classroom questioning, feedback, sharing criteria with learners, student peer and self-assessment; and the subsequent instruction [8]. Formative assessment differs from summative assessment as summative assessment generally marks the end of instruction whereas formative assessment, on the other hand, anticipates further action on the part of the learning group and the instructor.

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From personal experience in using Web 2.0 as formative assessment tools I could ascertain the development of the following competences of a student, as follows:

• development, implementing and communicating of new ideas to others;

• openness to new and different perspectives, treating them responsibly;

• understanding, managing and creating of an effective oral communication, written or multimedia, in a wide range of forms and contexts;

• analyzing, accessing, managing, integrating, evaluating and creating of information in different forms, using different media instruments;

• exercise personal responsibility and flexibility in a private sector, at work or in social contexts;

• determination and respect for standards and high level purposes for oneself and others;

• adapt to different roles and responsibilities;

• respect other different opinions;

• productive collaboration;

• locating appropriate resources;

• responsible action, following extensive community interests;

• demonstration of ethical conduct in personal, professional and social context.

3.   Using Web 2.0 technologies in Romanian primary school students` assessment

There is currently a large range of Web 2.0 technologies available for educators to use with their students. There are some suggestions for the sustainable use of Web 2.0 tools in the primary school students` assessment. Like all computer assisted learning, the effective utilization of Web 2.0 is essential to enhance student learning and to assess students. Essentially, sustainable use of these digital tools involves careful planning and an effective integration of them in the instructional design.

3.1 Kidblog.org

Kidblog was created by teachers as a student-safe, teacher-controlled blogging platform. Blogs (originally *web logs)* are short, online journal entries that generally deal with current topics. All the entries on a blog are based on the reverse chronological order along with hyper-linking and embedding of all kinds of charts, pictures, audios and videos [9].

Blogs provide a user with the opportunity to transcend the physical barriers and institute an interactive domain with the world. It has the capacity to engage people in collaborative activity, knowledge sharing, reflection and debate, where complex and expensive technology has failed [10]. They are considered an easy tool for attracting student interest and providing an appropriate orientation.

Kidblog is unique in that teachers control who can view student entries. Kidblog also minimizes formatting options, which helps to keep students focused on the writing. Allows students to post short entries on current topics, and read and comment on their classmates' writings. Offers a "bare bones" platform, easy login, and allows teachers to moderate content - all for free, with no ads.

Blogs record learning processes and share feedback. They not only provide a learning environment but also effectively construct paths for communication between teachers and students and encourage

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collaborative learning among classmates. Group discussions, communication, and the sharing of results and experiences will not only enhance positive interpersonal interactions, but also enhance learning effectiveness.

The relationship between the objectives of instructional design and the nature of blogging is not an easy one because there can be a number of functions that a blog can be used for. Both teachers and students can make use of blogs to cater to different objectives of assessment as they can post online anytime and anywhere, read what others think and interact without any kind of boundaries. The arena of contact is so informal that the instructional design of the classroom can be taken to the virtual realm with an increased number of options of assessment. The procedural issues involved in the use of blogs are varied and complex. They need to be identified first and dealt with a certain framework.

Sample assignment: Kidblog was used as a blog platform for the students to share outlines and reflections on current events, themes they are investigating, literature they are reading, or can even become the characters of a story and blog as the character. Students might focus their blog entries on abstract themes such as tolerance, empathy, or creativity.

An entry page of the blog platform and a sample of a teacher's comment and a student's follow-up feedback are shown in Figures 1 and 2.
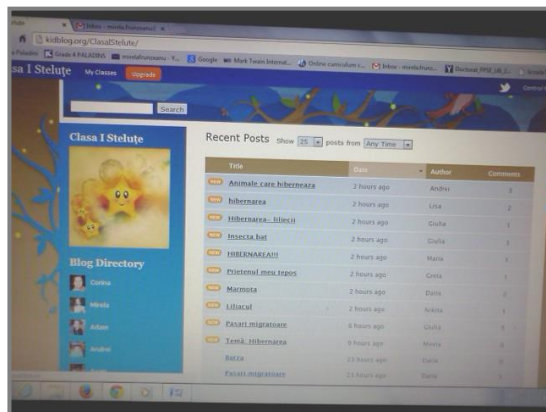

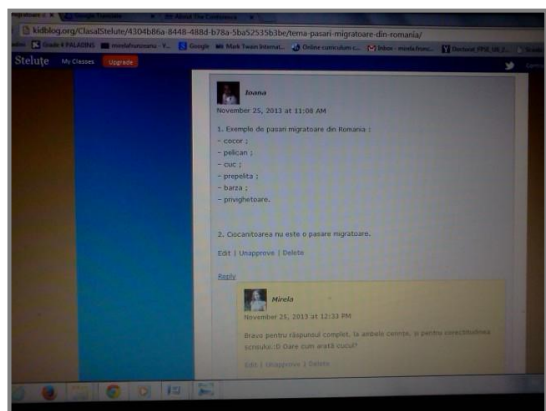Fig. 1. The entry page of my 1st grade blog`s platform (in Romanian)

Fig. 2. A sample page of the teacher and students' comments and feedback (in Romanian).

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3.2 Glogster.com

Glogster is a social network for creating and sharing interactive posters appropriate for students of all ages. On Glogster students can create informative, persuasive, or creative posters choosing from a wide variety of pictures, texts, music, and videos.

This web site offers freedom of choice and expression as well as the opportunity for a student's work or message to be as simplistic or complex as needed or desired. Because glogs *(graphic blogs)* are typically full of pictures, symbols, and videos, teachers who want to focus on writing might need to include a minimum word count as part of the assignment.

Students create online collages with a mix of photos, text, sound, and video. They can share their collages and comment on each others' work.

Sample assignment: Rather than creating a report on a science project, students create a glog.

Fig. 3. A glog created by a 4th grade student for the Science class (in Romanian).

3.3 Sliderocket.com

SlideRocket is an online presentation platform that lets users create, manage, share and measure presentations. Students can use the application's online interface to develop effective digital projects and even interact with their classmates through collaborative comments, feedback forms and more.

SlideRocket differentiates itself from other presentation products by being web based, feature rich, easy to use, secure and complete. This Web 2.0 tool allow students to work from home and / or during study halls, and provide a boost in technology skills.

Just as classroom teachers are more effective when they collaborate, students are as well. Today's 21st-century learners are social learners. They enjoy being part of a community of learners and such practice will help to prepare them for the collaboration required in the 21stcentury workplace [11]. Providing students with time and space to discuss their project during class, as well as the platform to receive feedback during the course of the project, is essential to the learning process.

Too often in the testing-centered education system, students receive feedback or assessment only after completing a project or exam. However, if students are assessed continuously throughout the project, they have a much greater opportunity to modify and adjust their work to expectations, resulting in better understanding and retention [12].

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When they play an integral role in the learning process rather than depending on decisions made by others, they are more motivated to succeed. Project progression is based on student progress, not a preconceived schedule, so students learn at an individual pace.

Teachers also benefit greatly from the use of both formative and summative assessment. They appreciate the ability to assess students continually, rather than discovering at the project's end, that students have been struggling.

The Web 2.0 tools allow students to work independently. Project tools are always available with expectations and project goals posted online, so there is no excuse for students to procrastinate or claim they did not understand project expectations.

Additionally, the assessment tools allow for documentation of student progress if parents have questions about the grading process.
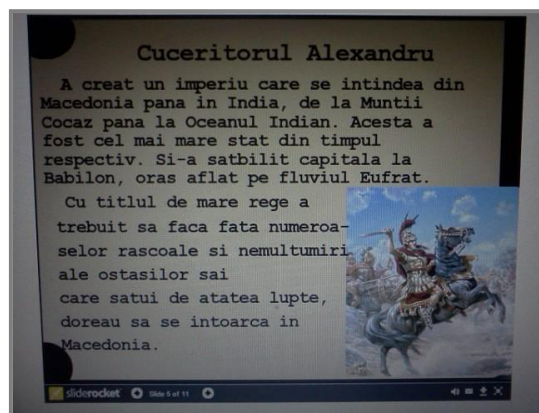

Fig. 4. A SlideRocket presentation created by a 4th grade student for the History class (in Romanian).

3.4 Storybird.com

Using Storybird, students can create picture books from preexisting illustrations. The site is user friendly and there are many different illustrators from which to choose. Should studentschoose the same pictures (however unlikely), their writings would be different because of their individual interpretations. This site could be used in the classroom as a creative writing opportunity.

Storybird is a full-featured site that allows for commenting, class design, and self-publishing of both hard copies and portable data format (PDF) files. Paid teacher accounts allow educators to manage classes, assignments, and moderate comments.

Students create storybooks using preexisting illustrations. They can work with a partner to write their book, can comment on each others' books, and can print final copies.

Sample assignment: Students with writing talent might try exploring a difficult concept such as point of view in their storybook. For example, after reading the *Cinderella`* story, a gifted writer could write an original story from the antagonist's viewpoint. Or students could write a digital book about discrimination to clarify this concept for the younger readers.
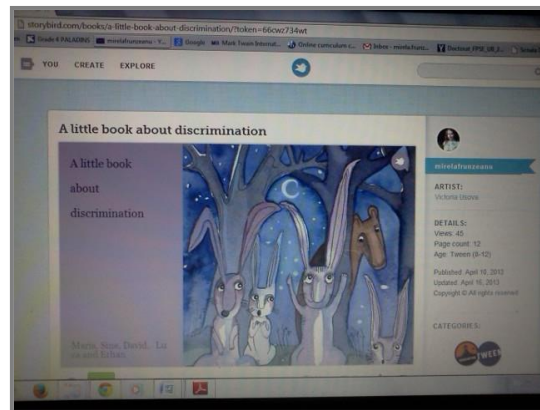
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Fig. 5. A digital book created by 4th grade students for the Social Studies class (in English).

3.5 Wallwisher.com

Wallwisher is a digital bulletin board. Students post questions online that are visible to the entire class and receive feedback (formative assessment) from their teachers even during non-school hours. This was particularly useful when the timing of the project straddled a school vacation. The classroom teacher appreciated that she could avoid answering the same questions repeatedly, and the students appreciated being able to receive answers even when they weren't inclass.

3.6 Wikispaces.com

Wikispaces Classroom is a modern, powerful, collaborative and social platform for education where teachers and students can communicate and work on writing projects alone or in teams. It offers rich assessment tools to measure student contribution and engagement in real-time. Teachers can give feedback, assistance, and encouragement as needed. Often referred to as "formative assessment", this type of assessment is not about test scores used for ranking, admissions, or school evaluation, but information that actually helps teachers in their day to day efforts to help students. Teachers will know which students are succeeding, which are falling behind, and how much they are contributing to their projects so that they can help remediate, motivate, and challenge when they most need to.

Wikispaces Classroom is built around a familiar communications newsfeed that encompasses the work of the class and a private social network. Teachers get the tools to quickly communicate with their students as individuals and groups. Students get the flexibility to engage with their peers at their own pace without sacrificing privacy. The end result is more participation and enthusiasm in the classroom..

Project-Based Learning is a dynamic approach to teaching in which students explore real-world problems and challenges. With this type of active and engaged learning, students are inspired to obtain a deeper knowledge of the subjects they`re studying.

Wikispaces Classroom a simple structure that allows teachers to create projects, define teams, assign students and manage them all through successful completion of their projects. Starting from pre-built templates, or a blank slate, students can work in private groups until their work is due. At the end of the project students can share the results with the rest of the class or even parents or other participants.

Wikispaces Classroom is great for connecting the class with people who can`t be there in person, or for collaborating privately with students in another country.

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Sample assignment: As a learning tool, wikis are flexible and can provide a range of approaches for project production by students. In a course on Children's Literature, for example, one student might choose to create a digital children's book while another student might choose to create a resource page for the local school district or library system. Or, in a Science class, one group might choose to use the wiki to showcase field research on local vegetation and animal life (containing images, videos, or podcasts) while another group might choose to build an argument against deforestation on the wiki platform.

4. Potential problems and limitations of the web 2.0 as an assessment tool

Web 2.0 innovations in primary education have appeared in recent years, however, it is still not clear to what extent students' Web 2.0 activities are formally assessed, or what affordances Web 2.0 offers specifically for assessment.

Most published accounts of Web 2.0 pedagogies in primary education have described only formative assessment (i.e. providing feedback on work in progress so that a student can improve it before it is marked or graded) or low stakes assessment (i.e. earning marks that make very little impact on the student's overall standing).

The use of technology-based classroom assessment alternatives can have advantages for students, teachers, and family members. For students, using technology to produce assessment products can be a motivating way to simultaneously develop academic, social, career, functional, and technological skills. For teachers, these practices can be used to help monitor student learning progress and inform their instructional decision making. These practices also can be adapted for use with a wide range of students, and can facilitate the communication of information about students and their learning with students' families and other professionals. However, when using these practices, educators should proceed gradually, bridge the digital divide, teach students to be good digital citizens, safeguard students and their work, and keep abreast of new technologies and assessment strategies.

They should also carefully evaluate the various technologies to identify those most effective, equitable, and appropriate for use by students and teachers and determine the extent to which the use of technology-based assessment strategies align with their instructional program and curicular goals.

There are a few factors (or questions) to consider in using technology to implement classroom assessments:

• Will the assessment technique and technology allow me and my students to measure meaningful skills and instructional outcomes in a direct and complete way?

• Will the assessment technique and technology be appropriate for the ages and developmental, academic, cognitive, language, social, behavioral, and technological skill levels of my students?

• Will the assessment technique and technology allow me to accommodate my students' individual differences (e.g., disability, cultural and linguistic background, and socioeconomic status)?

• Will the assessment technique and technology help me plan, deliver, evaluate, and revise my instructional program to enhance student learning?

• Will the assessment technique and technology facilitate the sharing of relevant information with other professionals and students' families?

5. Conclusion

With access to new and emerging technologies, and with the skills to use those technologies, students will be able to produce work that demonstrates their knowledge and understanding in ways that many might find difficult to imagine. New possibilities for assessment have become available through

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online or eLearning environments.

An extensive range of online tools is now available, such as email, bulletin boards, discussion forums, blogs, wikis, chat rooms, instant messaging and videoconferencing. In particular, Web 2.0 technologies, often referred to as social networking technologies, have enabled cyber-collaboration whereby many users located in diverse settings can interact synchronously and asynchronously. The implications for educators are how to capitalise upon the use of these technologies for assessing student learning in a networked, digital world.

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