Seeds for introducing Creative Writing into learning sets – Case studies at Portugal[3]

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Abstract

On this paper we will present how we have set up experiments with children from 6 to 14 using the "Creative Writing Co-Laboratory". The set of activities proposed intended to motivate the children to write in a creative and collaborative way.

Creative Writing co-laboratory is the main output of Portuguese partner to European CoLabs Project. This microworld has been translated to Portuguese, English, Hungarian and Slovak.

Creative Writing was developed on a process of co-design with children, teachers, trainees, educational researchers, designers and programmers.

Key words

Collaboration, creativity, elementary education, reading and writing skills, networks, inclusion, learning styles, citizenship

1. Purpose

On this paper we will present how we have set up experiments with children from 6 to 14 using the "Creative Writing Co-Laboratory". The set of activities proposed intended to motivate the children to write in a creative and collaborative way.

We assume that writing is a difficult process and that providing suitable tools can overcome this difficulty.

We soon realized when testing it with children the great potential of self expressing not only by writing, but by drawing, by using characters, balloons, text speech synthesized, backgrounds, pre-recorded sounds and talks recorded on the way. Now a character can have associated not only text balloons, but also music composed by the children, text speech or recorded voice. We developed also a character editor instead of using only pre-made characters.

[3] Financial Agreement number: 101301-CP-1-2002-1-HU-MINERVA-M

Figure 8. Creative Writing interface - v030

We also realized that Maths are much about reading and understanding, setting up a visual schema of a problem as a path to find the solution, explaining how the solution was found, and justifying why a solution can be considered as a correct one.

Creative Writing can be used as a tool for maths activities, because it's easy to have visual data representations of problems that can be handled to estimate possible solutions.

So we evolved from the initial idea of developing four microworlds to a stronger model of a collaborative platform, with different templates for different ages and learning contexts. This idea of templates seems to be much stronger than the original one of levels. Using this concept we can extend the microworld potential to eventually any subject.

More information about "Creative Writing Co-Laboratory" and CoLabs project can be found at http://matchsz.inf.elte.hu/Colabs/new/.

2. Questions

On setting up our case studies we were looking for some answers on the following questions:

What facilities should be and should not be included on the tool in order to foster the creative and collaborative process of writing?

What kinds of collaboration can be envisaged?

What kind of activities better fit to foster creative and collaborative writing?

3. Definition of terms

There are several misconceptions about collaboration, cooperation and creativity.

First we have to distinguish between cooperation and collaboration. By cooperation or cooperative work we mean an activity where each member of the group is responsible for a portion of the problem solving task. Normally cooperation is more teachers centred. Tasks, resources and roles are clearly assigned by the teacher and the final work mainly results by

the sum of all individual contributes. Individual accountability and well structured activities are essential elements on cooperative strategies.

By collaboration we mean the mutual engagement of the participants in a coordinate effort to solve together the problem. Collaboration empowers the learner and is more learners centred.

A group can be told to write a story being each of them assigned to write one page individually on each one computer. At the end we will have a story written in a cooperative way.

If instead we have five children, which decide to write collaboratively a story, they may agree that one of them, will be the narrator and each of the others a character. If the tool enables them to write in the same page reacting each other in real time at the end we will have a story written in a collaborative way, although things are not so simple at all. Several times both approaches can mix and overlap.

We think also that there are different kinds of collaboration:

a) Peer to peer collaboration, when two or three children share the same screen in the same place;

b) Peer to peer collaboration in different networked computers in the same room ;

c) Peer to peer collaboration in different networked computers in different places (rooms, schools or even countries);

d) Peer review collaboration, when a child or a group uploads a story to the web and then another child or group continues or changes it. And this process can go on iteratively.

e) Group or class collaboration if a group of children share an interactive whiteboard, where discussing ideas and having a turn to give its own contribution to solve a problem. This means try to understand other's point of view and reconstruct by interaction the own one.

We consider creativity similar to problem solving thinking. Writing creatively means that high order level thinking is involved, like analysing, synthesising and evaluating.

The technical solutions have been implemented in order to facilitate the collaborative and creative writing.

We can consider that the environment produced is a multimedia MOO. A MOO is MUD object oriented. A MUD is a Multi-user Dimensions virtual space where users can interact each other and with objects on these virtual spaces.

The interaction can be made in each page, and all users (writers) can see immediately what each other are writing or drawing, if they are in the same virtual learning space (the same page or mode).

The creative writing environment, like a MOO, can be characterized by:

- Several children can connect and interact simultaneously to write together the same story.
- Spatial organization, e.g. children interacts with each other and the objects they create mainly within pages.
- Real time communication actions are performed, by writing in cartoon bubbles, by drawing, by recording sounds, and by including animated characters or objects.

- Asynchronous communication tools are also included, like saving to the web an unfinished story, which others will download and continue.

4. Methodology

We set up a design methodology based on Qualitative Data Analysis and Social Network Analysis.

We will use technical reports, interviews with children, parents and teachers, panel discussions, task analysis, systematic ethnographic observations, computer logs and video recording.

We had experiment the Creative Writing Co-laboratory with 3 different sets of children:

1. Informal Family Group of children aged 5 to 11. This group will work at computer networked lab with large bandwidth connection to the Internet. We set up activities on these different situations:
   - All children in the same lab working alone;
   - All children in the same lab working in pairs;
   - Some children working at home and others in the lab.
2. Using Collaborative writing in schools with only one to three computers per class, in primary schools, at Coimbra and Porto.
3. Using Collaborative writing with gifted children in a ICT rich environment, at ESE de Paula Frassinetti, Porto

4.1. Evaluating Creative Writing Co-laboratory in a Family Group

This is a group of 6 children aged 6-11, living in the same building, that worked in a ICT rich environment with broad band connection to Internet at Cnotinfor Training Centre, with 3 trained observers and a supervisor researcher.

The main objectives are:

Analyze if and how does "Creative Writing" enhance collaboration between children on a local network or through the internet.

Evaluate if and how is it possible to collaborate between children of different countries.

Measure if and how does "Creative Writing" fosters creativity.

Test and enhance the interface, the robustness and the pedagogical value of "Creative Writing".

Evaluate if when using Creative Writing children tend more to use cooperative or collaborative behaviours.

The sessions took place from February to June.2004 with 1 hour and a half (sometimes two hours) each of them.

The data was collected by written notes taken during sessions, complemented by photos, video records, questionnaires, interviews and the work done by the children.

During 7 sessions we tried to apply all the different styles of collaboration of item 4. We did not succeed with types c) and d) do to technical limitations and time restrictions.

Session	Brief description
1	Collaborative work without and with computers, using Tangran
2	Free exploration of Creative Writing (2 per computer) Proposed activity: my house
3	Traditional modified fair tales on group or individually as they want
4	Group work – all using the same computer with a video projector (writing a story).
5	Writing a story: 1 per computer on different networked computer on the same room.
6	Working at distance
7	Final collective interviews

Results on Family Group

Figure 9. Family Group at Coimbra, trying the synchronous collaborative features

We found in first session that we have a competitive group, a collaborative group and a cooperative group.

On second session we found the children are not familiar with working in groups and they don't like to do it. They prefer to work independently and they do so.

On third session they could choose to work on groups or individually. All of them wanted to work alone.

On fourth session they worked all together with a single computer on a large screen (video projector). They needed a strong leadership in order to work with some rules and avoid conflicts.

On fifth session we tried the synchronous collaboration on different computers on the same room. Enthusiasm and confusion were the most common reactions.

We can preliminary conclude that:

Children really like the software and are enthusiastic about using it.

The TTS (Text to Speech) feature was very appreciated with great benefits for intentional correct spelling.

They give us several and very important suggestions in order to get a better interface, they also asked for new facilities, like resizing objects and talking balloons.

Some others were included based on our observation of use, like numbering pages.

4.2. Evaluating Creative Writing Co-laboratory in schools at Coimbra

The evaluation took place with 2 groups of children from Primary School EB1 nº 10, Solum, Coimbra:

1. 25 pupils from 3rd year (8-9 years old)
2. 24 pupils from another 3rd year classroom of the same school

The main goal was to analyse "Creative Writing" potential to foster collaborative work and creativity on classroom contexts, and to obtain feedback on the design of the software.

On this school they have only 2 desktop computers, and we used 1 more laptop computer from Cnotinfor. No network, no Internet access. Five activities were prepared:

Activity 0 – presenting the software to the teachers;

Activity 1 – presenting myself (picture + text balloon)

Activity 2 – presenting myself with more detail (what I like to do…)

Activity 3 – integrating "Creative Writing" on Sciences curriculum (Solar System).

Activity 4 – Completing and changing a given known story.

The evaluation was based on direct observation (written notes), a checklist adapted from McAteer for collaborative behaviours, 2 questionnaires (about computer skills and project satisfaction).

Results at Coimbra Schools

(used versions 024, 026 e 028)

Interface

On exploring free activities children were more focused on visual aspects (painting and drawing) than on writing. They concentrate more on writing when some structure was given, like on activity 5.

When asked what do they liked more on the software, the answers were, from the most to he less liked one:

Adding characters, adding talking balloons, like in cartoons, adding background pictures, writing original stories, painting and drawing, modifying known stories, hearing the text aloud with the TTS (only one of the 3 computers had Portuguese TTS).

Collaboration

On these groups the only type of collaboration was the peer to peer on the same screen. Some behaviours of collaboration between children on computer activities and paper and pencil activities were also observed.

The collaboration took place more on procedural level. Helping each other to overcome keyboarding difficulties, choosing the right tool, organizing turns for using the computer.

Another aspect of collaboration between peers took place by the means of each other questioning and explaining not explicit features (like, "how did you make this like that?") and by suggesting alterations.

Creativity

Preliminary observations indicate that creativity occurred on activity 4, mainly by divergent and original narratives in relation with well know stories.

4.3. Evaluating Creative Writing Co-laboratory at Porto schools

The evaluation took place with 2 groups of children:

1. 29 pupils from 3rd year of Primary school EB1 nº 39 – Escola da Vilarinha;
2. 24 pupils from 4th year of EB1 N.º 36 – Escola da Ponte;

Group 1 and 2 are from the same Agrupamento Vertical Manoel de Oliveira. The study was conducted by 2 trainees on their 4th and last graduating year as Primary Teachers: Luciana Guimarães e Sandra Martins, supervised by João de Matos.

In a first turn the software has been presented to the teachers.

Some preliminary work was made with children promoting creative writing by means of cartoons, free content and descriptive writing texts. This kind of diagnosis used direct observation techniques and contents analyses. At Escola Vilarinha children free explored Creative Writing software. At Escola da Ponte besides exploring the software, it was proposed to create a group identity page.

Meanwhile an observation grid was constructed with the following dimensions to be observed: behaviours, skills, text construction, software interaction and creativity.

On a second step, some activities have been proposed by the use of Creative Writing software.

At Escola Vilarinha interdisciplinarity between Mother Language and Sciences Studies was the priority. Children were challenged to write about a study visit to the City Garden focusing on plants description. After this another activity was proposed on the subject of planets.

At Escola da Ponte activities were planned in order to challenge children to write a story suggested by a scenario where some strange elements were introduced, trying to solve the narrative problem.

Results at Porto schools

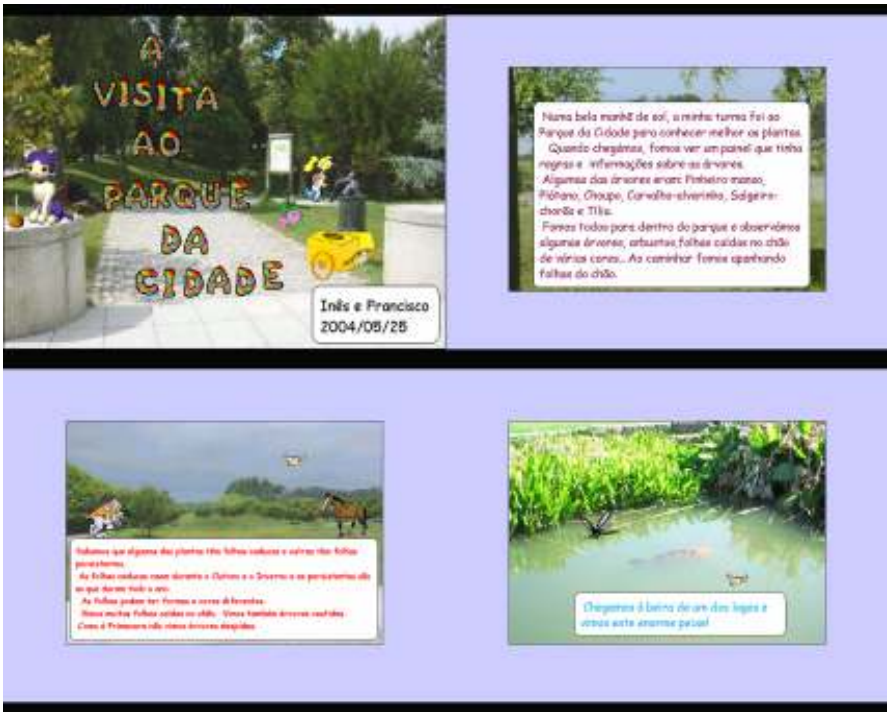

Figure 10. Writing about a visit to the city park, from Escola da Vilarinha, Porto

The fulfilment of a scientific project demands an expressive and dynamic involvement, a rigorous process analysis, information systematization, as well as proceedings to mobilize theoretical knowledge well established, by its agents. From the beginning, a continuous evaluation attitude was assumed in order to unchain the reflection and analysis processes about the reality.

The project had as a major goal to motivate children to write, using "Creative Writing" software.

To analyze the elementary school (Key Stage 2) curriculum and to render the concepts of creativity, motivation, reading, creative writing, new technologies and educational software, were important starting points to understand the nature of this project.

Our realities' context was analysed in an initial phase to know the target population, identifying its characteristics and needs. The lines of action were thought according to recognized situation scenario. In general, based on the observation and evaluation held by all the participants, the students accepted the presented proposals and suggestions to fulfil the essays. This acceptance was verified within several levels: the creative texts production, the enthusiasm shown while making the activities, the delightfulness for being part of the project and for using the software.

During the project, a participant observation was made, in order to accompany the students' accomplishment and to encourage them to write, stimulating their creativity. This attitude sounded unavoidable, as if it was not for this, the results had not been so positive.

It is also considered that all this is due to participants' work. Since the project's presentation, its planning, the activities' preparation, until its practical concreteness, creativity has always been present.

One of the concerns of this work was to create and add new images (backgrounds and objects) in the existing categories of the software, besides the creation of new image categories.

Initially, the idea of fulfil activities with a software under development seemed very difficult to manage. But, with the information of being able to create specific images for the software, a way out to one problem was found: to increase the clipart with several images able to illustrate the proposed activities.

It is important to mention the teachers and students' collaboration and availability in the project. Based on the results of a questionnaire to the teachers, they support the well-oriented use of information technologies in the classroom. Concerning the software, they believe it is very easy to use. One of the teachers reinforces this idea, stating "*since the elements related to the photographs and drawings are prepared, so that the students can have a variety of material to choose*". She also adds that "*The interest for writing is definitely awoken!*"

Related to the students' evaluation, the global results reveal satisfaction by the developed work. The majority of them have declared that felt motivated to write while using the software. This idea is reinforced by a positive answer to the following question: "*Would you like to use the "Creative Writing" software other times?*"

In spite of having worked with a prototype of the software "Creative Writing", everything indicates that it has motivated children for writing. Comparing the initial diagnosis, that revealed low levels of creativity by the students due to the lack of motivation for writing, to the final results after the use of the software, the improvement can be noticed.

As a final point, it can be stated that the "Creative Writing" project has had the willing impact in schools, overcoming the initial expectations, as the software was able to be used in educational contexts.

Even though, the traced path can be reformulated, as it is still open to discussion if the replacement of the writing with the pencil by the writing with the keyboard allows an improvement of the quality and quantity of the writing task for children. And, what is that really motivates children to write using new technologies: the easiness with which the text can be controlled, the interaction with a multimedia environment or the possibility of illustrating texts.

4.4. Evaluating Creative Writing Co-laboratory with gifted children at ESE de Paula Frassinetti, Porto

This is a group of 10 gifted children aged 9-15, working all Saturdays from 10:00 to 12:30, between 4th October to 26th June 2004, oriented by 3 trainees finalists of graduation on Primary Education (Luciana Guimarães, Sandra Martins e Eva Silvestre), supervised by ESEPF teacher João Carlos Gonçalves de Matos.

The main objective was to give to children an informatics space of creativity on the writing and reading domains, in order to integrate and facilitate interpersonal relationships.

Extended by 60 hours several activities were developed:

- Individual and group texts writing;
- Creation and modification of stories;
- Writing news from real facts;
- Audio record of written texts produced;
- Illustration of written stories made by them selves;
- Elaboration of quiz games about curricular contents;
- Exploration of "Creative Writing", version 0.28.

On these activities were used mainly the following tools: Microsoft Word, Movie Maker and Creative Writing.

Results from gifted children group

The group of children "Sábados Diferentes" (Alternative Saturdays), observed informally, showed that their interests were focused on different activities. We concluded that some of these gifted children, in spite of not being motivated, have high levels of creativity, as the outcomes illustrate:

Cannes to young people

Written news about the award the group wins last year with the animation film "Terrorist Love".

Traffic disaster on IP1

Written news about real traffic disasters where the characters were chosen from children literature.

On a summer night (Writing a story with audio record and illustration)

Reinventing the storing of Red Hide Hood, where the characters change their roles, and have a social and political intervention.

Concerning Creative Writing, it is seen as a very promising environment for formatting some of the productions. The version used (0.28) proved to have several limitations for what children want to achieve, which was very frustrating.

Meanwhile some trends were identified both as indicators of the presence of creativity and as enzymes to foster creative writing.

- Roles inversion
- Visual references on the text
- Visual and audio illustration
- True possible
- Analogy with real
- Exaggeration/Humour
- Fiction vs reality
- Concrete and near references
- Real impossible vs fictional possible

5. Conclusions

Creative Writing co-laboratory evolved from first stable prototype until final version mostly with the co-design jointly effort of children, trainees, teachers, researchers, designers and programmers. This is the first main conclusion: the relevance of co-design for the achievement of suitable products for education.

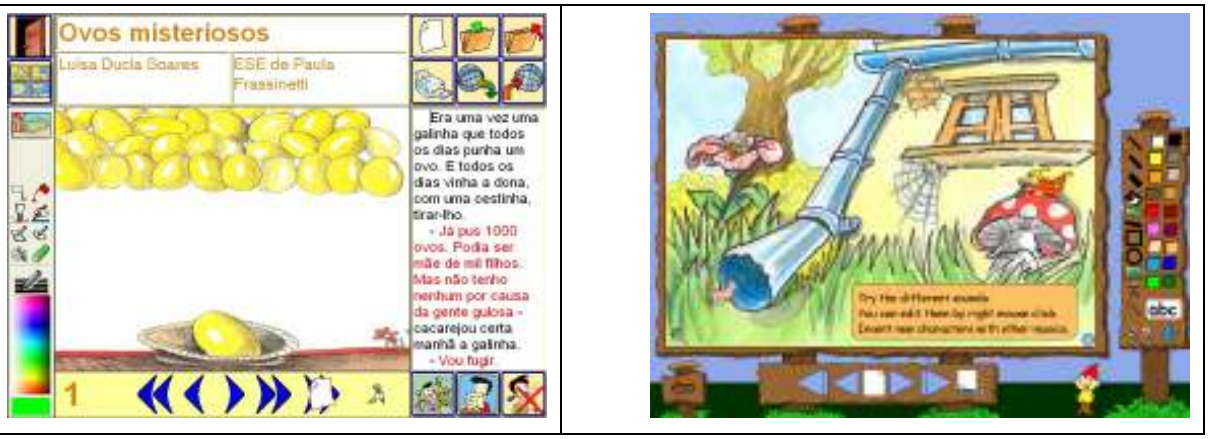

Figure 11. From the first stable prototype to version 031

The software with guided activities and correct scaffolding and coaching from teachers proved to be suitable for children of KS1 & 2 (from 6 to 11) in order to foster collaboration, creativity and reading/writing skills.

More research is needed **on collaboration** for deeper understanding of what happens when working synchronously and asynchronously, and **on creativity** to better understand when occurs induced by the software and/or by the type and context of the activities proposed.

Finally we point the excellent work done by some students from de graduation course of Primary School Teachers, in conjunction with Joana Cavalcanti, Childhood Literature Professor, which highlights the potential of Creative Writing co-laboratory on pre-service training teachers.

Special thanks to all who cooperate on this research

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Luciana Guimarães, Eva Silvestre, Sandra Martins, Mariana Leite

Trainees from ESE de Paula Frassinetti, Porto

João Carlos, Paula Medeiros, Carlos Afonso, Joana Cavalcanti

Supervisors, lectures and professors from ESE de Paula Frassinetti, Porto

Bruno Sousa, Paulo Silva

Students at ESE de Paula Frassinetti, Porto

Beatriz, Francisco, Filipa, David, Raquel, Pedro

Family Group

Thanks also to the schools where experiments took place

Primary School EB1 nº 10, Solum, Coimbra
Primary School EB1 nº 39 – Escola da Vilarinha, Porto
Primary School EB1 N.º 36 – Escola da Ponte, Porto
Primary School EB 1 Ponte n.º 2 – Aves, Porto
Primary School EB 1 / Kindergarten nr. 6, Porto
Colégio Coração de Jesus (Colégio do Sardão), V.N. de Gaia
Externato das Escravas do Sagrado Coração de Jesus, Porto

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