

TEACHER AND SCHOOL SUPPORT CONFRONTING SOCIAL INEQUALITIES: USING A DIGITAL PLATFORM

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Abstract

In this paper we discuss the design of the TOCSIN platform. The TOCSIN project aims at studying the impact of the financial crisis on Preschool and Primary education conditions and practices in schools. Part of the project is the design of platform which may address the relevant issues and problems the educators have to cope with, and provide a support system for the education community, specifically for financial crisis and its implications on schools, students, and their families. Through a qualitative analysis of interviews, we identified the requirements of our target group, which then informed the design of the TOCSIN platform.

Keywords: research project, financial crisis, online platform, educators, preschool, primary school.

1 INTRODUCTION

The financial crisis in Greece has a heavy impact on the socio-economic status of Greek society for the past four years [6]. The shrinking income, the increased taxes and the high unemployment rate lead systematically to increasing poverty [7]. Particularly, Eurostat (2014) indicates that more than one third of Greek people is under the poverty threshold.

During such periods of crisis, when weaker social groups are affected, the teachers' role becomes particularly important [5]. Teachers need to explore and diagnose the educational context and all the factors that relate to it, so as to look for solutions that will allow pupils to learn and develop [4]. If teachers position their educational practice reflectively in a socio-cultural context, they de-normalise the educational process and bring to the surface moral and political issues [1]. Such issues are the equal confrontation of all pupils, the provision of equal opportunities and the establishment of a rightful human society as ways to diminish inequities and injustice in schools [2].

Teachers' difficulties to handle social differences are due to the lack of tools that would assist them to discern social obstacles and their true nature. The school environment can be a valuable place for inequalities and adversities to be early detected, and interventions and practices to be developed and implemented at an early stage, fostering the resilience and well-being of children at risk. We focus on early childhood education (4-8 years old) as it has been proven the best age group to intervene since it is most effective to counterbalance social and financial inequalities that children face, as they are early detected.

In this context we present partial results from the research project "*Teacher support Confronting Social Inequalities*" (TOCSIN), a project funded by the European Economic Area Grants (EEA) and operated by the General Secretary of Research and Technology (GSRT). These results refer to the effects of the ever increasing financial crisis on the vulnerable population as reflected in public schools of preschool and first grades of elementary school education.

In this paper we focus on our effort to implement a digital platform as a support system for teachers and schools. The platform integrates educational and other supporting material, scenaria and best practices, as well as information linking the educational framework with the wider community. The design was based on results from the project survey and semi-structured interviews, so that a functional, usable, sustainable, and effective platform, focusing on the needs and requirements of the target audience, can be developed. We believe that the development of such an educational platform, open to all interested audience and especially to the educational community, can provide targeted information, leverage knowledge, support the emergence of a focused community of practice, and forward ways to respond to current social and financial inequalities experienced in Greece. We, therefore, present the axes of this platform, the ways we tried to address the results of our research

and also the functionalities and the possibilities that the platform could offer to teachers in relevant critical situations. The platform aims at supporting teachers and schools who seek assistance in their difficult endeavours, and also enrich the curricula of the student teachers' studies in the Universities.

2 THE SCOPE OF THE TOCSIN PROJECT

The basic concept of the “Teacher support Confronting Social Inequalities” (TOCSIN) is to study the consequences of the escalating economic crisis upon vulnerable population in schools. TOCSIN aims to record and analyze existing issues and difficulties that children face during their early childhood schooling experience in the context of social and income inequalities in Greece, and their practices to confront them. Specifically it aims to provide a) a descriptive account of the current difficulties that students face as presented in schools, b) a detailed presentation of the good practices through in-depth semi-structured interviews with teachers c) a digital platform with educational material and tools as support system for teachers based on the results of the survey and semi-structured interviews and d) an established dissemination process based on collaboration with associations, networks and experts to ensure its long-lasting effects.

The collaborating partners for this project are the Laboratory of Theoretical and Applied Pedagogy at the Department of Early Childhood Education of the University of Thessaly, the Department of Early Childhood Education of the National and Kapodistrian University of Athens, the Department of Preschool Education of the University of Western Macedonia, the Hellenic League for Human Rights (H.L.H.R), and the Social Research Science Institute of the University of Iceland (SSRI-UOI).

The prioritized areas of the research program are those of national inequalities and social exclusion in Greece as a result of the ongoing economic crisis. These priorities are in heart of the TOCSIN (an acronym which also means an alarm bell or a warning signal) aims mainly at empowering schools with a focus on alleviation of poverty and in particular child poverty. Child poverty is strongly connected to national inequalities and leads to social exclusion in an endless vicious circle. Schools are pivotal points: social exclusion can be restrained or can peak undisturbed, to become almost irreversible as children grow older. The demand for early intervention is highly recommended from the academic society. So, in TOCSIN we search for answers and practical implementations in order to help our vulnerable populations, the Greek children who suffer from the economic crisis directly or non-directly, as experienced in the parental behavior of a mentally abused parent due to limited access to goods and services.

TOCSIN is above all, a research project. Its objectives aim at understanding and minimizing the impact of the upcoming social and economic disparities in Greece as a result of the current economic crisis, from a scientific / research based perspective. TOCSIN branches out into three objectives. The first and the second are mainly research objectives, and the last one results as an exploitation of the results procedure, by taking the form of educational material.

More specifically, the TOCSIN objectives are:

- Objective 1: Exploration and description of the impact of the escalating economic crisis upon students' school attendance and engagement in learning activities.
- Objective 2: Schools' Good Practices Highlights.
- Objective 3: Development and dissemination of educational material. This involves the exploitation of the both above mentioned research results, transforming them into educational material based on theory and research based standards.

The ultimate aim of TOCSIN is to help experts gain insight into how the economic crisis affects children (through teachers' reports), with the ultimate goal to help structures and public institutions (schools namely) to buffer children from the crisis, a strategy that is highly recommended (e.g. UNICEF, 2014).

This paper is focused on the design of the TOCSIN digital platform which will host the educational and supporting material for educators, schools, and stakeholders.

3 DESIGNING THE TOCSIN PLATFORM: RESEARCH METHODOLOGY

For designing the platform, we relied on data gathered during the TOCSIN project. Data mainly consisted of interviews and an online survey. Qualitative analysis of the data, mainly the interviews, provided us

with the needs and requirements of our target group (i.e. educators). These requirements were, then, translated into design decisions regarding the content and functionalities of the TOCSIN platform. In this section, we discuss this methodology in further detail.

3.1 Sample

Our sample for the interviews consisted of 45 principals and vice-principals of public schools (preschool and elementary school), in Attica, Greece, who consented to participate in our study. For acquiring a more representative sample, we addressed schools in different areas, both more privileged and less privileged with respect to the financial status of the population.

We mainly interviewed school principals since they have, as opposed to the teachers, a more sustained and long-term relationship with their appointed school, and therefore may be more aware of any possible shifts and changes in school and pupils conditions, which may be attributed to the financial crisis.

3.2 Data Collection

A total number of 45 semi-structured interviews were conducted. The scope of the interviews was the perceptions of the educators on the impact of the financial crisis on the schools and their pupils. For the purposes, though, of the platform design, we mainly focused on the interview questions pertaining to their requirements from an online platform: “*What would you expect from an online platform to provide you?*”, “*What content and functionalities would you like to be able to find in the online platform?*”. After isolating the relevant content from the transcribed interviews, we analysed it for identifying the relevant motives and patterns, as described in the following section.

3.3 Data Analysis

The interviews content which was relevant to the needs and requirements of the educators from an online support tool, such as the TOCSIN platform, was qualitatively analysed using the qualitative analysis software NVivo. The first step for the analysis was an *in vivo* analysis, for the identification of themes grounded on the data. After the main themes were identified, we conducted a thematic coding, for identifying patterns and grouping relevant concepts.

Through this analysis, we identified use-case scenarios, examples of the content and services our target group would want to find in the platform. Some of the most common scenarios were:

- *I want to be able to find services or organisations that could offer food/school supplies/cloths/toys/medical support/psychological support.*
- *I want to be able to find extracurricular activities for children, for creative learning.*
- *I want to communicate with peers and experts.*
- *I want to be able to find solutions for problems and conflicts in school-family/students/family relations.*

We, therefore, focused the design of the platform, so as to address such requirements of the users and allow them to easily and effectively complete such tasks.

The higher ranked concept, as shown in Illustration 1: Results of thematic coding. Screen-shot from NVivo software, was the “*Institutions*”, with 21 references. This concept referred to any third-party institution or organisation that could provide support, such as medical, psychological, legal, or social, preferably non-profit, or donate any type of material such as school supplies for schools, pupils, and their families. The second higher concept was the “*Educational Material*”, with 16 references. Educators reported that they needed educational material, such as lesson plans, supporting audio-visual material, examples of educational activities, all relevant to the financial crisis and issues that they considered emerged from that, such as tensed relations among students, aggression, and low student performance. The next concept was “*Information*” (14 references). Under this concept, we coded the educators’ references to their need to be updated on upcoming training events such as speeches, seminars, and conferences. The fourth and fifth more referenced concepts were the “*Pupils*” and “*Schools*”, with 14 and 9 references respectively.

Tree Nodes		
Name	Sources	References
Φορείς	2	21
εκπαιδευτικό υλικό	2	16
ενημέρωση	2	14
παιδιά	1	14
ακαδημία	1	9
χορηγοί	1	8
καλές πρακτικές	2	7
Επικοινωνία	2	6
ειδικούς	1	5
εξωακαδημικές δραστηριότητες	2	5
συγκρούσεις	1	5
ψυχολογική υποστήριξη	1	5
επιμόρφωση	1	4
οικογένειες	2	4
επιδόσεις μαθητών	2	3
εκδηλώσεις	1	2
επιστημονικά κείμενα	1	2
πρόσφυγες	1	2
Διοίκηση σχολικής μονάδας	1	1
μαθησιακές δυσκολίες	1	1
μελέτες περίπτωσης	1	1
νομικό πλαίσιο	1	1
περιοχές	1	1
πρόβλημα	1	1

Illustration 1: Results of thematic coding. Screen-shot from NVivo software.

Other concepts, with more than one references, that emerged were: institutions for school funding, good practices, communication with peers and experts, extracurricular activities for children, conflict among students or between school and family, psychological support, teacher training, family issues, student performance, events, academic literature and relevant studies, and topics relevant to the refugees.

Based on these concepts, we designed the platform thematic units, which, in the form of menus, would host the relevant concepts in the platform, as well as the structure of these menus in the platform, as described in the next section.

4 THE DESIGN OF THE TOCSIN PLATFORM

For designing a more concise, effective, and efficient organisation of the material and functionalities required by the educators, we were based on the results of the analysis described in the previous section, and proposed a number of thematic units which would be the platform menus. We then conducted user-interface design tests, for testing the intuitiveness of the menu text, and also the effectiveness of the platform structure with respect to the accomplishment of specific tasks but the users. The process is described in the following sections.

4.1 Thematic Units of the Platform

The concepts that emerged from the analysis of the data were organised in the following menus:

- **Educational Material:** this category would include lesson plans, supporting material for teaching and learning, audio-visual material, and examples of educational activities
- **Bibliography:** under this category, the users would be able to find academic articles, studies, and relevant research, all relevant to the crisis and its implications on education.
- **Legislation:** keeping up-to-date with relevant laws issued can become cumbersome for the teachers and school administrators. A separate category is therefore dedicated to the hosting of any laws related to the topic, such as registration of students from minorities, or bullying in school, that would provide more insights on the possibilities of schools and educators.
- **Extracurricular Activities:** educational extracurricular activities and events for children was one of the most referenced requirements from the platform. This category, therefore, includes any information and updates on events or other activities for children organised by third parties, such as theatre plays, creativity workshops, exhibitions, preferably free of charge.
- **Teacher Training:** under this category, the users would be able to find updates on events such as conferences, talks, and seminars where educators can learn more and keep up-to-date with the latest debates on the topic and its implications.
- **Support Services:** as emerged from the data analysis, there was a high demand, from the part of the educators, for access to institutions and services for social, psychological, legal, and

medical support, and third parties that could donate funding, school supplies, computers, clothing, toys and other material, both for the school as well as for the students and their families. Such material is organised under this category.

- **Communication with peers and experts:** a separate category was dedicated to another high referenced requirement, namely the communication with other educators and experts in different areas (e.g. psychologists, lawyers) for exchanging ideas, questions and answers, and know-how on the topic.
- **Good Practices:** educators reported that they wanted to be able to find ideas and examples of successful practices, activities, events exhibited by other schools, so that they could more efficiently and effectively implement them in their own practices. Under this category, the users will be able to find such examples.

The general topic of the crisis seems to also be relevant to the following sub-topics, as it emerged from the interviews: student registrations in schools, teacher-parent relations, pupils' performance, refugees, child abuse, child neglect, children-parent relations, pupils' relations, famine, learning difficulties, examples of activities from other schools, medical care, bullying, Romani people, sensitive social groups. These sub-topics seemed to permeate the aforementioned thematic units. The educators, for instance, reported being interested in accessing educational activities for coping with negative relations among students, or legislation on the registration of Romani people at schools. Our design decision was, therefore, that the material of the platform would be mainly focused on and then tagged according to these sub-topics. For instance, a thematic unit object, such as a law or a lesson plan, would have to be tagged with one or more of the sub-topics, as keywords (e.g. children-parent relations, bullying, learning difficulties). This would allow the users of the platform for a more specific and focused parametrisation of their search and easier location of the material the required.

4.2 Structure of the Platform

Our target group is highly heterogeneous regarding their experience and attitudes towards the use of computers and the web. One of our priorities, therefore, was to design an as much intuitive user-interface as possible, with a high degree of usability, regarding its user-friendliness and effectiveness. To this end, we employed techniques from the field of user-interface design, and performed user tests with a sample of our target group (N=9).

After the thematic units of the platform were delineated, we constructed four separate tests for testing the intuitiveness of the platform menus and the effectiveness of the platform structure. For designing and delivering the tests to the users, we used the online service of usability tools *Optimal Workshop* (<https://www.optimalworkshop.com/>).

The four test constructed were separated into two different sets. Each set corresponded to a different platform structure so as to compare them and decide on the most efficient one or the most efficient elements of each one. One set corresponded to a more minimal structure, with only two categories: "*What can I do?*", and "*How can I do it?*" (Set 1). Under the "*What can I do?*" category, we would include examples of classroom activities and school events, while under the "*How can I do it?*" we would include information such as supporting material, educational material, extracurricular activities, teacher training, lectures, conferences, support services and institutions, legislation, academic studies and research, and communication tools such as fora with peers and experts. The second set corresponded to a more detailed structure, with more menus: Educational Material, Bibliography, Events, Community, Legislation, and Support Institutions (Set 2).

Each set included a card-sorting test, and a tree-test. In the card-sorting tests, users are required to categorise a number of keywords under a set of specific categories. This test would allow us to assess whether categorisation of specific topics under the menus would be intuitive for the users. During a tree-test, the users are given a number of information-seeking tasks and are required to select the path they would follow in the platform, in order to find this piece of information. For the tree-tests, we used three of the more common tasks the educators reported they would like to be able to accomplish in the TOCSIN platform. More specifically: Task 1-"*I would like to find examples of classroom activities on issues relevant to conflicts among children.*", Task 2-"*I would like to find information on institutions that could donate school supplies to students of our school.*", and Task 3-"*I would like to be able to communicate with other educators, to discuss a specific subject.*" The tree-test would allow us to test whether such information would be easily reached in the platform.

Analysis of the test results indicated that a combination of the two proposed structures would be more appropriate for the TOCSIN platform: a) a “*What can I do?*” category including good practices, and activities and events with the pupils, b) a “*How can I do it?*” category with educational supporting material, bibliography, the *support services*, and teacher training events and c) additional categories for the *community communication tools*, *extracurricular activities*, and *legislation*.

For instance, analysis of the results of the Card Sorting test in Set 1, indicated that there was no consensus for the communication tools. More specifically, the Community and Teleconferencing menus (no 14 and 22 respectively in the list in Illustration 2: Set 1 Card Sorting below) were both categorised by 4 users in one of the two categories and by 4 users in the other category. It therefore seemed that a new category would have to be created for the Community functionalities.

Standardization Grid

	Πώς μπορώ να τ...	Τι μπορώ να κάν...
Chat	5	3
Facebook Page, Twitter	2	6
Βιβλιογραφία	8	
Δράσεις εκτός σχολείου	2	6
Δράσεις εντός σχολείου	2	6
Δραστηριότητες για τα Παιδιά	4	4
Δραστηριότητες με τους μαθητές	1	7
Εκδηλώσεις	3	5
Εκθέσεις-Αναφορές	5	3
Εκπαιδευτικό Υλικό	5	3
Επιμόρφωση	6	2
Επιστημονικά Άρθρα - Μελέτες	7	1
Ιατρική Υποστήριξη	7	1
Κοινότητα	4	4
Κοινωνικές Υπηρεσίες	8	
Νομική Υποστήριξη	7	1
Νομοθεσία	7	1
Ομιλίες	7	1
Οπτικοακουστικό Υλικό - Δημιουργ...	5	3
Σεμινάρια	5	3
Συνέδρια	6	2
Τηλεδιασκέψεις	4	4
Φορείς Υποστήριξης	7	1
Φόρουμ Ειδικών	6	2
Φόρουμ Εκπαιδευτικών	5	3
Χορηγίες	6	2
Ψυχολογική Υποστήριξη	8	

Illustration 2: Set 1 Card Sorting.

For the Set 1 Tree Test, there was medium success in the information seeking tasks, with the most successful task being Task 2 (78% success), where the users successfully located information about institutions that could provide school supplies (Illustration 3: Set 1 Tree Test, Task 2).

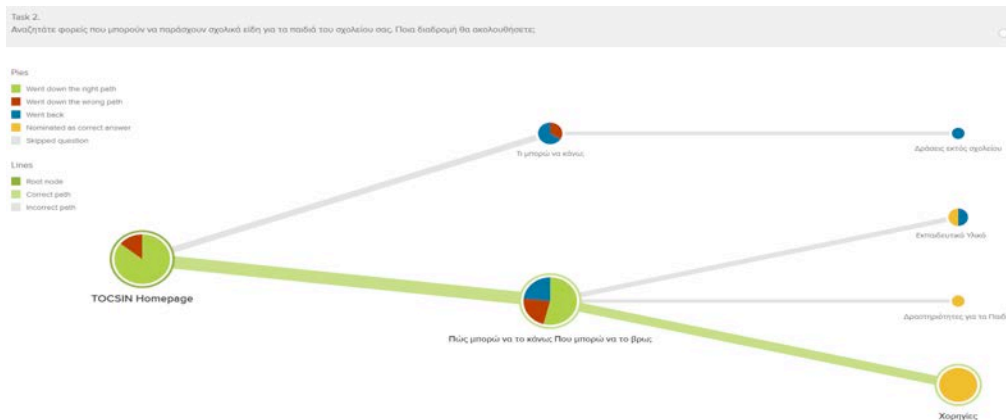


Illustration 3: Set 1 Tree Test, Task 2.

The same task had a lower success rate (60%) for the structure of Set 2 (Illustration 4: Set 2 Tree Test, Task 2). It seemed, therefore, more intuitive to host the support services under the “How can I do it?” category.

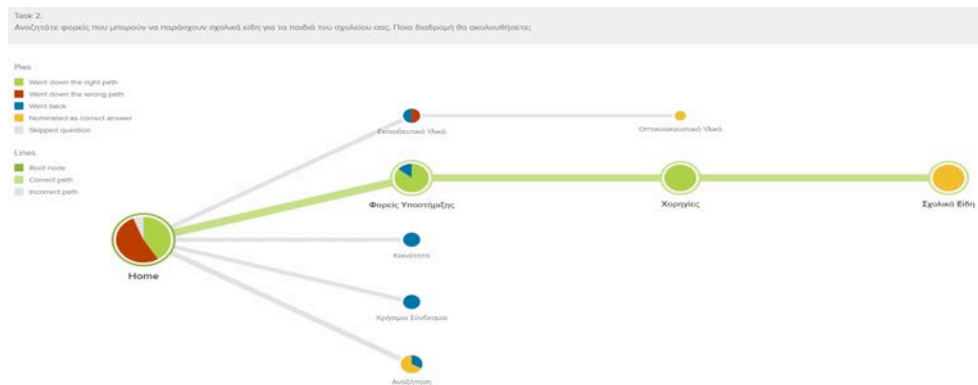


Illustration 4: Set 2 Tree Test, Task 2.

Results from the card sorting test in Set 2, did indeed indicate that certain concepts could be intuitively categorised under specific categories. High consensus of such concepts is highlighted in darker blue in Illustration 5: Set 2 Card Sorting. The concepts with the highest consensus were: the Audiovisual Material and the Lesson Plans categorised under the category Educational Material (by 9 and 8 users respectively), the Funding Institutions and the Psychological Support organisations categorised under the Support Services category (by 8 users). It seemed, therefore, intuitive to situate these concepts under these categories.

Standardization Grid

	Βιβλιογραφία	Εκδηλώσεις	Εκπαιδευτικό Υλ...	Κοινότητα	Νομοθεσία	Φορείς Υποστήρ...
Εκθέσεις-Αναφορές	4		1		3	1
Εκπαιδευτικές Δραστηριότητες	1	2	6			
Εξωσχολικές Δραστηριότητες για...		6	2	1		
Επιμόρφωση		5			1	2
Επιστημονικά Άρθρα - Μελέτες	7		1			
Ιατρική Υποστήριξη						9
Καλές Πρακτικές - Μελέτες Περι...	4		5			
Κοινωνικές Υπηρεσίες				2		7
Νομική Υποστήριξη					3	6
Οπτικοακουστικό Υλικό			9			
Σεμινάρια		6			1	1
Στατιστικά Στοιχεία	5				3	
Σύγχρονη Επικοινωνία	1	1		4	1	1
Συναντήσεις κατά Πρόσωπο				6		1
Σχέδια Μαθημάτων	1		8			
Τηλεδιασκέψεις		4		4		1
Φορείς Χρηματοδότησης				1		8
Φόρουμ Ειδικών		2		3		4
Φόρουμ Εκπαιδευτικών		2		5		2
Χορηγίες				3		6
Ψυχολογική Υποστήριξη				1		8

Illustration 5: Set 2 Card Sorting.

5 CONCLUSIONS

In this paper we described the content and design of the TOCSIN platform. The aim of the platform is to provide support, mainly to educators, on issues and problems relevant to the financial crisis in Greece. The content and the design of the platform is grounded on data from the target group and therefore reflects their reported needs and requirements as expressed through our study. When the development of the platform is completed, it is expected to include targeted and valid material, good practices that have been tested in practice, in real-life situations in school environments, and also to constitute a virtual community connecting educators and experts in the field [8].

The educational material, specifically, which will populate the platform, is expected to become a valuable source of information and a basis for discussion, in teacher training university departments [3]. The lesson plans, the educational activities, the audiovisual material will be available to the educators as well as the student educators communities, for sharing, re-using, analysis, and discussion.

The close collaboration of the project partners with a number of public sector institutions and organisations, as well as their links with the local educators communities is expected to ensure the viability and sustainability of the project results as well as of the TOCSIN platform.

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