Inclusive Safety at School: How to Train Teachers

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Abstract

The paper presents the activities proposed for the course "Safety at school", organized by the University of Macerata and Safety Education Training Agency Association. Six workshops held by university professors and other experts focused on the topic of inclusive safety both at school and in the city. Both prospective and in-service teachers attended together these classes, in order to provide the opportunity of exchanging ideas and on the field experiences. The idea of the course was conceived following the earthquakes that struck in central Italy the 24th of August and the 26th and 30th of October 2016 to offer new conceptual and practical instruments to deal with the topic of safety at school.

Key words: Inclusive safety, didactic subsidies, scaffolding

Introduction

The first edition of the program "Safety at school" was designed in November 2016 by University of Macerata and the Safety Education Training Agency (hereafter, SETA) association after several earthquakes struck Central Italy, in particular the Macerata district. Due to the intensive damage that had occurred in the territory, educational institutions joined forces in order to understand the new needs of the students, from both a psychological and a curricular point of view.

The University, in collaboration with the History Institute M. Morbiducci of Macerata and the online newspaper Cronache Maceratesi Junior at the time had already started a side project to map all the damaged schools in the district. At the same time, the Marche government had started its own mapping at a regional level. The results were striking: in the entire region the earthquakes had damaged 341 schools. In Macerata district, the majority of towns had at least one school rendered completely useless due to structural damages.

What emerged was a new situation, with over 20,000 people left homeless, and an education system that needed to be logistically rethought.

Hence, the program was designed in order to fill a gap in the University course of study. The scenario previously outlined solicited for a specific training about safety,

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and in particular about inclusive safety at school. Moreover, the course was developed in the Education department, which was responsible for the education of prospective teachers.

Contents and research questions

Safety is a scientific topic to face with appropriate teaching and preparation, but it is often faced with naïve theories grounded in personal experience. Naïve theories are a concept derived from Vygotsky's research about the cognitive development of the child (Vygotsky, 1962). These kinds of connections that the person makes about a topic are by all means theories, for the person uses them in order to make sense of the world and make decisions. But, being based on personal experience and factual connections about phenomena, they can be naïve and, eventually, ineffectual. Given this, three main research questions guided the design of the course. First, are prospective teachers aware of safety issues, in particular about inclusive safety? Second, how can the naïve theories regrading safety be addressed? Finally, how can a course be designed to spread a culture of prevention?

Method and the course design

Safety is a broad topic to deal with and involves many notions, cognitive aspects, and scenarios. For this reason, experts in different areas were asked to held lessons about specific topics, so the students could embrace safety at all levels, starting from their naïve theories. The program started in December 2016 and ended in March 2017. It involved 26 students from the Developmental psychology course and two teachers from another education institute. Two questionnaires were submitted (entry and exit) and six lessons were held. The lessons were designed as follows in order to teach the propsective teachers about Safety at school.

Course presentation, entry questionnaire and testing naïve theories

The first step was presenting the course and the experts the prospective teachers were about to meet during the year. Then, to test the prospective teachers' naïve theories, several methods (such as questionnaire, collecting personal theories about inclusive theories, peer-to-peer discussion about the given definitions) were put in place during the first two lessons in December.

The questionnaire

A questionnaire by SETA association was administred to the class during the first lesson. It consisted of seven open-ended questions and focused on the evacuation drill:
1. Do you know the escape plan of this university?
2. How many evacuation drills did you participate in while studying at university?

3. Which is the last one you can remember?
4. Was any expert present?
5. Did you find it difficult?
6. How did you feel? Did you feel anything?
7. Did you find the evacuation drill helpful?

The results (presented in Figure 1) pointed out that most of the students did not find the evacuation drill helpful at all. This because they could barely remember it (most of the time), or in relation to bad feelings they experienced doing it.

Dealing with naïve theories, towards inclusive safety

Students were then asked to define the words "risk", "danger" and "emergency" during the second lesson. This was a subtler level of collecting their current "theories" and representations and helped the experts to move from the current situation and design further explanations during the course. Several definitions were not correct from a scientific point of view. Some example of "naïve" definitions:

1. Danger is connected to something unsafe; Emergency is a situation that needs immediate intervention; risk is a potentially dangerous situation.

2. Danger is something that put us on a trial, that obstacles our daily life and derives from risks. I feel in danger when my assurances are lost. Risk is facing something that scares us and may put us in danger. To risk is to dive into a new and unknown situation. Emergency is a psychophysical stress condition in which complex dynamics take place. They are unexpected and difficult to figure out. Cooperation is fundamental.

3. Danger is an occurrence that can bring up negative consequences; Risk is a problematic situation where a danger may show up, bringing discomfort. Emergency is the case when you have to figure out the problem in the least time possible and with the best resources available.

4. Danger is a potentially damaging occurrence for things and/or people; risk is the possibility to step into a danger; emergency is a situation that needs an intervention to be back to normal.

Students were asked to share these definitions. The variety and sometimes the incorrectness of these definitions emerged during the interchange within the class. In fact, personal views and feelings played a big role in their initial definitions.

Scaffolding

After negotiating these definitions, students were asked to check the proper definitions using a dictionary. Students themselves have defined this method "very helpful to gain a clear idea of what risk, danger and emergency really mean" in their further reports.

The scientific definitions of risk and danger are the following. According to the Italian national law UNI11230 (2007), "Risk" is the probability that a potential damage will occur. Better: the probability that an event able to damage people will happen. Risk exists in relation to a source of danger. For example, an unsafe school is a source of danger. But if no one is there so the risk is zero, because even if it falls down no people will be involved. So safety has to deal with risk more than with danger.

The scaffolding (Wood et al., 1976) approach was chosen in order to deal with the naïve theories surrounding the topic of safety and in particular the topic of the evacuation drill, because if risk, danger, and emergency are not conceived in a proper way, also to adopt the right consequent behavior is difficult. Adopting this strategy we wanted to work within the students's area of proximal development (Vygotsky, 1962).

After using the dictionary students were asked to rethink the previous definitions. But this time they had to write them down thinking about a disable or weak category of people (children, old people, deaf people, blind people, foreign people and so on). This helped students understanding that dealing with the concept of risk is dealing also with personal and cultural differences. Some examples from the final reports:

> 5.   *Thanks to this lessons we reflected on the fact that society is made by many different people and that these diversities must be taken into consideration. For this reason didactic is to be customized in accordance with the target.*
>
> 6.   *We realized that changing the target may result in changing safety needs and every word took a very different meaning.*
>
> 7.   *We realized how important is to understand other people's point of view. We gained a new awareness.*
>
> 8.   *Each category has a different vision about danger, risk an emergency. Being aware of this must lead to the customization of didactic at school. Children should be aware of what is risky and dangerous and be led into a path toward autonomy.*
>
> 9.   *The same situations, environment or events mean something different at different point of a person's life. A simple step can be a danger to a child, an old person or a disabled person.*
>
> 10.   *All the definitions we wrote before were for normal people and differences were not taken into account. But as teachers, we must grow into children the awareness that what is not a danger to an adult, might be for a child.*

The experts' role and expertize fields

The lessons held by experts in different fields was the next step. The main topics treated on each lesson are below.

1. The geologist

The first expert, a geologist, explained what an earthquake is from a scientific point of view. Earthquake is a natural occurrence that becomes a catastrophe if buildings are not safe and built in the "right" way. So that it is fundamental to be aware of the seismic risk of the place we live in. The geologist even showed some video about the recent earthquakes in Le Marche region, to show different effects of the same event on different buildings and zones. **Main topics: Recurrent Natural Risks**

2. The psychologist

The psychologist explained the concepts of anxiety and panic and how they manifest before, during and after an earthquake. In this case, as well, the expert underlined that this kind of reactions are totally normal and oriented to preserve human life. The psychologist focused also on how to deal with children in case of emergency. Then she made the students experiment by themselves a "light" version of the EMDR treatment. The technique was that of the "butterfly embrace", a physical movement that activates different part of the brain in order to deal with emotional stress and traumas. **Main topics: Traumatic natural events, Resilience.**

3. The pedagogist

The pedagogist explained the cognitivist approach by Bruner and the effectiveness of narration as a tool for learning (Bruner, 1986). The multiple intelligence theory by Gardner (1983) was also taken into consideration to explain that a project must always address different kinds of intelligence, in order to embroil every participant. **Main topics: Emotional intelligence as a tool of learning.**

4. The S.E.T.A. association and its activities. The didactic subsidies.

After the presentation of S.E.T.A. association, the students formed several groups to analyze didactic subsidies that were developed in the past years by the association itself (Midoro et al., 2009). Their task was to underline the pros and cons of each subsidy. Then, the students were asked to write down proposals to improve the didactic subsidies presented during the course and/or to design a lesson to "teach" prevention to children. During the last lesson, they grouped together and designed their own games and activities to teach prevention in other classes. The projects had to point out: the target, the activities and a test to catch learning feedbacks.

Six projects were designed in this way, only one being focused on high school students. It was about a "Safety manifesto" to write together with students, teachers and

experts after workshops and filmed evacuation drills. The other projects were designed to meet younger educational needs.

One game was focused on safety at home. Another game was about safety in the street using a role-playing game in which children were asked alternatively to be pedestrians, animals, cars and so on. Then, some students imagined a board game-like activities that involved answering questions about safety correctly in order to win the game, which should provide an immediate feedback on their learning outcomes. One project imagined the possibility to develop a virtual reality game. Another one was a team game to play in the school gym that reproduced a city-like scenario (in particular, the school's surroundings) with simple objects. In this scenario children have to pretend there is a fire or an earthquake. This, in student's idea, would also help children to deal with fear, if properly guided during the game. **Main topics: Widespread School, Didactic Subsidies.**

5. The architect

The last focus was held by a deaf architect. She told students about real fact who occurred to her and other disabled people to let them understand the importance of inclusive safety (Sclip et al., 2009). We have the technologies and the knowledge to make a building inclusive, but that reality is often different from expectations because we are not used to think buildings in an inclusive way.

All these problems can be underlined during the evacuation drill. The evacuation drill is the moment in which teachers and pupils (in the case of schools) stage an emergency and escape the building in a way they had planned before. In order to do that they put together all the notions about safety and risk and they train their reaction in case a real emergency occurs. The evacuation drill has been compulsory in Italy since 1998 and has to be done at least once a year. The structure of the evacuation drill may vary according to different buildings and situations, but in general terms, it will always follow this scheme (Evacuation drill, 2017):

1. an alarm warns that the building is to evacuate;
2. the person (one or more) who is in charge makes sure all the people left the building and then reach them in the meeting point;
3. the emergencies and/or medical squad intervenes;
4. the state of emergency is declared over;
5. a review must be done with a written memo to prove the evacuation drill was done;
6. errors and emerging problems must be noticed in order to improve the simulation.

Main topics: Psychological Trauma, Inclusive Safety, Theory About Evacuation Drill.

The exit questionnaire

To test if awareness on the topic of safety has increased or not in the class one of the tools was an exit questionnaire that was submitted to the students. The questionnaire was divided into two sections. The first section was an assessment questionnaire about the course in which students could evaluate with a score from 1 (not at all) to 4 (very much) different aspects of the course and of single lessons. The second section consisted of open questions about different aspects of the course. The main question was related to the evacuation drill: what do you think about evacuation drill?

The question, in the intention of the researchers, was directly linked to the entry questionnaire. On 26 answers (1 left blank), all students have underlined the importance of the evacuation drill. On the second level of analysis the focus of the answers was most on:

1. *Behavior (17) ("How to face an incoming danger", "I know what to do if", "children   and teachers know how to act")*
2. *Don't Panic (5) ("Deal with fear", "Act reasonably", "Stay calm")*
3. *Environment (3) ("Knowing the meeting point")*

Conclusions

The first edition of the course was a satisfying pilot to move forward to the next step. The exit questionnaire showed a high level of satisfaction from participants. Some difficulties arose during the year due to the ongoing emergency in the territory, which forces us to reschedule some lessons.

As a result, we were able to answer the research questions we asked at the beginning. *Are pre-service teachers aware of safety issues, in particular about inclusive safety?* The answer is often no, at least at the beginning of the course. Indeed, as we saw, a first scaffolding action was needed in order to move from naïve theories to a scientific understanding of the main concepts behind safety.

The second question was: how to deal with naïve theories surrounding the topic? The answer here is in the chosen method itself. We choose the scaffolding action in order to encourage the students to rethink the main concepts of safety before meeting the experts. The experts alone would have not obtain the same effect on the student's cognitive growth. Letting the students giving their own definitions at the beginning and letting them sharing their views on the topic without giving only one right answer at the beginning, made the learning process more effective, as well as the student's attitude more open to learn from experts (Harland, 2003).

Regarding the last question: *how to design a course to spread a culture of prevention?* Preventions is a word that brings a second one with it, that is to say pro-action. The difference between reaction and pro-action is that in the first case we are already dealing with an emergency, while in the second case we bring about changes to reality before a reaction is needed. This is why part of the course was making the students

design their own games and activities to teach children about prevention.

Finally, certain crucial points must be underlined. The vocabulary of the answers in the exit questionnaire and reports suggest that the class gained a more scientific view of safety and the evacuation drill at school, which was the aim of this pilot. Nonetheless, the few references to the importance of the environment suggest that in next course more attention must be paid to this topic. Safety is indeed deeply linked to the places in which emergencies occur. The second crucial point is the lack of a follow up to test the efficacy of the scaffolding action. Third, the evacuation drill was approached theoretically but not practically.

The course will be rescheduled next year and improved according to the results and the crucial points brought up by this research.

QUESTIONS	YES	NO	BARELY	HOW
1	/	21	5	reading instructions on the wall

	ONE	>	NO ONE	
2	/	/	26	

	HIGH SCHOOL	MIDDLE S.	ELEMENTARY S.	AT WORK	N.A.	NEVER
3	12	3	1	7	3	1

	YES	NO	CAN'T REMEMBER
4	1	18	3

	HIGH	MEDIUM	LOW
5	2	6	13

	POSITIVE	NO	CAN'T TELL	NEGATIVE
6	5	6	11	8

	YES	NO	BARELY
7	2	3	17

Figure 1: The entry questionnaire results

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