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**Raising Young People's Awareness on Preparedness and Self
Protection – YAPS**

Report on ACTION B.3

**“Identification of the existing educational material related
to the project”**



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1. INTRODUCTION

Informal risk-related education worldwide

The self-prevention skills of primary and secondary school children are developed by various types of informal learning resources such as: publications (flyers, brochures, booklets, activity books, comic books, story books, colouring books, and teacher resources); games and competitions (card games, board games, role play, competitions, quizzes); audio and video materials (songs, short videos, YouTube channels); web pages and activities (web sites, online games, online quizzes).

The informal resources available for children in the field of risk-related education include, among others, international initiatives and projects.

Such an initiative is the *Natural Disaster Youth Summit* organized by iEARN (International Education and Resource Network) since 2004. In 2016 the summit is held in Niigata City, Japan and the theme of the summit is “*Climate Change and Disaster Reduction, Mitigation, and Reconstruction in our town*“, while the slogan is “*Communication saves lives!*“. The participants are 5-11 years old (primary school), 12-14 years old (middle school), 15-18 years old (secondary school) students. The participating countries are: Algeria, Argentina, Armenia, Australia, Azerbaijan, Belarus, Cameroon, Canada, China, Colombia, Egypt, Gambia, Grenada, Guinea, India, Indonesia, Iran, Iraq, Israel, Japan, Jordan, Malaysia, Mexico, Moldova, Morocco, Nigeria, Orillas, Pakistan, Palestine, Romania, Russia, Saudi Arabia, Senegal, Slovakia, Somalia, Sri Lanka, Sudan, Syria, Taiwan, Trinidad and Tobago, Turkey, Ukraine, United Arab Emirates, United Kingdom, United States, Yemen (iEARN, 2016).

Another international action is the EU project entitled “QuestCity - Edutainment for Europe” implemented by a consortium of 12 partners from Austria, Cyprus, Germany, Latvia, Lithuania, Norway, Poland, Slovenia, and Turkey. This project also addresses self-help learning by the dissemination of the free game QuestCity. The game released for the primary target group of young people aged 9-12 years in and beyond Europe covers several domains like self-help, civil protection, environment, health (QuestCity, 2016). By this game children can help the others, collect experience, deal with everyday challenges and travel around the world.

Another international action is the "MobileKids School Days" nation-wide inter-school traffic safety competition involving several countries, including Germany, China, Turkey, Hungary, Brazil, Mexico, Korea, Russia, Romania, Poland, dedicated mainly to primary school children (MobileKids, 2016).

2. AUSTRIA

Informal Education is a general term for education outside of a standard school setting. Informal educational materials are currently used to build the young people's knowledge and shape their behaviour during emergencies. In Austria, they focus mainly on traffic related risks, as well as some natural hazards, such as avalanches and floods.

Publications

Books

Children's books and picture books are always a good source for information and education, either in schools or at home.

Most titles are in the field of traffic education, fire protection and natural hazards.

Here is a selection of available titles for traffic education (for the age group 7 - 12):

- *My friend Conni – Traffic Schoolbook* (Meine Freundin Conni Der Verkehrsschul-Block), Hanna Sörensen, Carlsen Publishing House, 2015 – child oriented exercises for traffic rules and traffic behavior;
- *Rocky and his friend 04: Rocky and road traffic* (Rocky und seine Bande 04: Rocky im Straßenverkehr), Pfefferkorn Publishing House, 2014 – the correct behavior in the street, meaning of traffic signs and rules + a quiz with 22 questions on "traffic education";
- *How so? For which reason? Why?* (Wieso? Weshalb? Warum? Sicher im Straßenverkehr. Tiptoi® Band 4), Daniela Betz, Ravensburger Publishing House, 2014 – it has more than 600 sounds and texts introducing children to the subject of traffic rules: how to cross the road, who is allowed to walk on the sidewalk; the realistic sounds emphasize the perception on the road;
- *I know what to do in traffic* (Ich kenne mich aus im Straßenverkehr), Svenja Ersten, Compact Publishing House, 2013 – exercise book for children in 1st and 2nd grade for the learning the correct behavior in traffic + traffic sign memory game;
- *I take care of myself* (Ich pass gut auf mich auf!), Julia Vomert, Albarello Publishing House, 2011 – comprises three picture books on the subject: "When a stranger talks to you", "How to protect yourself from traffic accidents", "If you get lost"; the second book teaches children how to behave properly in traffic.

Fire protection is a field introduced to children even from first years, through numerous books, magazines, games and toys with entertaining tasks and information. They introduce

firefighters, their equipment and cars, sirens, trainings and intervention missions, explaining how to protect themselves from fires in their home or how to become volunteers in fire stations. Some examples suitable for young people are: *Feuerwehr. Retter im Einsatz (Fire Department, Rescuers in Action*, Tessloff Medienvertrieb Publishing House, 2014); *Bei der Feuerwehr - Mal- und Rätselbuch mit leicht löslichen Metallic-Stickern (In the Fire Department*, Neuer Favorit Publishing House, 2015); *Rätseln und Stickern: Feuerwehr (Puzzles and Stickers: Fire Department*, Tessloff Medienvertrieb Publishing House, 2016) and many others.

Also, natural hazards are described in several books:

- *Forces of nature. Unpredictable and powerful (Naturgewalten. Unberechenbar und mächtig)*, Manfred Baur, Tessloff Medienvertrieb Publishing House, 2015 – entertaining information, great images on volcanic eruptions, tsunamis, lightning, thunder, climate change and protective measures;
- *GEOLino extra natural forces (GEOLino extra Naturgewalten)*, Gruner + Jahr Stern-Buch Publishing House, 2013 – tsunamis, thunderstorms, avalanches, earthquakes, volcanoes – causes, warning systems, intervention and protection measures;
- *Forces of nature (Naturgewalten - 3-D-Lupenbuch)*, Frank Müller-Stindl, Schwager & Steinlein Publishing House, 2013 – facts and images of impressive powers of nature elements: water, earth, air and fire.

Magazines

The Austrian Red Cross, through its Youth department, offers a variety of educational magazines, for different age groups. They contain a large variety of subjects, motivating children and young readers to become involved in their communities. They can be used as additional educational material in schools, but also for private use (ARC, 2016).

The magazines for primary schools are: Mini – Spatzenpost, Spatzenpost and LUX/Kleinves Volk, and the magazines for secondary schools are JO and TOPIC. They are published on a monthly basis and they are accompanied by didactical materials for teachers, published 4 times per year.

As a whole, the magazines include interesting information on the Red Cross humanitarian principles and their integration in every-day life. The theoretical information is accompanied by online materials (different types of games) and instructions and tips for teachers.

Mini-SPATZENPOST is suitable for children in the 1st grade of primary school. It includes theoretical information on several subjects, but also interactive exercises, such as quizzes and puzzles. The subjects tackled are Mathematics, Reading and Spelling, but also natural sciences, examples being life of animals, weather and climate or water cycle. The information is provided in an interactive form, with drawings and characters appealing for children.

SPATZENPOST is the magazine for 2nd grade in primary school, more comprehensive than the Mini-SPATZENPOST. They include more detailed information on a larger variety of subjects, but keeping the interactive character, through exercises, games and practical lessons. In the field of natural sciences, some examples of issues discussed are thunderstorms, climate change or solar energy. Everyday situations can be found in lessons such as internet safety, transport safety or dangerous substances at home.

LUX/Kleines Volk, the magazine for 3rd and 4th grade in primary school, is more complex and includes subjects which expand the knowledge universe of the children: they learn more on different regions of Austria and about the people and life in other countries of the world, but also on Austrian personalities and international arts (ARC, 2016).

Projects and initiatives for informal safety-related education in Austria

There are some other public or private initiatives at local or regional level related to children self-protection in case of natural hazards or other every-day threats.

One of these initiatives is the project entitled **“Kinder erforschen Naturgefahren” (“Children explore natural hazards”)**, which is part of the Region research and experience workshop Liezen, supported by the Federal Ministry of Transport, Economy and Innovation and Education, Arts and Culture. In 2012, within this initiative, children in the elementary school Donnersbachwald explore soil, climate, weather, protection forests, natural hazards (floods, avalanches) and create a hazard zone map. These practical activities increased children’s awareness on their surrounding environment and their perception on natural phenomena and processes. (www.raumberg-gumpenstein.at)

„Schulen mobil“ (“Schools mobile”) is another regional project of Climate Alliance Tirol, Ökoinstitut Südtirol / Alto Adige, the Austrian Road Safety Board / Landesstelle Tirol, the municipality of Valvasone / Local Agenda 21, the Land of Tyrol and the Autonomous Province of Bolzano - South Tyrol / department mobility, co-financed by Funding from the European regional development Fund - INTERREG IV A Italy Austria.

This project was launched in 2010 with the aim of promoting creative and playful teaching modules for educating children and adolescents an environmentally friendly, healthy and safe behavior on the road. Within the project, training and teaching materials are provided: the homepage is updated continuous with information and details on developed activities and it provides the opportunity for downloading teaching materials; there is a newsletter published twice a year. There are also cross-border school projects. Important issues such as cycling, public transport or risk behavior in traffic are thought in a playful manner.

The information on the site is divided into cycling, public transport, pedestrian traffic, traffic safety and other services. In Tyrol, teaching materials were sent in school in October 2011 and they are available for download, while in South Tyrol, the materials were published in German and Italian and were distributed in schools.

Here are some examples of project initiatives: **Crazy Bike** (painting and drawing competition for the 3rd and 4th grade, teaching children that the bikes are a way to increase their mobility, to protect the environment and at the same time to use a trendy, chic transport mean); **BIKeline** (competition on cycling distances, children receive gifts); **Mit Helmi sicher unterwegs im Straßenverkehr** (With Helmi safe on the road – a 4 steps program in the 1st to 3rd grade, for teaching children the road hazards and an appropriate traffic behavior in age-appropriate and playful way); **Die Zugschule** (Train School – 2nd to 4th grade pupils learn what to look for when they are traveling by train and how to behave properly in the bus stop area, at railway stations and on trains); **Öffi SCHOOL** (pupils of 3rd to 6th grade are taught through practical exercises the effects of ever-increasing traffic on the climate and also how to behave on the road, at bus stops and train stations); **Pedibus** (A Pedibus is a group of children of 1st to 4th grade, who are accompanied by a supervisor on their way to school).

Edutainment resources

Biber Berti "Living with Natural Hazards" is a project developed by the Torrent and Avalanche Control, an agency of the Federal Ministry of Agriculture, Forestry, Environment and Water Management in Austria (Biberberti.com, 2016). The friendly designed Biber Berti and his friends are the main characters, who experience and explain many adventures in the mountains. The main objective of this project is to promote awareness and understanding of the relationships in nature and the inherent dangers. It is a cross-curricular school project, aimed for the 3rd and 4th grade primary school, although a general survey indicated that the materials were also used for other grades, especially 1st and 2nd grade in elementary school (Hagen and Andrecs, 2015).

The documents comprise a reading and learning book for children and a comprehensive workbook for teachers, on two subjects: *Large masses of water: floods and mudslides* (a story on Berti and his friends experience after a violent storm in the mountains) and *Avalanches – trapped in the snow* (Berti and his friends' experience during an avalanche following days of heavy snowfall). This workbook support teachers and educators in the classroom, both for teaching and for answering questions. All documents are free of charge and can be ordered for a class or a school. The documents were used supplementary to the formal teaching materials, especially from the desire to make the lessons more interesting and more entertaining for children.

The accompanying website (www.biberberti.com) offers age-appropriate information, a fun game and interesting videos on the subject. The online games, videos and stories include the experiences and adventures of Biber Berti (Berti the Beaver) and his friends (Biberberti.com, 2016). The main themes tackled are: climate change (climate, weather, causes, effects, climate protection), rock falls (capricorn Stani, causes, consequences, landslides), torrents (raccoon Randy, floods, erosion, mudslides protective measures are explained in detail), avalanches (St. Bernard dog Beery, snow, water cycle in nature, types of avalanches, warning signs, what to do in case of avalanche), forest protection (ermine Hanne, forest fires, habitats, levels of

vegetation), hazard maps (crow Killian, definition, development). The information within each theme is tested through a short quiz. There are two games available online: a storm game (what to do in case of thunderstorms in the mountains) and an energy saving game (ways in which energy can be saved in households and in a city). The design of the site captures children attention and it can be very easily used by them.

Board games

Mini Ratz-Fatz (Kinderspiel), Sicher im Straßenverkehr – a game for 1 – 4 players, aged 5 – 10; how to cross the street, children on bicycles, traffic signs, road users and others.

Ratz-Fatz kommt die Feuerwehr – a game for 1 – 6 players, aged 3 – 12; fire department, fire extinguishers, cars used and others.

National school competition to learn about disaster risk reduction

Safety-Tour is a primary school competition, organised country-wide since 2010 by the Austrian Civil Protection Association on a yearly basis, where children can test their safety knowledge. The competition has three phases (selection phase, state phase and national phase) and children have to put their skills to the test at different exercises (cycling, fire extinguishing and other interactive puzzles). Children develop through play and fun basic knowledge and skills on self-protection in emergency situations. Theoretical knowledge refers to self-protection and accident prevention, emergency numbers, civil defence siren signals and more. There is a question game (testing emergency numbers and estimation issues), cycling competition (with the motto: "safety before speed"), extinguishing competition, puzzles (for example, identification of risk symbols for toxic or dangerous substances).

They can prepare themselves for the competition using the material made available at the official website of the competition (Zivilschutz Österreich, 2016). Online games are also available on the site. The Safety Tour Training Park provides an opportunity for trying out the games, while the knowledge quiz available on site prepares children for the Safety Olympics.

Additional topics present on the site are safety at home, safety outside and internet safety. Information on emergency numbers and emergency exercises are also provided for the children. All information is transposed in songs' lyrics, which are made available for children on CD and booklet.

3. GERMANY

Publications

Publications for children are very common, the most frequent subjects addressed by books being road safety and firefighting education. Road safety is the subject of the following books which are available for a fee: We pay attention to traffic - *Wir passen auf im Straßenverkehr* (Wiskirchen and Saleina, 2014), Paying attention to traffic - *Aufgepasst im Straßenverkehr* (Butschkow and Weinberger, 2002), Now I'm learning all about the road - *Jetzt lerne ich alles über den Straßenverkehr* (Holzwarth-Raether and Müller-Wolfangel), The little book for children in traffic - *Das kleine Buch für Kinder im Strassenverkehr* (Neie and Fels, 1997), I know my way around: traffic education for pre-schoolers and elementary school students - *Ich kenne mich aus im Straßenverkehr: Verkehrserziehung für Vorschüler und Grundschüler* (Ernsten and Keller, 2013).

Education in terms of firefighting is approached in the following books: I know my way around: traffic education for pre-schoolers and elementary school students - *Erstes Wissen, Bei der Feuerwehr* (Mennen and Krautmann, 2000), My first question and answer book, Firefighters - *Mein erstes Frage- und Antwortbuch, Die Feuerwehr* (Stubner and Piel, 1999). The booklet entitled "Fire safety education with the Munich fire brigade" - *Brandschutzerziehung mit der Münchner Feuerwehr* issued by the Munich Fire Department teaches children aspects regarding the use of 112 emergency number, fire hazard and risks in the household, including an evacuation exercise. At the end it includes some worksheets and colouring pages. One of the book chapters (Chapter 3.1.) presents various dangers that children can be exposed to depending on the season: forest fires in the spring due to cigarettes carelessly thrown away, in the summer, when the children are more exposed to barbecue-events accidents or in the winter season, when the fire risk is greatly increased by the Christmas decorations (Munich Fire Department, 2016).

Children learn how to call the emergency number from books and also from popular children songs like "112 – Die Feuerwehr kommt schnell herbei" from the Album "Lass die Sonne rein!", text and music by Christian Hüser/Dennis Niemeyer (YouTube channel, 2016).

Projects and initiatives for informal safety-related education in Germany

The Safe School concept is addressed by many projects and initiatives. On the website of the German Social Accident Insurance (Deutsche Gesetzliche Unfallversicherung - DGUV), visitors can click through a unique virtual model of a school and find out a lot about safety, risks and technical details (DGUV, 2016a).

Such a project (**Safe school, safe day care, safe playground, Germany**) is implemented at secondary level education by Unfallkasse North-Rhine Westphalia. The main product is an Internet portal for safety in schools and other public educational institutions. The project aims

at preventing accidents to pupils, students and staff by providing training and information on topics like chemistry labs/installations, rooms for metalwork class, electrical installations, radiation, children's workplace characteristics, traffic safety education, toys: characteristics and storage (NRW, 2016).

The “**Good healthy schools**” initiative is another innovative approach intended to promote health and safety in German schools. The aim of the “Good Healthy Schools” approach is to enable schools to enhance the overall quality of the education they provide through the health interventions based on a comprehensive, integrated concept of health. The broader aims in relation to health promotion and risk prevention in schools include: increasing the importance given to health and safety and health promotion in everyday school life, as well as encouraging the decision-makers and promoters to approach health and safety in an integrated manner (Hundeloh and Paulus, 2009).

Edutainment resources

As an edutainment resource, we mention **QuestCity** (an online self-help learning game containing firefighting education, everyday challenges and worldwide missions), developed by a consortium of 12 partners, including Germany. Another resource is the online training provided by the German Social Accident Insurance, whose main purpose is to teach children to recognize the warning signs most frequently used for personal protection: prohibitory and mandatory signs, warning signs, rescue and fire safety signs. The training consists in explanations and theoretical part and tests where children can verify if they understood the explanations correctly (DGUV, 2016b).

Online games are a great way to test children's skills and knowledge on the risks they are exposed to. Most of the safety-related games deal mainly with fires and traffic safety. **Feuerwehr-onlinespiele.de** is a German website containing a multitude of online games, starting with firefighting games, but also search and rescue. One of the games illustrates a scenario when the player is team leader of an emergency team of the Red Cross and he/she needs to make strategic decisions, coordinate the team, build emergency camps, provide medical care to the wounded (Feuerwehr-onlinespiele, 2016). One platform (**Feuerwehrleben.de**) is dedicated exclusively to the firefighting games, which includes all kind of game scenarios and online puzzles.

The traffic safety is a subject much addressed in the online resources. **MobileKids.net** teaches children about mobility and safety in traffic in a series of online materials divided into 5 modules. Modules 1-4 are designed to teach children how to move safely in traffic. Module 5 is intended to show children the evolution of mobility in the past and it encourages them to take a look into the future of mobility. It is especially suitable for children in the fourth grade of elementary school (MobileKids, 2016). MobileKids also developed a mobile app **MobileKids App** which enables the user to mark safe and unsafe traffic points using the iPhone. The app is available in 2 languages (German and English) and it enables the creation

of individual routes and insertion of information to help parents and children find the safest route to school.

Children learning about safety from funny characters in Germany

Since education should not be a tedious and unpleasant process (Dewey, 1897), funny characters are used in many resources to make the educational process more fun and interactive.

Such a character is **Moki**, the MobileKids safety specialists, a robot-like character who teaches children how to cross the road, how to ride the bike safely, gives them advice on how to be environmentally aware and considerate (MobileKids, 2016).

Other protagonists are **Max and Flocke**, his dog, who accompany children in their learning process about civil protection-related topics. The materials are divided into five teaching modules which start with a short story introducing the main topic of the module. The story is followed by interactive game-based exercises designed to develop children self-protection skills. For example, children who complete the worksheet on fire learn how to make a difference between the correct and incorrect behaviour during fire, learning to handle fire in a correct manner, to make an emergency call alone, to recognize the most important fire safety signs and to understand school policy regarding fire safety precautions. Beside the worksheets and didactic comments, the Federal Office of Civil Protection and Disaster Assistance (BBK) also published story books and an online computer game to offer children a more playful way of learning important self-protection skills, not just at school but also at home. The online game focuses on fire safety and some aspects of electrical safety while the story book contains six stories, each presenting a different aspect of self-protection. The stories are “*Max and Flocke detekt a fire*”, “*Max and Flocke during an emergency*”, “*Max and Flocke in a thunderstorm*”, “*Max and Flocke are rescued in the mountains*”, “*Max and Flocke at the rescue dogs*” and “*Max and Flocke are thirsty*”.

Another interesting character is **Conni**, a blonde girl who is portrayed at various ages (starting with 3 years old, to 6 years old and 12). All children aged 6 years are learning to read by Conni’s books containing simple texts. For the 1st, 2nd and 3rd grades, there is the series entitled “Conni at school” (*Conni in der Schule*), where children who can already read, experience exciting adventures with Conni in the Conni story collections. One of the books (*Conni Gelbe Reihe: Meine Freundin Conni Der Verkehrsschul-Block*) deals with road safety, where Conni guides her friends of the same age through the traffic rules and correct behaviour. All books from age 6 deal with age-appropriate themes in linguistically appropriate form for reading beginners. Conni comes even with online quizzes on road safety - With Conni safe on the road! (*Mit Conni sicher unterwegs!*) where Conni helps the children solve the traffic quiz and compose a list for their bike check. Children can also solve a quiz about high traffic and they can win a Conni visibility vest (Conni.de, 2016).

Molli and Walli are two friends: a girl and a hippo, who are the main protagonists of a German interactive website for kids, containing quizzes, puzzles, a YouTube channel and

much information about road safety for children. The website was set up and is hosted by the German Social Accident Insurance Institution for the public sector in Hesse (Molli-und-walli.de, 2016).

Beiki is also a character (a bike with eyes) intended to help the children in Germany with their biking experience. Beiki is an interactive web platform and e-learning website for children, young people and teachers. It provides information and several lessons and quizzes concerning biking, traffic rules, dangers of biking and accident prevention. There are six different learning stations: where to use a bike, starting good, together in the traffic, bikes and environment, being mobile and history of biking. An interactive obstacle course PC game shows dangers for bikers in a funny way (Beike.de, 2016).

Tiger and Bear are the main actors in a road transport related cartoon for children up to the age of 10 (*Tiger und Bär im Straßenverkehr*), made by the Society for Training and Media Design Bonn (GMW) where the little tiger and the little bear go search their kidnapped friend and experience exciting and educational things on the road (GMW, 2016).

Napo is a character created by the European Agency for Safety and Health at Work (EU-OSHA) together with the Napo Consortium. Napo is popular in Austria, Germany, UK, France, Italy, and Switzerland and he is the protagonist of a series of high quality information products designed to meet the practical needs of people at work. However, children are also a target group for OSHA, considering the fact that they are subjected to everyday life risks such as accidents, household risks, road accidents, etc. Therefore, OSHA has developed education toolkits for teachers, aimed at introducing health and safety topics to primary school children in an educational and fun manner using videos and creative activities (Napo Consortium, 2016).

The main target groups are children aged 7 to 9 and 9 to 11, with 2 modules for the first age group (*Be Body Wise with Napo* and *Napo's Best Signs for Safety*) and one module for the second (*Napo's Hazard Hunter*). Each module contains 2 lessons. In the *Be Body Wise with Napo* module, children learn from the Napo video about many different situations where exposure to chemicals and other substances can cause skin problems and helps them recognise warning signs and labels. In the video entitled *Be Body Wise with Napo*, children are taught how to protect themselves from simple, everyday risks. In the module entitled *Napo's Hazard Hunter* children watch a video on *Identification of risks and hazards* and one on *Intervention and Prevention*.

This series of videos help children identify and explain safety and health risks and hazards both at school, at home and while on holidays, such as: sunbathing without cream, getting bitten by a jelly fish, health consequences of heat, cold, sun damage and chemicals, including detergents, road safety, the use of chemicals at home, their labelling and handling, the use of various tools, handling of natural and artificial substances, electricity-related risks, crossing bridges, etc.

Other types of informal education include **games and competitions** such as the “Mobilekids School Days” competition which is related to traffic safety at school, excitingly presented and learnable while at play. This is a nation-wide inter-school competition involving several countries, including Germany, whose purpose is to teach children basic knowledge about traffic rules and to develop children’ awareness of complex traffic situations.

4. ROMANIA

The General Inspectorate for Emergency Situations is a Romanian institutional body which aims to prevent and manage emergency situations in order to maintain risks at an acceptable level and to ensure the normal state of life of human communities.

The General Inspectorate for Emergency Situations web site includes many informal teaching materials for children with preventive information about disasters (brochures, story books, activity books, card games, board games, online games, poems, songs and riddles).

The materials for 1st to 4th grades include five **books**: “Fire Survivors”, “Flood Survivors”, “Earthquake Survivors”, “Industrial Accidents and Terrorism Survivors” and an activity book named “Survivors”, which contains different activities like: coloring, carving, binding and others. The “Fire Survivors” book explains what is fire, how it can be prevented and safety measurements in case of fire. It also includes a story named “Savanna Fire” and a section with topics of discussion. The “Flood Survivors” book contains the flood causes, safety measurements in case of flood and what has to be done during and after floods. Same as “Fire Survivors” book, this book contains a story (The smart tree frog) and a section with topics of discussions. The “Earthquake Survivors” book explains what is an earthquake and the safety measurements before, during and after an earthquake and it includes a story named “Lord, the rescuer dog” and a section with topics of discussions. In “Industrial Accidents and Terrorism Survivors” book there are explained what are industrial accidents and terrorism and safety measurements in case one of these two incidents happen, as well as air pollution, water pollution and nuclear accidents. As in the books described above, this book also has two stories (one for industrial accidents and one for terrorism) and a section with topics of discussion.

On this web site one can distinguish also online games, card games and board games. **Board games** and **card games** category include educational games such as: "Let's learn to prevent disasters. Country Risk", "I promise that I will not play with fire. Fire kills", "Firemen in action", "Together", "Earthquake survivors". For example, the game "Let's learn to prevent disasters. Country Risk" is a game which aims to teach children how to behave in case of disasters. Disasters treated within the game are: tornadoes, volcanic eruptions, hurricanes, erosion, floods, fires, landslides, earthquakes, plagues and tsunamis. The game can be played for at least two players, but it can be also played by the entire class. The website also contains a number of **online games**, targeting mainly fires, such as: "Do not play with fire", "Consequences", "Dog rescue", "Elephant Benjamin - firefighter ", "Intervention helicopter", "Here firemen", "Extinguish the fire!", "Help Michael in case of fire". Other types of online games that can be found on the site are: puzzles, crosswords and memory games.

The General Inspectorate for Emergency Situations web site also contains other educational materials designed to inform children about disasters, such as: **info-questionnaires**, **brochures** ("European emergency call number - 112"), **books** which contain practical

activities and theoretical lessons ("Earthquake Explained", "Emergency preparedness in schools", "Firefighter and the savior dog", "What do you do in case of fire?") and a notebook with *songs*, *poems* and *riddles*. The web site also contains a *schedule* whose topic is the 112 European emergency call number and a *calendar* which in every month approaches a different type of risk: extreme cold - snow, ice; transport accident; everyday risks; incidents involving a lot of people; earthquake; fire; drought and heat waves; terrorism; flood; storm; pandemic and power outage (General Inspectorate for Emergency Situations, 2016).

Publications

In 2009, Save the Children Romania organization has launched the **book** "Learning to prevent disasters", which aimed to involve children from 4th to 6th grades in specific activities regarding causes and manifestation of natural disasters, as well as prevention and safety measurements in such cases. The work is part of the educational project regarding risk reduction in case of natural disasters ("Child Led - Disasters Risk Reduction") and it was coordinated by children. The book is a summary of the work developed by 60 children from three Romanian schools, which followed training sessions developed by specialists of Inspectorate for Emergency Situations and coordinated by 30 volunteers and 6 teachers. The book includes several applications and drawings also made by children.

This project was initiated and supported by Save the Children Sweden and implemented in Romania by Save the Children Romania in partnership with the Ministry of Education, Research and Innovation, the General Inspectorate for Emergency Situations and the High Level Group for the Romanian Children (Save the Children Romania, 2016; Green Report, 2016).

Another initiative regarding disaster prevention among children is the **brochure** from Romanian Caritas Confederation, named "We are preparing with Herman to learn to prevent natural disasters". The brochure includes a story, information about natural disasters (floods, earthquakes and landslides) and fires, about emergency kit and about the European emergency call number – 112. The brochure also contains some activities and exercises regarding these types of risks (Romanian Caritas Confederation, 2016).

An initiative regarding children education and information on earthquake risk is represented by the **brochures** made by MTCT – INCERC (Ministry of Transport, Constructions and Tourism - National Institute for Research and Development in Construction, Urban Planning and Sustainable Spatial Development). These materials, entitled "Children Earthquake Education and Protection" were developed in partnership between the Ministry of Transport, Constructions and Tourism and the Ministry of Education and Research, and it is divided in 3 parts: 1st and 2nd grades, 3rd and 4th grades and 5th to 8th grades. The brochures include information and recommendation in form of text and posters, regarding the occurrence and causes of earthquake, emergency backpack content and the behavior during and after an earthquake (MTCT – INCERC, 2016).

Regarding traffic safety, Corinth Junior Publisher published a **book**, named "On the street we are always careful", which can be found in both electronic and printed form. The book is mainly aimed for children who walk to school and it's translated from German and adapted for children from Romania. It contains useful information about traffic rules (whether it's walking, cycling, bus or tram), in form of interactive stories between two main characters: Mara and Lucian (Corinth Junior Publisher, 2016).

Projects and initiatives for informal safety-related education in Romania

In an educational scientific project, entitled **Romanian Educational Seismic Network – RO-EDUSEIS**, developed by a partnership of high scientific and academic institutions: National Institute for Earth Physics (Project Coordinator) and the National Institute for Research and Development in Construction, Urban Planning and Sustainable Spatial Development "URBAN-INCERC"; "Babeş-Bolyai" University, Faculty of Environmental Science and Engineering, Cluj-Napoca; Beta Software Management S.A., Bucharest (partners) several Educational materials were created. The collection entitled "On earthquakes and their effects" includes educational materials addressing the pre-, primary, secondary and high-school education. Except for the pre-schools materials, the series for each level is composed of "The teacher's book" and the "The pupil's book".

The collection represents an opportunity for students to discover and understand earthquakes. The motto of the series is "We learn. We experience. We protect ourselves". At the same time, the collection aims to provide the teachers some information, tools and resources useful for the development of the proposed thematic activities. The materials have a highly educational character and do not require a high level of scientific knowledge in order to understand the concepts and activities.

The collection provides an unique approach of the topic, involving the students in activities whose purpose is not only to learn by-heart some definitions, but also the analysis, comparison, discovery, experimentation, simulation and critical reflection on the earthquake aspects (causes, measurement, changes induced to the environment, prevention and safety measures).

The material of each educational level includes 5 chapters: Defining an earthquake, How do earthquakes occur, Measurement of earthquakes, The impacts of earthquakes on the natural environment, The impacts of earthquakes on the built environment, protection and safety measures. The information presented are introduced gradually and adapted to the level of understanding particular to each educational cycle. It is up to school board how to use the materials and the teachers are free to select the most relevant information and activities; there is no need to go through the entire collection in order to achieve the proposed objectives (ROEDUSEIS, 2016).

Another new initiative dedicated to children from first year of study is "**Tedi - School Safety**". This is an educational program initiated by the Tymbark Maspex Romania Company and Tedi brand, along with Ministry of Education and Scientific Research and Ministry of Internal Affairs through the Romanian police. The goal of the program is to inform children about the potential dangers and to provide educational solutions specific to their age. The first edition of the program took place during the school year 2015-2016, with a total number of over 30,000 children from first year of school participating from 645 Romanian schools. Among other, the program includes a brochure for teachers and one for parents that are designed to help them to communicate the necessary information to children. Also, the children have a dedicated brochure with games and fun activities designed to get them to acquire knowledge about: road safety, home safety, school safety and play safety. Moreover, it contains useful tips and warnings regarding these topics (Tedi School, 2016).

The only competition for health and first aid which take place in Romanian schools is "**Skilled Sanitarians**" with a tradition of 47 years. This competition addresses children in 5th to 12th grades and it's organized by the Romanian Red Cross National Society, Ministry of Education, Ministry of Public Health and Ministry of Administration and Interior.

The aim of the competition is to provide children with knowledge and practical skills about first aid and accident prevention (Fig. 1), maintaining and improving physical and moral health, environmental protection, human solidarity and respect for the elderly. It also aims to make children acquire basic knowledge about International Red Cross and Red Crescent Movement and about the history and fundamental principles of the Red Cross National Society from Romania.



Fig. 1. "Skilled Sanitarians" competition (Romanian Red Cross National Society, 2016)

The competition is structured as it follows: promoting competition in schools, training and preparing children teams, school level, town level, regional level and national level (Romanian Red Cross National Society, 2016).

Edutainment resources

Infomedia Pro is an educational software producer which addresses especially children aged between 3 and 14. It was established in 1997 and it was the first Romanian educational software producer for MAC and PDA. Currently, the software educational product series were extended to smartphones and tablets applications (iOS and Android).

The Infomedia Pro Company produces one of the most popular multimedia interactive software in Romania with **PitiClic** game series for children aged from 3 to 7 and *PitiClic Senior* game series for children in grades 1st to 4th. The company has more than 100 interactive multimedia educational products which cover over 1200 educational games and activities, which are created along with teachers and according to the curriculum, having the Ministry of Education approval. Some examples of educational *games* and activities included in *PitiClic Senior* game series are: “THE ALPHABETH with crosswords”, “Preparatory mathematics”, “PitiClic – English and French like a game”, “INTERACTIVE SPELLING BOOK – multimedia lessons for the first grade”, “Play and Discover with the E.U.”, “Super DubluClic Galactic Conquers the Univers of Knowledge – QL”, “MATIX – Mathematics for the 3rd and 4rd grade”, “The magic cube” and “Road traffic...for children”. The “Road traffic...for children” program, now in version two, is available both for computers and for tablets and smartphones. It is a program initiated and accomplished by INFOMEDIA PRO in partnership with the Ministry of Education and Bucharest General Directorate of Police – Traffic Police Brigade and it’s an educational program based on learning through discovery and play. It contains both didactic games and useful information. The game goal is to teach children how to behave on the street and to understand the importance of observing the sign posts and directing traffic policeman's role in the street. The game also aims to accustom children to walk on footway and to behave according to traffic rules (Fig. 2.). The game includes the following topics: The Traffic ABC, The Tricks of PitiClic Senior, On the road!, Travelling by bus!, Playgrounds, The traffic dictionary (PitiClic, 2016).



Fig. 2. "Road traffic...for children" game (PitiClic, 2016)

5. CONCLUSIONS

The online education is by far the most frequently used and most efficient tool for informal learning. The abundance of online resources is very high. Internet has become a good and efficient tool for reaching the target group for educational purposes.

There are various kinds of e-learning platforms, online courses and interactive websites dealing with safety and health aiming to develop the self-prevention skills of primary and secondary school children. The development of the edutainment learning technologies, which combine the concepts of education and entertainment, has led to a variety of technologies and materials based on gaming, problem-based learning, communication, creative, computer (information) technology and others (Anikina and Yakimenko, 2015). Therefore, one may say that online games are amongst the most interactive and attractive resources for children.

The overview of the informal resources available has revealed several main topics addressed for the safety of children aged 7-12. Most frequent resources deal with firefighting and traffic safety, as these are the most common risks that children are exposed to. The educational materials contain information, training and advice on prevention measures, emergency call and basic response measures.

However, more topic-focused resources are necessary to address as many hazards and risks (be they of natural or man-made origin) that children are exposed to in their everyday school activities, at home or while on holiday with their families. Hence, the local exposure to a certain hazard is not necessarily an exclusive selection criterion when teaching children about risks, more tailored approach of these aspects being necessary.

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