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Improving safety in school - Safety Timetable

Summanen, Eetu

2017 Leppävaara

Laurea University of Applied Sciences
Leppävaara

Improving safety in school
- Safety Timetable

Summanen, Eetu
Degree Programme in
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Laurea University of Applied Sciences **Abstract**
Laurea Leppävaara
Degree Programme in Security Management

Summanen, Eetu

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This thesis was done in cooperation with Puumala comprehensive school. Main purpose of the thesis was to develop a tool for principals to help them when managing school safety. The needs for the tool arise from the needs and interest of the principal to improve safety management.

In the theoretical framework of this thesis is included all the laws that regulate and have effect on managing school safety, short reflections on studies done about safety management in schools in Finland and on guides made to help in safety management both in Finland and abroad. In the framework there is also described the definitions of some words used in this thesis and the definitions of Plan-Do-Check-Act model and risk matrix, which are used in the final product.

A short questionnaire was done to support the development of the tool with finding out how safety management is done nowadays around Finland. The questionnaire was answered by a fairly few principals, but even the small number of responds gave a rough picture on how safety management is done in schools and how they feel about their safety culture.

Main focus of the thesis was a bit unclear at the beginning, but in a meeting with the principal, the idea of a tool for school safety management came up. The main thing when doing the tool came to be finding out best ways to implement Plan-Do-Check-act model in schools safety management and compile best practices into one simple and easy to use tool. The tool is built around a few tables which help the follow up process of the actions taken inside the school. One main feature of the tool is that it is supposed to be easy to modify according to the needs and interests of different schools.

The Safety Timetable tool is given to the client school in spring 2017 and is supposed to be taken into use in autumn 2017. The results from using the tool can only be seen after the implementation.

Safety, School, Safety management, Risk management, Safety culture

Laurea-ammattikorkeakoulu **Tiivistelmä**
Laurea Leppävaara
Degree Programme in Security Management

Summanen, Eetu

Improving safety in school – Safety Timetable

Vuosi 2017 Sivumäärä 52

Tämä opinnäytetyö on tehty yhteistyössä Puumalan yhtenäiskoulun kanssa. Opinnäytetyön päätarkoituksena oli kehittää työkalu koulun rehtorille kouluturvallisuuden hallinnan tueksi. Tarpeet työkalun kehittämiseksi nousivat rehtorin tarpeista ja kiinnostuksesta kouluturvallisuuden kehittämiseen.

Opinnäytetyön teoreettinen tausta sisältää lait jotka säätelevät ja vaikuttavat kouluturvallisuuden hallintaan, lyhyet esittelyt tutkimuksista jotka liittyvät kouluturvallisuuteen Suomessa ja oppaista jotka on tehty auttamaan kouluturvallisuuden kehittämistä niin Suomessa kuin ulkomailla. Lisäksi taustassa määritellään termit joita opinnäytetyössä käytetään ja määritelmät Plan-Do-Check-Act mallille ja riski matriisille, joita käytetään lopullisessa tuotteessa.

Työkalun kehittämisen tueksi tehtiin lyhyt kysely, jotta löydettäisiin tietoa siitä kuinka turvallisuutta hallitaan nykyään kouluissa ympäri Suomea. Kysely ei tuottanut kovinkaan monta vastausta, mutta jopa pienellä määrällä vastauksia sai kuvan siitä, kuinka turvallisuutta hallitaan kouluissa ja millaiseksi koulut kokevat oman turvallisuuskulttuurinsa.

Opinnäytetyön alussa työn painopiste oli hieman epäselvä, mutta idea työkalusta kouluturvallisuuden parantamiseksi nousi esiin tapaamisessa rehtorin kanssa. Pääasiaksi työkalun kehittämisessä muodostui kuinka Plan-Do-Check-Act mallia voidaan hyödyntää kouluturvallisuudessa ja koota parhaat keinot yhteen yksinkertaiseen ja helppokäyttöiseen työkaluun. Työkalu rakentuu muutaman taulukon ympärille jotka auttavat koulussa tehtyjen toimenpiteiden seurantaa. Yksi työkalun pääominaisuuksista on muokattavuus koulun omien tarpeiden ja kiinnostuksen kohteiden mukaan.

Turvallisuuden Lukujärjestys -työkalu annetaan asiakaskoululle keväällä 2017 ja se tulee käyttöön syksyllä 2017. Työkalun käytön tuomat tulokset nähdään vasta kun työkalun käyttö on toteutunut.

Turvallisuus, Turvallisuuden hallinta, Riskienhallinta, Turvallisuuskulttuuri

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1 Introduction

There are many laws in Finland that govern the area of basic education and safety and security in it. These are for example: The Basic education law, healthcare law, rescue law, and occupational safety law, just to mention a few. When organizing basic education, one of the basic foundations is guaranteeing safety of students and employees in any situation. (Ministry of Interior 2012)

Safety belongs to everybody. It is a basic right to every child, teen and adult. The adults are responsible for making sure that every child, pupil and student has a learning environment where they can grow, develop and study safely. Maintaining the safety culture in an organization, in this case a school, requires concrete actions: keeping the organization's safety documents updated, introducing new employees to the safety measures of the organization, organizing safety trainings for the employees, and making sure that the people responsible for safety are doing continuous monitoring of safety and holding organization trains for cases of accidents, such as fire drills. (National board of Education 2012)

The Finnish basic education law states clearly that everyone who is participating in education has the right to a safe learning environment. The law also states that the organizer of the education is responsible for making a plan to protect the students from violence, bullying and harassment. The organizer is also responsible for executing the plan and monitoring that it is being obeyed and implemented. As the organizer of the education has this responsibility, it can be said that the responsibility lies with the individual principals of the individual schools. (Basic Education Act 628/1998)

Keeping track of all of the plans, planned trainings and education in the field of security and safety can be a hard thing to do. Because of this, the aim of this thesis is to provide possible tools for principals to help them to keep track of the responsibilities and actions during the school year. The topic and the need for these kinds of tools came from the client school itself. There were not any tools or management system implemented in the school when the work process started. At first the scope of this thesis was to make a thorough analysis of the situation of client schools safety and safety management. Later the scope changed as it would be more beneficial for the school to have a real product that they can later use on their own. The final product of this thesis is the Safety Timetable tool which is given to the client school. Thesis does not do any kind of follow up on how the tool works on practice. Usefulness of the product can be really seen only after when it is implemented. This thesis is done as a functional study and development project in cooperation with the Comprehensive School of Puumala.

2 Theoretical framework

According to Blyth (2008, 1) not a single organization can fully prevent all crises from occurring, but everyone can take actions to lower the odds of crises happening and also mitigate the negative effects the particular crises might have. For this reason, this thesis is done as a functional study to provide possible tools for schools to use in their efforts to mitigate their risks.

As this thesis is done as a functional study and development project, according to Vilkka & Airaksinen (2004, 56-64), when doing a functional, thesis there is no need for doing research and using research methods. Still in this thesis a small questionnaire was done to support the development.

2.1 Definitions

Here are short definitions of the terms used in this thesis according to Oxford advanced Learner's Dictionary of Current English 8th Edition (2010):

Safety –

1. "The state of being safe and protected from danger or harm."
2. "The state of not being dangerous"
3. "A place where you are safe"

Security -

1. "The activities involved in protecting a country, building or person against attack, danger, etc."
2. "Protection against something bad that might happen in the future"
3. "The state of feeling happy and safe from danger or worry"

Risk-

1. "The possibility of something bad happening at some time in the future; a situation that could be dangerous or have a bad result"
2. "A person or thing that is likely to cause problems or danger at some time in the future"

In the Finnish language there is only one word "turvallisuus" that includes the meaning of both safety and security. This is why in this thesis the difference between these two terms has not been distinguished, but the word "safety" is mostly used to refer to both of them.

2.2 Requirements by the Finnish Law

There are many laws that concern the safety and security of a school. These laws and examples presented in this thesis are based on findings from Oppilaitoksen turvallisuusopas 2 (Schools safety guide 2) by Matti Waitinen and the actual acts and degrees.

Basic Education Act 628/1998

The Finnish Basic Education act 29 § (30.12.2013/1267) Right to safe learning environment, states that a pupil who participates in education shall be entitled to a safe learning environment.

Same section in the law says that the provider of the education shall draw up a plan for safeguarding the pupils against violence, bullying and harassment, execute the plan and supervise adherence to it and its implementation. The National Board of Education issues regulations in the core curriculum concerning the formulation of the plan. In the law it is said that the provider of the education shall adopt school rules or issue other regulations to be applied in the school with a view to promote internal order in the school, unhindered learning and the safety and satisfaction of the school community.

The rules and regulations mentioned above may set practical arrangements and proper procedure necessary for safety and satisfaction at school. Regulations may further be issued concerning the handling of school property and staying and moving on the school premises and in the school area.

Occupational Safety and Health Act 738/2002

According to occupational safety and health act (738/2002) the employer and the employees have to in cooperation maintain and improve occupational safety. The employer is obliged to give information about safety, health and other working environment related information about the workplace to the employee. In schools the employees representative is the principal, so most of the obligations described in law lands on principals. “Employers shall design and choose the measures necessary for improving the working conditions as well as decide the extent of the measures and put them into practice.” (Occupational Safety and Health Act, Chapter 2, Section 8)

The employer’s duties also include continuous monitoring of the working environment, the state of the working community and the safety of the work practices. They also need to moni-

tor the impact of the measures put into practice on safety and health at work. Law does not require a certain way of doing the analyzing and it can be chosen by oneself.
(Waitinen 2014)

Occupational Health Care Act 1383/2001 and Government Decree 708/2013

Occupational health care can be used as an expert when analyzing the risks of a school. Occupational health care provides workplace reports which can be then used as a support when analyzing the risks. By workplace report is meant a report about recognizing and analyzing risks of work, working environment and working community, and propositions about improving the working environment, mitigating the known health risks and maintaining working capabilities. (Waitinen 2014)

Health Care Act 1326/2010

According to the health care act, local authorities are required to have school-based health care. The school health services include: "1) triennial checks on the health and safety of school environments and welfare promotion among learning communities; 2) annual checks on the growth and development of pupils and health and welfare promotion; 3) support for the parents and guardians of the pupils; 4) oral health care for pupils, including oral health checks on at least three occasions and according to individual needs; 5) early identification and support for any special needs and tests required by pupils, cooperation with other pupil welfare organizations to help chronically ill children manage their conditions, and, if necessary, referral to further tests and treatment; and 6) any specialized tests required for diagnosing medical conditions in pupils" (Health Care Act Chapter 2 section 16). So in this act the main thing regarding the safety of schools is the first part which requires the triennial checks on the health and safety of school environments.

Government Decree 338/2011

Government Decree 338/2011 on maternity and child health clinic services, school and student health services and preventive oral health services for children and youth clarifies that the school's communities and learning environments safety and health has to be checked in cooperation between the school and its students or pupils, school health services, health inspector, employees occupational health care, and other experts. Repairing of the flaws found in the checks has to be followed annually. (Waitinen 2014)

Rescue act 379/2011

The Rescue act handles the prevention of fires and other accidents, rescue actions and civil defense. Rescue act demands that an emergency plan is drawn up by the occupant of the building; in this case the school and the principal. The plan should contain details of: “1) the conclusions on the assessments of the dangers and risks; 2) the safety arrangements of the building and the facilities used for the operations carried out in the building or at the site; 3) the instructions for building residents and other persons on how to prevent accidents and what action to take in case of accidents and dangerous situations; 4) any other measures related to self-preparedness at the site.” (Rescue act, Chapter 3, Section 15)

One of the main aims of the emergency plan is to guarantee safety of the people in all situations. Owner and the operator of the building has to take care that all the exits and routes leading to them are kept accessible and free. It is not allowed to store anything on the routes to exits, or routes in attics, basements and storages. From the year 2013 rescue departments have begun to monitor intensively that schools practice evacuation twice a year and also taking cover inside in the set periods of time. (Waitinen 2014)

Health protection act 763/1994

The Health protection act (Unofficial translation) says that health protection officials can inspect for example if the air inside and temperatures in schools are healthy when considering the students. (Waitinen 2014)

Other acts

In addition to all of the laws and acts presented above, there are also two laws that have little impact on the school world. These are Communicable Diseases Act 583/1986 and Young Workers' Act 998/1993. The first one is applicable when students are travelling abroad but also in school cafeterias. The second one is applicable to workers of under the age of 18 in such work that is not paid but where Occupational Safety and Health Act 738/2002 is applied. These are for example the TET-trainings in school. (Waitinen 2014)

2.3 Research by Finnish ministries

The Ministry of Interior and the Ministry of Education and Culture have done some research related to school safety. The Ministry of Interior has done two reports: Perusopetuksen turvallisuuskortti, Basic education safety card in 2009, and Turvallisuus perusopetuksessa, Safety in

basic education in 2012. The Ministry of Education and Culture has done a report in 2015: Oppilaitosrakennusten turvallisuus, Safety of School buildings.

Basic education safety card-report

The Basic education safety card-report handles so called safety card which every comprehensive school pupil does as a part of their basic education. The card gives the skills and knowledge required to evaluate risks in everyday life and how to act in accident situations. The main purpose of the report is to analyze the state of safety education in basic education, the needs for improvements and to give a suggestion for follow-up works. The report describes the statistics behind the safety situation of children and teens, how the safety education is fulfilled in the basic education and what are the challenges in it. The report also examines other projects which include improving children's and teen's safety. The work group states that the basics of curriculum give a good starting point for safety education. Still the difference in safety education is huge between different schools. The group says that safety should not be an individual subject in school, but it should be part of schools operations, everyday actions and subjects in a natural way. Improvements required according to the report are that teachers should be trained so that they are able to include parts of safety education as a part of their subjects, and there should be local cooperation between schools, homes, officials and other organizations to further improve safety education, learning environment and school road safety. Finally the work group concludes that the safety education in schools should give the basic knowledge and skills about safety in everyday life. They do not see the card model as an appropriate model in the school world and they state that it might result in mechanical performance and not in actual learning. (Ministry of Interior 2009)

Safety in basic education-report

The same group that did the Basic education safety card-report continued their research in the Safety in basic education-report. The group says that the enhancing of the safety of basic education should be seen as a big picture. Enhancing safety in schools demands taking into account not only safety education but also safe actions, safety culture and safety leading. The schools should consider the safety point of view in different operations the school has. They should set goals, plan, implement and monitor safety the same ways as any other school's operation. The basics of curriculum have specifications on how school safety can be influenced by good working culture and common support from studying. In the report, school safety is inspected form different point of views. These are for example the safety education and training in basic education and the self preparedness of the schools, defined in the Rescue act. The report also describes what actions Finnish national agency for education has taken to give support to the schools in these matters. The group concludes that safety education

in basic education should be enhanced under the guidance of the Finnish national agency for education and in cooperation between different stakeholders. The goals of the planning should concentrate on creating cooperation and developing network as the training enhancing the safety of the basic education needs cooperation and actions taken between the Finnish national agency for education, many officials, organizations and third parties. (Ministry of Interior 2012)

School building safety-report

In addition to the Ministry of Interior, also the Ministry of Education and Culture has done a report. The work group of the Ministry of Education and Culture compiled a report about the Safety of School buildings. Their main goal was to enhance safety of school buildings. The mission was to continue the work done by a group from Ministry of Interior who had done a previous report about Safety of School buildings in 2009. The work group has analyzed the safety of school buildings from school shooting, accessibility, safeguarding, exit safety and other enhancing point of views. The work group has given recommendations for example in the following areas: the shape and size of school buildings, location and organization of lot, school premises and their organization, solid furnishings, markings and signs, technical safety arrangements, locking and access control, enhancing fire and rescue safety. (The Ministry of Education and Culture 2015)

2.4 Other research and publications in Finland

There are some research, publications and guides done about the school safety in Finland. There are for example the guides Oppilaitoksen turvallisuusopas 1 and 2, (Schools safety guides 1 and 2) Turvallisuuskävely – Varautumisen oppeja kokemalla (Safety walk - Preparedness knowledge by experiencing) published by Suomen Palopäällystöliitto (The Finnish Association of Fire Officers), Arjen ennakoiva turvallisuusjohtaminen oppilaitoksissa (Everyday Proactive safety management in schools) and Development and effect analysis of the asteri consultative auditing process – safety and security management in educational institutions by Soili Martikainen. There is also a guide Turvallinen koulupäivä –yhteinen asia (Safe schoolday – a shared matter) for parents made by MLL, Ministry of Interiors police department, and Finnish National Board of Education

Publications from The Finnish Association of Fire Officers

The publications from The Finnish Association of Fire Officers give concrete ideas and guides on how to manage everyday safety in schools. Oppilaitoksen turvallisuus starts from the safety culture in the schools. It tells about how important the safety culture is in schools. It con-

tinues to tell more about the plans required by law and what things should be included in each one. The publications then tell how to prevent and handle fires and how to ensure safety of electric devices, how to act when leaving the building and what to do in surprising situations during the workday. The rest of the guide talks about: coping with violent situations, first aid readiness and anticipation of communicable diseases, vandalism and damages in school, states of emergency and serious disturbances, information security, and in-house control of safety in schools. (Waitinen & Ripatti 2011)

Oppilaitoksen turvallisuus 2 – Turvallisuuskulttuurin kehittäminen (School safety guide - Improving safety culture) goes deeper into safety culture than the first guide. The meaning of the second guide is to open up the concept of safety culture and the ways that can be used to improve schools' safety culture in more beneficial ways. The guide is based on the doctorate thesis of Matti Waitinen. His main research question was: What are the safety culture factors that separate good safety culture schools from weaker safety culture schools? In the guide Waitinen goes through the concepts of safety and security as in Finnish language there is only one word for both of these "Turvallisuus". He then goes through the relationship between organization and safety and security. He then concludes that the concepts of safety and security as a functional goals can be summarized as 1) organization's efforts to prevent accidents or protect from dangers with technical solutions and with rules that guide the employees. 2) Organization's efforts to prevent accidents with recognizing and removing risks beforehand and influencing employees' and organization's knowledge, skills and ways of acting. 3) Organization's efforts to promote welfare and positive changes in the environment with goal-directed, long-term leading and development. (Waitinen 2014)

After the relationship of organization and safety and security he then goes through the meaning of safety and security for the individual. Waitinen then explains the requirements based on the Finnish law which has already been described earlier based on Waitinen's work. The guide then goes deeper into the safety culture concept. According to Waitinen, safety culture is at its simplest way explained as the ways of acting with the matters concerning safety. Safety culture then shapes from the employees' and organization's committed attitude towards safety. He then also presents a variety of other explanations of safety culture, but here we do not go there deeper. Waitinen explains the difference between the good and poor safety culture schools. He says that in schools which have poor safety culture it is common that dangers and risks are being talked and shown interest of only after something has happened or nearly has happened. So these schools are not active in safety matters. Waitinen then explains how employees' safety knowledge, skills, attitude and valuation of safety and the safety management of school affects the schools safety culture. In the end the guide concludes to the self monitoring of schools safety. The guide goes through the basics of the monitoring and then gives examples on how it could be done. (Waitinen 2014)

The third guide from the Finnish Association of Fire Officers is Turvallisuuskävely - Varautumisen oppeja kokemalla (Safety walk - Preparedness knowledge by experiencing). This guide is written by Eelis Tuisku and Sirpa Arvonen. This guide goes thoroughly through the safety walk and what should be included in it. It gives grounds why organizations should organize safety walks and what can be learned from them if they are well organized. This guide does not concentrate only on school world but also on other organizations like corporations. In the guide there are also things to consider specifically in school world. The guide gives questions that can be used while doing the safety walk in the organization. These questions are for example: What things in your own workstation are connected to safety? How would you guide rescue services to your workplace? Do you know where the rescue route is? And the list goes on. The questions and ways presented in this guide are applicable in every safety walk that is organized in every organization. (Tuisku & Arvonen 2006)

Research done by Soili Martikainen

Arjen ennakoiva turvallisuusjohtaminen oppilaitoksissa (Everyday Proactive safety management in schools) is a collection of articles made as a result of Everyday Proactive safety management in schools training in 2014-2015. According to the foreword of the publication, the training was planned and organized by Laurea university of Applied sciences, funded by the national board of education. Main themes of the training were safety management, risk management and continuous improvement. There were also other themes like: legislation, stakeholders, physical safety, safety documentation, safety training, safety communication and the results and measurement of the safety actions. The foreword describes that articles in the publication are based on the development projects made by participants in their own organizations. (Martikainen 2015)

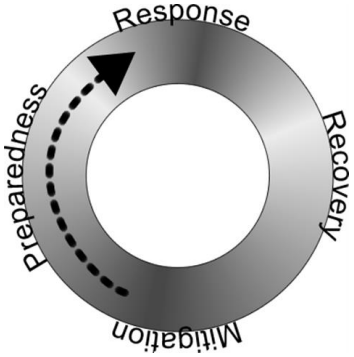
Soili Martikainen also digs into school safety issues in her doctorate thesis: Development and effect analysis of the Asteri consultative auditing process – safety and security management in educational institutions. The objective of her study was to develop a new consultative auditing process, Asteri, which is a comprehensive and risk based Safety and security management for educational institutions. She also studied the effects of Asteri to the auditees. The study's main contribution is the Asteri auditing process. Martikainen states that organizations with low performance levels on the audited subject benefited the most from the auditing process. According to the study's findings, auditing may in some cases generate negative attitudes and when planning auditing, auditor needs to prepare for the negative attitudes. Study also found out that safety and security management in universities of applied sciences was significantly better than in elementary schools. In the study there is concluded that: "It can be assumed that the majority of Finnish UASs and ESs do not likely meet the basic level of the comprehensive, risk based the SSM". (Martikainen 2016)

2.5 Examples of school safety guides in other countries

There are also guides about school safety done abroad. For example in the United States Minnesota's Homeland Security and Emergency Management division has done a Comprehensive School Safety guide. Also the United Nations Office for Disaster Risk Reduction in cooperation with Global Alliance for Disaster Risk Reduction & Resilience in the Educational Sector has done a Comprehensive School Safety framework.

Comprehensive School Safety Guide by The Minnesota's Homeland Security and Emergency Management division

The Minnesota's Homeland Security and Emergency Management divisions Comprehensive School Safety Guide is done to help simplify schools' emergency planning and guide schools' administrators like Principals through the emergency planning process. The Guide has general guidelines which are based on locally, state wide and nationally best practices. The guide also mentions that the procedures done should be customized to fit each specific school building sites and correspond with the local emergency response procedures. The Comprehensive School Safety Guide is organized into four main sections. These sections are Prevention/Mitigation, Preparedness/Planning, Response and Recovery. The guide uses a similar picture as PDCA model, introduced later in this thesis, to illustrate the framework of the emergency planning.



Picture 1 A Framework for Emergency Planning (Minnesota's Homeland Security and Emergency Management division, 2014)

The guide then goes through the Prevention/Mitigation section. That section tells about Safe School Assessments where school assesses possible risks and threats by itself. A checklist for doing the assessments is provided. The threat part in the guide is very heavily based on a threat of violence done by students in school.

Preparedness/Planning section describes the developing of school's emergency plan, deciding what kinds of actions are needed to be taken in an emergency and determining who will be responsible for them. So this section requires coordination between school districts, individual schools and the community. The guide emphasizes the fact that an important part of emergency planning is to familiarize all students and staff with the emergency procedures through drills and exercises, as people rely on instinct and training when in emergency situations. If everyone in school is familiar with the plans and procedures, response becomes streamlined

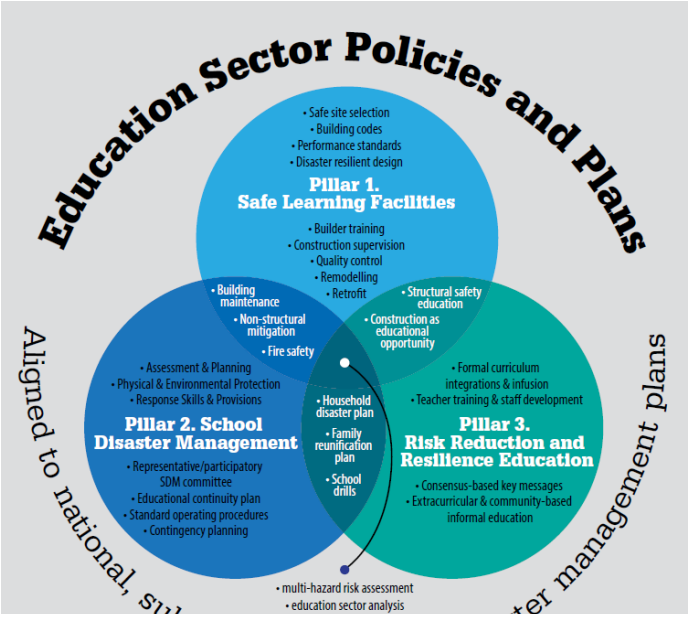
and more effective. The guide introduces School's response teams which respond to different incidents and are responsible for solving the incident on site. The guide tells that the Minnesota state law requires schools to conduct five fire drills, five lockdown drills, one tornado drill and one bus evacuation drill each year.

The response section describes the process of implementing appropriate actions in an emergency situation. The guide tells about universal procedures which are actions taken in response to any emergency, hazard or threat in school. These universal procedures are: lockdown, shelter-in-place, reverse evacuation, severe weather shelter area, evacuation/relocation and reunification. When an emergency takes place, the school's administrators need to evaluate the situation and decide whether the conditions are more dangerous outside or inside the school and then decide the most suitable response. The guide then goes through each universal procedure more deeply and how to use each of them in different kinds of situations.

The final section, Recovery, explains that the goal of recovery is to restore the learning environment as soon as possible after a school disaster or traumatic event. This starts as soon as the response phase has ended. The recovery has four main components which are: emotional, academic, physical/structural and business/fiscal. When doing the recovery planning all parts need to be addressed. Depending on the circumstances of the event, the recovery can be short-term or long-term. In the end of the guide is a collection of Minnesota Laws on School safety and in the appendices are the assessment checklists. (Minnesota's Homeland Security and Emergency Management division, 2014)

Comprehensive School Safety by UNISDR and Global Alliance for Disaster Risk Reduction & Resilience in the Educational Sector

Comprehensive School Safety from United Nations Office for Disaster Risk Reduction and Global Alliance for Disaster Risk Reduction & Resilience in the Educational Sector is a small framework for comprehensive school safety in crisis areas. Their defined goals of comprehensive school safety are: "To protect learners and education



Picture 2 Education Sector Policies and Plans (UNISDR, 2014)

workers from death, injury, and harm in schools. To plan for educational continuity in the face of all expected hazards and threats. To safeguard education sector investments" and "To Strengthen risk reduction and resilience through education." This guide states that comprehensive school safety is addressed by education policy and practices aligned with disaster management at national, regional, district and local school site levels. The Comprehensive School safety has three pillars. These are 1) Safe Learning facilities 2) School Disaster management 3) Risk reduction and resilience education. The guide summarizes the pillars as seen in picture 2. (United Nations Office for Disaster Risk Reduction, Global Alliance for Disaster Risk Reduction & Resilience in the Educational Sector, 2014)

2.6 Plan-Do-Check-Act

This thesis work is mostly based on the PDCA-model which is an abbreviation from Plan-Do-Check-Act. Sometimes the model is called the PDSA-Model (Plan-Do-Study-Act) or the Deming Cycle, but in this thesis the abbreviation PDCA is used. According to Paul Arveson from Balanced Scorecard institute (1998) PDCA was firstly introduced by W. Edwards Deming in the 1950's. W. Edwards Deming recommended that business processes should be based on continuous feedback loop that allows managers to identify and change the parts that need improvements. He created a diagram (figure 1) in which he illustrated this continuous process. (Arveson, 1998)

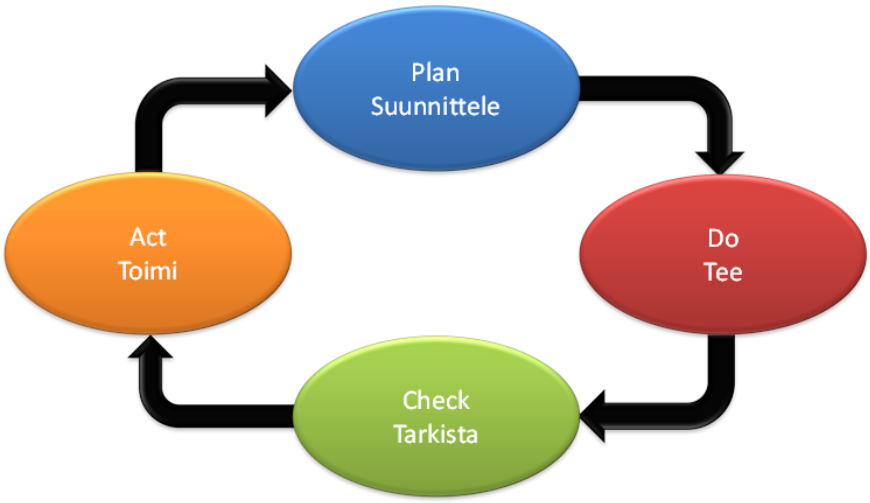


Figure 1 Example of the PDCA-model

Plan-

1. "Design or Revise business process components to improve results" (Arveson, 1998)

2. “The Cycle begins with the Plan step. This involves identifying a goal or purpose, formulating a theory, defining success metrics and putting a plan into action” (The W. Edwards Deming Institute, 2016)

Do-

1. “Implement the plan and measure its performance” (Arveson, 1998)

2. “The do step, in which the components of the plan are implemented, such as making a product.” (The W. Edwards Deming Institute, 2016)

Check/Study-

1. “Assess the measurements and report the results to decision makers” (Arveson, 1998)

2. “The Study step, where outcomes are monitored to test the validity of the plan for signs of progress and success, or problems and areas for improvement.” (The W. Edwards Deming Institute, 2016)

Act-

1. “Decide on changes needed to improve the process” (Arveson, 1998)

2. “The Act step closes the cycle, integrating the learning generated by the entire process, which can be used to adjust the goal, change methods or even reformulate a theory altogether.” (The W. Edwards Deming Institute, 2016)

2.7 Risk Matrix

The Risk Matrix is, according to Business Dictionary, a table which is used in risk analysis. In the table the rows show the risks and the columns show their likelihood of occurrence and their impact. The table is usually divided into 3x3 or 5x5 matrix, depending on how detailed analysis the maker needs to do. Each of the likelihoods and each of the impact gets their own numerical value. These values are then multiplied with each other and that gives the value for the risk itself. So the Risk rating = Likelihood x Impact

Likelihood	Impact		
	Low (1)	Moderate (2)	High (3)
Inprobable(1)	Neglible risk(1)	Low risk (2)	Medium risk (3)
Occasional (2)	Low risk (2)	Medium risk (4)	High risk (6)
Frequent (3)	Medium risk (3)	High risk (6)	Catastrophic risk(9)

Table 1 Example of Risk Matrix

Merna & Al-Thani (2008, 74) clarifies that risk matrix is used to differentiate high-impact risks from low-impact risks. Merna & Al-Thani (2008, 74) also tell that the risk matrix qualifies the likelihood and the impact of a particular risk, and is usually used in risk management work-shops where risks are identified and then analyzed. This is the reason why risk matrix is cho-sen as one of the tools used as a part of Safety Timetable.

3 Work process and methodology

The work process started in September 2016 by contacting the Principal of the Comprehensive school of Puumala and asking if they would have safety related problems. With a few emails and with a personal meeting in October 2016 we came up with a plan to do a tool which helps the school to manage their safety easier and to see their own progress. The idea of the Safety timetable came up. The first idea was to make a timetable of the year from the schools per-spective and to add there things which need to be done in what time of the year. The idea was based on the problem that there are so many different plans in different folders and places that one simple way to look everything in one glance was needed.

The personal meeting gave the frames for the work. In the meeting when brainstorming ideas for the timetable, topics which came up were for example periodization of trainings and events, safety walks, how there could be different kinds of safety walks, how to document the findings from the safety walks, what are the reactions to the findings, what kind of train-ings are done for the employees or students, and could there be more and different kinds of trainings. In the end of the meeting three themes arose: proactive, training and follow up. From these words it was clear that the most suitable method for this kind of a tool is the PDCA-model.

In addition to the first personal meeting and emails with the principal, the subject was also discussed with thesis supervisor and also when needed through emails with the principal. These discussions gave more flesh around the bones and the real idea what the principal needs and what kind of ideas and parts would be good to be implemented in the Safety Time-table.

The most important documents on which the safety timetable is based on are the safety plan, rescue plan and crisis plan of the client school. The main idea of the safety timetable document is to provide a tool for the PDCA-cycle's check and act parts. When reading through different kinds of background literature and guides on school safety the best ideas were picked from each one. Into the document were collected the Fault table, danger and close call cards, understanding table and the actual Safety Timetable. These parts will be introduced deeper later on in this thesis. When all these parts are combined, they form the Safety Timetable system which allows principals to keep track of the school's safety management easier. When most of the ideas and tools were combined into one clear document, a new meeting was scheduled with the principal in March. In the meeting the principal was satisfied with the product so far and the document started to finalize.

The main scope of the thesis is to provide a tool for one school. To support the development of the safety timetable a short questionnaire was made for principals around Finland. The main point of the questionnaire was to find out if schools and their principals are using a tool to keep up with their safety development. The questionnaire was sent to a bit over 100 schools but answers were scarce. Eleven arrived answers gave a small picture of how safety in schools is done in the current state. As the main point of this thesis is to provide a tool for one school, the number of respondents to the questionnaire is not so relevant as they are only used to provide a comparing point.

3.1 Results of the questionnaire

The questionnaire was first sent out on 7th of February and was open until 21st of February, but in that time there were no answers, so questionnaire was continued until 3rd of March. Even then it seemed that there would not be any answers and the questionnaire was continued until 10th of March.

In the first question was asked how often the school's rescue plan, crisis plan and similar are updated. In this question all of the responded said once a year, so the updating is done very well in schools. The main point of this question was to find out if the schools are updating their plans and how often this is, or are they forgetting the plans all together when they are done the first time. Luckily it seems that Finnish schools are keeping up with the continuous planning very well.

The second question intended to get knowledge about whether or not the schools actually exercise the actions stated in their plans. In this case most of the schools (91%) organize exercises at least once a year as can be seen in figure 2. 27% of respondents said that their school organizes exercises once a year. This is a good thing, but as Matti Waitinen and Erkki

Ripatti state in Oppilaitoksen turvallisuusopas, high quality safety culture needs exit exercise twice a year. This is done in 37% of the respondent schools. Then there is the 27% of schools which organize exercises two to three times a year. Here it can be assumed that they have twice a year exiting exercise and one extra exercise which is a very good thing for the safety culture. But then there is the 9% which has not done an exercise for a while. This is a bad thing if something would really happen and people do not know or remember the actions needed.

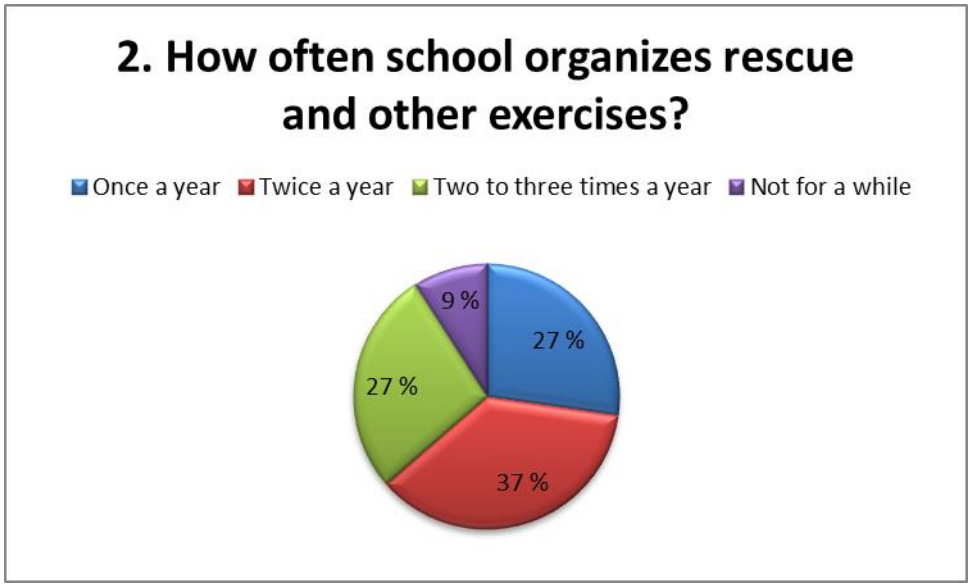


Figure 2 How often school organizes rescue and other exercises?

In the third question was handled what kind of exercises are organized in schools. There are a bit different kind of exercises organized for students and employees. Teachers have safety walks, emergency first aid trainings or fire-extinguishing training. Teachers also recap safety guides every year, some schools require that at least 2 teachers have a valid EA1 (First Aid 1) training. Some of the schools provide the training for the teachers; a few schools have done safety trainings in cooperation with the rescue department.

In addition to the trainings for teachers the students also get a wide variety of trainings. There are for example safety day full of different kinds of functional trainings, conversations between teachers and students about how to act safely in live or internet world, some schools have done first aid trainings in cooperation with SPR (Finnish Red Cross) and also with small students training how to call to emergency number 112. Some schools have also safety themed weeks or days. These can be connected to for example the NouHätä –campaign.

The third question also covers trainings that are common for both groups. As said already before, many schools organize safety walks to teachers. However, some schools do safety walks

also with students. Then there are evacuation exercises and covering inside exercise. Some schools organize a small lecture about safety in school for students and teachers in the beginning of each study year.

The fourth question asked how schools plan their exercises. Most schools answered that a person or a team in charge of safety and rescue plans the exercises. The person is usually principal or some other person who is defined as being in charge. Some schools plan some of the exercises in cooperation with the rescue department, if possible. In some cases schools have a basic model for the exercises, which is then recapped before the exercise and decided if it needs improvements or changes in that situation. Most answers were that the planning is done in a team of teachers and that there is one person, usually the principal, in charge of the planning.

The fifth question in the questionnaire asked if schools have cooperation with the officials (rescue department, police) when doing their trainings. 64% of the respondents answered that they have cooperation with some officials, mainly with the rescue department. The 64% can be divided into 55% who have cooperation only with rescue department and 9% who have cooperation with other officials like police as well. The remaining 36% does not have any cooperation with officials. So there still are 36% of schools that could improve their safety management by doing cooperation with the local rescue departments.

Figure 3 Do you have cooperation with officials when doing trainings?

The sixth question asked how close call situations are brought into knowledge of the responsible person in school. Most schools use system where the adult (teacher) notifies the principal, or other person in charge. This is done either by an oral notification, an online notification or by a written notification. The main thing in this question was to find out how the knowledge

is given to the person in charge and is there a clear way to give the information. Every answer gave good examples on how the information is given to the person in charge.

In the seventh question was asked how schools react to the risks, which are found for example by the close calls, safety walks or other observations. Some schools' people responsible for safety check the situation or place and act according to the situation. Other schools do yearly risk mapping and then fix the risks and when needed, update the schools safety guides. Some schools try to react as fast as possible to change dangerous practices, adding more supervision or giving better guidance for students and teachers alike.

The risks in one school are usually noted when doing risk mapping and safety and crisis plans. These risks are taken seriously. If risks are such that the officials are needed, the information is taken forward to them. The school that answered the last things said also that when doing preventive work for risks everyone in the school, students, teachers and other employees are responsible for the school environment's safety. In some schools the risks are talked through in group and the best ways to minimize or remove the risks are figured out. If the risks are new and there are no guides on how to handle them, the guide is added into plans.

The eighth question asked how the school follows the development of the school's safety, safety culture and implementation of plans, and if the school has some kind of a tool to help them in the follow up. Most of the schools answered that they do the follow up by doing risk mapping and updating the rescue plan yearly. Some schools said that it could be done better and the rescue plan tends to be forgotten. Most of the schools do not have any tools to help their planning, as can be seen in figure 4. Some of them use online based occupational safety and health toolbox when keeping up with their schools safety.

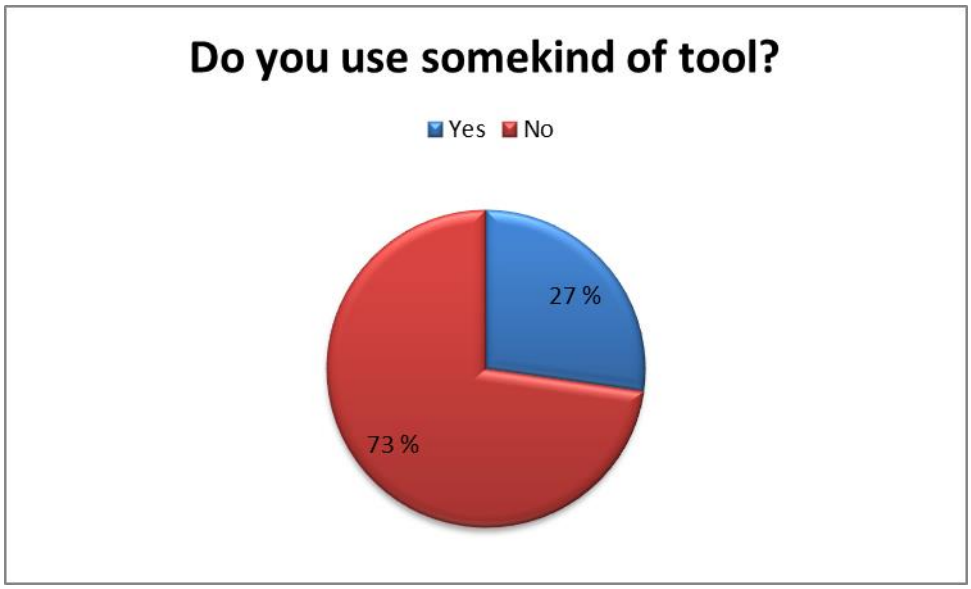


Figure 4 Do you use some kind of tool?

73% of the schools do not use any tools to help the person in charge to keep up with the risk and safety management in school. This means that the schools either do not have knowledge about possible tools, or they just do not use them. And as said some of the schools use the occupational safety and health toolbox but it takes only into account the occupational hazards towards the teachers. It has to be remembered that in school there are also the students. One school mentioned that they use the TUTOR management system by Keski-Uudenmaan Pelastuslaitos.

In the last question was asked how respondents would describe their school's safety culture. Most of the respondents described it as good or very good, as can be seen in figure 5. Some say that they avoid taking unnecessary risks and the planning is done thoroughly in advance. Others say that the safety culture is at good level and employees acknowledge the importance of safety and are interested to improve their school's safety. However, students might not always see the safety side of things and do not value thinking ahead of things and preparation.

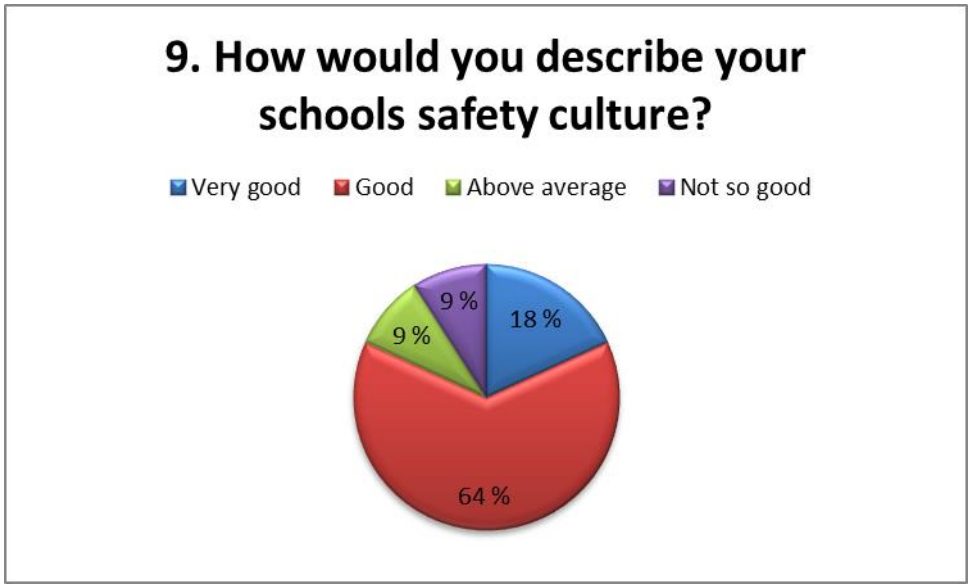


Figure 5 How would you describe your schools safety culture?

9% of the respondents said that the safety culture in their school is not so good. There might be many reasons for that, but something should definitely be done to get the culture at least to good level. Also 9% said that their safety culture is on an above average level. Just like in the previous level, something could be done to get the level at least up to good. When not so good, above average and good levels are put together, the result is 82%. It would be great to get all of these schools up to the very good level. Then all schools could have better safety culture and be better prepared to different kinds of risks.

3.2 Analysis of the questionnaire

Even though the answers were so small in numbers they still gave a picture about how safety is managed in schools in Finland. There are many things that schools do well, like organize their trainings and update their plans, but in some cases it feels like schools think that they do these plans and preparations for someone else, for example the officials. The mindset should be turned around so that they would do the safety management only for themselves. This way if the unimaginable accidents happen they can react to those accordingly. The answers also revealed that in many cases there is a possibility to enhance cooperation between schools and other organizations like the officials and nonprofit organizations.

The one key questions of the questionnaire was if schools use any kind of tool to help their safety management. Almost three quarters responded that they do not use any tools. Compared to this, around the same amount of respondents said that they feel that their schools safety culture is good or not so good. So if they used a tool to help them manage safety, could this feeling about their school's safety culture rise to at least above average? Or is the case that schools that use tools already have better safety culture and therefore use the tools to enhance their safety even more? On the other hand, it still might be that there is not a possibility for schools to acquire knowledge about possible tools to help them in safety management. In the end, the result that only one quarter uses a tool or tools to help them, indicates the need for a tool for managing safety in school environment.

4 Safety Timetable system

The actual product for the client school was the Safety Timetable and a small guide on how the school can improve its safety management on its own. The need for the tool arises from the many responsibilities of the principal regarding the schools safety. The main idea of the Safety Timetable was to compile useful tools and ideas into one clear and easy to understand tool that is easy to use as well. As the questionnaire revealed, many schools do the law required plans and update them yearly but not much more. In addition to this, there were only a few schools that used a tool to help them improve their school's safety even more.

Compiling the Safety Timetable started with looking through the school's rescue and safety plans. The first chapters of the Safety Timetable focus on what kind of information should be in these plans and in which parts. These chapters are brief and concise and only to give ideas about what kind of information could be added there. The whole Safety Timetable is based on the PDCA-cycle. The main focus of the Safety Timetable focuses on the last two phases, Check and Act. This is because schools need to have the plans already in place and implemented and the idea is to improve the schools safety even further. The tools that are includ-

ed in the Safety Timetable system are Understanding table, Danger and Close Call cards, Fault table, Risk Matrix and the actual Safety Timetable.

4.1.1 Understanding table

The Understanding Table, which was already in use in the school, is used to manage the reading and understanding of the rescue and safety plans. Before the school year starts, the names of every employee who needs to familiarize with the plans is written on to the list by computer and then the list is printed out. Printed name part was not used in the school and idea of that became during the development process. The list includes parts for date and the signature of the employee, as can be seen in the example in table 2. The idea is that the principal knows before the school year starts which of the employees need to know the safety related materials, mainly the teachers, so when the names are added already in the list, it is easier to keep up with the people who have read the materials and more importantly, those that have not read them. This way the principal can easily see and act if someone has not familiarized themselves with the safety materials.

Name of the employee	Date	Signature
Doe John	xx.xx.20xx	*John Doe*
Doe Jane		

Table 2 Example of Understanding Table

4.1.2 Danger and close call cards

The Danger and Close Call cards, which are given as an example by Opetushallitus (2012), are used to get the knowledge about possible risks to the principal. The idea is: when an employee or a student notices something that is a danger or there has been a close call situation, they fill the card and provide it to the principal. The written card is used because if people just say things straight to the principal, the things might be forgotten if they are not written down or reacted on immediately. Also, when leaving the card, there is a possibility to leave it anonymously. This is done because people tend not to inform close call situations especially if they are caused by themselves. The main thing should be to encourage people to inform the principal about the possible risks as then the risks can be mitigated when they are known. The risks that are gathered with these cards are then collected into the Fault Table.

4.1.3 Fault table

The Fault Table is, as the name suggests, a table about faults that have been recognized. The Fault Table is a further development of an existing table which was in use in the school. The previous table was only used to inform principal on findings in the plans. Now this table is also used to track all the risks and faults in the school. Table includes the following parts: Fault, Noticing date, Level of Risk, Objective date for the fixing of the fault, Actual fixing date. This table is meant to be filled by computer as it might get so many faults that it would be hard to fill it by hand on a printed version. The discovered fault is written down as specifically as possible. This ensures that when eliminating the fault it is easier to pinpoint the exact location of the fault. The Noticing date is naturally the date when the fault was noticed. The Level of risk is evaluated with the Risk Matrix, described in the theoretical background. The Objective day for the fixing of the fault is defined as the last day that the fault needs to be fixed on. This can be a certain date or written qualifier such as a week from the noticing date. The Fixing date is added on the table when the fault has been fixed. This is done so that the principal can react to faults that have not been fixed before the objective date.

4.1.4 Safety Timetable

The main part of the Safety Timetable system is the Safety Timetable itself. The table itself was developed during the thesis project. It should be done individually in each school and for each school year. The main reason for doing the Safety Timetable is to provide one clear document which includes all the plan updating, trainings, events and other things that require thinking from the safety point of view. These can be for example updating the rescue plan, first aid training for staff, safety walks for staff and students, exit exercises, and Christmas and spring ceremonies. The idea is to be as unambiguous and clear as possible. It includes information of when, what, for whom, who is responsible, other notes (External organizer, a lot of quests etc.) and one column to check if it is done already. Events that are put into the safety timetable can be analyzed with the risk matrix and then given a color according to the possible risks. In the example table 3, Christmas and spring ceremonies are categorized as high risk events as there are so many people attending, and therefore they have been marked with yellow. The possible additional trainings schools can decide for themselves based on their own needs. These trainings can be for example First aid courses, action in emergencies, fire safety etc.

Date/Month	Training/Updating/Event	For whom	Responsible person	Other notes	Done?
Whole school year	Keeping eye on risks	School	Everyone		
June-August	Updating safety, risk and crisis plans	School/Officials	Principal		
December	Christmas ceremony	Students, staff and relatives	Principal	A lot of quests	
March	Possible training, (First aid for example)	Staff	Principal		
May	Spring ceremony	Students, staff and relatives	Principal	A lot of quests	

Table 3 Example of Safety Timetable

5 Discussion

Results of the questionnaire show that in many schools attitude towards safety is good and there is a will to do plans and trainings for staff and students. However, there are also a few schools that might need a better attitude towards the school's safety management. One possible reason for the difference in attitudes could be explained with the location and size of the schools. Larger schools in larger cities have better resources and can then have better knowledge of possible ways to manage safety. A good example of this is the TUTOR management system which is developed by Keski-Uusimaan Pelastuslaitos, and according to the questionnaire is used in schools in Uusimaa. As the management system is developed in Uusimaa, schools for example in eastern Finland might not even know about the system.

As already talked in the analysis of the questionnaire, almost three quarters responded that they do not use any tools and on the other hand, around the same amount of respondents said that they feel that their school's safety culture is only good or not so good. It is hard to say if using a tool would have the effect of raising the school's safety culture feeling to at least above average or is the not using a tool a result of the not so good safety culture. This question could possibly be analyzed later in another research.

This Thesis had a few limitations as the product is done specifically to one client and it was discussed in the meetings that it would be best to do that kind of work for the client so that it does not reveal too much of their current situation in safety management. That is the reason why the work evolved into making a tool for further improving safety in schools. It seems that it was a good idea, as the product of the thesis work can be implemented into any school and then modified with the specific needs of the schools in mind. So the thesis does not actu-

ally help only one school, but it has the potential to be used in many other schools as well. But this requires firstly implementing the usage of the tool into the client school and only then we can really see if the tool actually works. A follow up study of the impacts of using the tool should be conducted.

Another main limitation in the thesis was the questionnaire. The questionnaire was sent to over 100 recipients, but only 11 answers were given. However, this does not matter in this thesis, as the main focus was to provide the tool for the school's usage. The questionnaire was only to give a little background information about how things are done in schools around Finland.

As the client school is located in eastern Finland and the thesis was mainly done in Espoo, the distance gave also a bit of a limitation to the work process, as the face to face meetings with the client were not so easy to organize. Communication was then conducted by emails, and when the meetings were required, the time frame was usually easy to find and the meetings went well.

As school safety is a very wide subject, in this working stage the focus was set in the actual school building and things done in school time. Of course the tool can also be used to analyze for example the school transportation and risks connected to it. This is for the school to decide, what kind of parts of safety management they want to include in the tool.

6 Conclusions

Conclusions include main findings of the questionnaire and the final product. This chapter will also discuss what kind of improvements or changes can be done in the individual schools to make the safety timetable suit the specific needs of each school.

To support this thesis a small questionnaire was done to give knowledge how schools are conducting their safety management nowadays and do they use any tools to help them in the planning and follow up. There were not so many schools that used any kind of tool to help them in the safety management process. A few schools used tools, but most of them were more concerned about occupational health of the employees and did not take the students into account. The results of the questionnaire revealed the need for the development of the Safety Timetable tool.

The main result of this thesis was the Safety Timetable tool, which aims to help the school's principals' work when doing school's safety management. It provides ways to do the follow up of the required actions and other actions taken in school. These are for example the rescue

planning, trainings, exercises and everyday observation of schools premises. The Safety Time-table was done for the client school, as they did not have any kind of a tool to help the, keep track of everything related to safety. The results of using the tool and how usable the tool really is can only be evaluated when the tool is actually put into use in autumn 2017. As already said before, the tool is meant to be easily modified with the needs of the school and is only meant to give a framework for the school on how the safety management can be done with the Plan-Do-Check-Act cycle.

When doing this work it has been great to see and hear that the safety and security matters are thought really well in the client school and there is a will to improve things. It is good to see a school with a strong safety culture. Hopefully this new tool can help developing the safety culture even further.

References

Online sources:

Arveson P. 1998. The Deming Cycle. Accessed 18 January 2017
https://www.balancedscorecard.org/Resources/Articles-White-Papers/The-Deming-Cycle

Business Dictionary. Accessed 19 January 2017
http://www.businessdictionary.com/definition/risk-matrix.html

Minnesota's Homeland Security and Emergency Management division, Comprehensive School Safety Guide 2014
http://www.nfpa.org/~/media/files/public-education/by-topic/occupancies/schools/minnesotaschool-safety-guide.pdf?la=en

Finnish National Board of Education. 2012. Opetustoimen ja varhaiskasvatuksen turvallisuus-opas. Accessed 16.05.2017. http://www.oph.fi/opetustoimen_turvallisuusopas

The W. Edwards Deming Institute, PDSA Cycle, 2016
https://deming.org/management-system/pdsacycle

United Nations Office for Disaster Risk Reduction, Global Alliance for Disaster Risk Reduction & Resilience in the Educational Sector, Comprehensive School Safety 2014
http://gadrrres.net/uploads/files/resources/Comprehensive-School-Safety-Framework-Dec-2014.pdf

Book sources:

Basic Education Act (628/1998). Accessed 16.05.2017.
http://www.finlex.fi/en/laki/kaannokset/1998/en19980628.pdf

Blyth, M. 2008. Risk and Security Management. New Jersey: John Wiley & Sons, Incorporated

Communicable Diseases Act (583/1986). Accessed 16.05.2017.
http://www.finlex.fi/en/laki/kaannokset/1986/en19860583.pdf

Government Decree (338/2011). Accessed 16.05.2017.
http://www.finlex.fi/en/laki/kaannokset/2011/en20110338.pdf

Government Decree (708/2013). Accessed 16.05.2017.
http://www.finlex.fi/en/laki/kaannokset/2013/en20130708.pdf

Health Care Act (1326/2010). Accessed 16.05.2017.
http://www.finlex.fi/en/laki/kaannokset/2010/en20101326.pdf

Health protection act (763/1994). Accessed 16.05.2017.
http://www.finlex.fi/fi/laki/ajantasa/1994/19940763

Martikainen, S. (Edit.) 2015. Arjen ennakoiva turvallisuusjohtaminen oppilaitoksissa. Vantaa: Laurea Publications

Martikainen, S. 2016. Development and effect analysis of the asteri consultative auditing process – safety and security management in educational institutions. Lappeenranta: Lappeenrannan teknillinen yliopisto.

Merna, T. Al-Thani, F. Corporate Risk Management. 2008. New Jersey: John Wiley & Sons, Incorporated

Ministry of Interior. 2009. Perusopetuksen turvallisuuskortti. Helsinki: Sisäasiainministeriö. http://www.intermin.fi/julkaisu/312009?docID=25328

Ministry of Interior. 2012. Turvallisuus perusopetuksessa. Helsinki: Sisäasiainministeriö. http://www.intermin.fi/julkaisu/062012?docID=32942

Occupational Health Care Act (1383/2001). Accessed 16.05.2017. http://www.finlex.fi/en/laki/kaannokset/2001/en20011383.pdf

Occupational Safety and Health Act (738/2002). Accessed 16.05.2017. http://www.finlex.fi/en/laki/kaannokset/2002/en20020738.pdf

Hornby, AS. 2010. Oxford Advanced Learner's dictionary of Current English. 8th edition. Oxford: Oxford university press.

Rescue act (379/2011). Accessed 16.05.2017. http://www.finlex.fi/en/laki/kaannokset/2011/en20110379.pdf

Tuisku, E. Arvonen, S. 2006. Turvallisuuskävely - Varautumisen oppeja kokemalla. Helsinki: Suomen Palopäällystöliitto ry.

Vilkka, H. & Airaksinen, T. 2004. Toiminnallinen Opinnäytetyö. 1.-2. edition. Jyväskylä: Tammi.

Waitinen, M. Ripatti E. 2011 Oppilaitoksen turvallisuusopas. Helsinki: Suomen Palopäällystöliitto ry.

Waitinen, M. 2014 Oppilaitoksen turvallisuusopas 2. Helsinki: Suomen Palopäällystöliitto ry.

Young Workers' Act (998/1993). Accessed 16.05.2017. http://www.finlex.fi/en/laki/kaannokset/1993/en19930998.pdf

Figures

Tables

Appendixes

Appendix 1: Safety Timetable tool in Finnish

Turvallisuuden lukujärjestys

Eetu Summanen

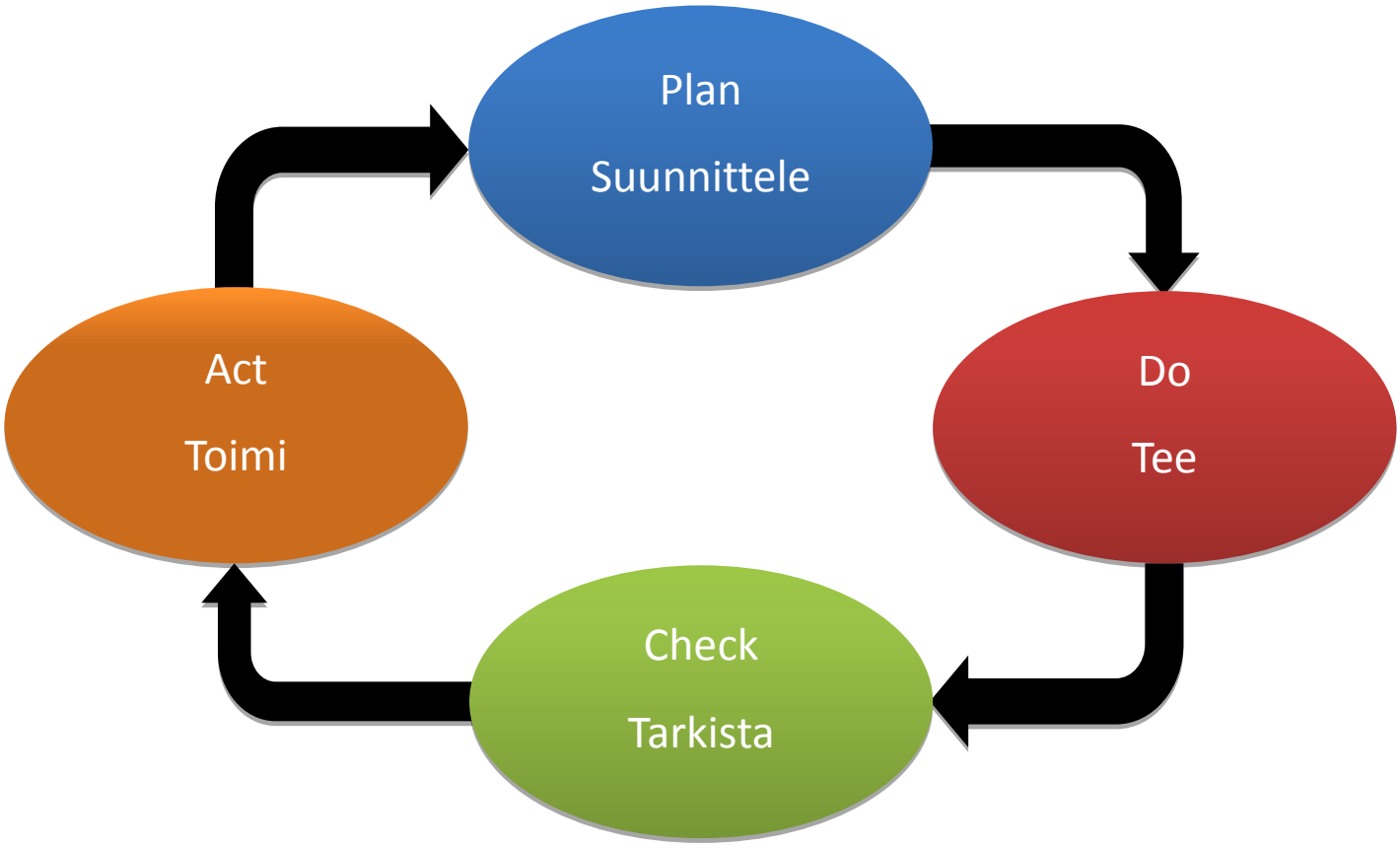
Osa Laurea AMK Opinnäytetyötä

2017

Sisällys

1 Johdanto

Tämän asiakirjan tarkoituksena on koota kouluturvallisuuden parantamiseen ja ylläpitoon vaikuttavat toimenpiteet koulun lukuvuoden aikana yhteen helposti ymmärrettävään ja sovellettavaan lukujärjestykseen sekä oppaaseen jota koulujen Rehtorit pystyvät käyttämään työssään. Työssä käytetään pohjana PDCA-sykliä eli Plan (Suunnittele), Do (Tee), Check (Tarkista) ja Act (Toimi). Tällä dokumentilla siis pyritään helpottamaan Rehtorin lain määrittämiä velvollisuuksia huolehtia koulun turvallisuudesta. Työ pohjaa pääasiassa koulun turvallisuussuunnitelmaan, pelastussuunnitelmaan ja turvakansioon. Pääpainona niiden päivittäminen ja ajan tasalla pitäminen. Työn avulla pyritään myös parantamaan turvallisuuden näkyvyyttä pitkin lukuvuotta täten vahvistamaan koulun turvallisuuskulttuuria sekä työntekijöiden että oppilaiden osalta. Työ on tehty yhteistyössä Puumalan Yhtenäiskoulun kanssa.



2 Kouluturvallisuuden seuranta

Seuranta osioon on koottu välineitä jotka mahdollistavat tehokkaan kouluturvallisuuden itsenäisen kehittämisen ja seurannan.

Ymmärrystaulukko

Taulukkoon kirjataan jokaisen työntekijän jonka tarvitsee tietää ja sisäistää koulun turvakansion sisältö, mainitaan turvakansion päivittämisestä ja pyydetään kyseisiä henkilöitä lukemaan ja kuittaamaan kansion lukeminen. Taulukkoon siis kirjataan koneella suoraan työntekijän nimi ja taulukko tulostetaan turvakansion liitteeksi. Tällöin pystytään varmistumaan, että joka ikinen työntekijä koulussa on lukenut kansion.

Työntekijän nimi (Kirjoitettu valmiiksi tietokoneella)	Päivämäärä	Allekirjoitus
Esimerkki Erkki	*x.x.20XX*	*Erkki Esimerkki*
Meikäläinen Maija		

Esimerkki taulukko

Jos esimerkki taulukko on täytetty kuten edellä, voidaan todeta, että työntekijä Erkki Esimerkki on lukenut kansion tiettynä päivänä mutta Maija Meikäläinen ei ole vielä kansiota tai päivitettyjä kohtia lukenut. Mikäli Maija ei pitkään aikaan ole lukenut ja kuitannut turvakansiota tulee vastuuhenkilön ottaa yhteyttä Maijaan ja mainita asiasta.

Vaarakortti/Läheltä piti-kortti

Mikäli oppilaat tai henkilökunta huomaavat mahdollisia vaaratilanteita tai vaarallisia kohteita täytyy kannustaa heitä kertomaan siitä eteenpäin. Ilmoittamisessa toimii apuna Vaarakortti/Läheltä piti-kortti, johon kirjataan: mikä tilanne tai paikka on vaarallinen, miksi, miten se olisi voitu ehkäistä, mitä olisi voinut tapahtua ja milloin ilmoitus on tehty. Kortti sitten toimitetaan turvallisuuden vastuuhenkilölle, eli rehtorille. Tähän ehdotan pientä postilaatikkoa/laatikkoa rehtorin kanslian läheisyyteen. Kortti kannustetaan jättämään joko nimellä tai nimettömänä.

Vaarakortti

Paikka	Havainto päivämäärä
Tarkempi kuvaus paikasta/ kohteesta	
Mitä seurauksia paikasta voisi seurata?	
Miten tilannetta voi parantaa ja riskiä pienentää?	
Yhteystiedot (Vapaavalintainen)	
Ilmoitus otettu vastaan ja riski analysoitu PVM:	Allekirjoitus

Läheltä piti-Kortti

Työtilanne	Havainto päivämäärä
Paikka	
Vaaratilanne	
Mitä henkilövahinkoja olisi voinut tapahtua?	
Miten vastaava tilanne voidaan ehkäistä tai riskiä pienentää?	
Yhteystiedot (Vapaavalintainen)	
Ilmoitus otettu vastaan ja riski analysoitu PVM:	Allekirjoitus

Vaarakortilla raportoidaan siis vaarallisia paikkoja tai laitteita mitä koulun alueelta löytyy. Esimerkiksi: Jäätyneet portaat, roikkuvat/lojuvat johdot, vialliset laitteet. Ja läheltä piti-kortilla raportoidaan tilanteita joissa olisi voinut käydä huonosti. Tilanne voi sisältää edellä mainittuja paikkoja. Esimerkiksi: Joku meinasi kaatua jäisillä portailla, meinasi kompastua johtoon, sai sähköiskun viallisesta laitteesta. Näillä korteilla saatuja huomioita päivitetään epäkohdat taulukkoon pitkin lukuvuotta.

Epäkohdat taulukko

Taulukkoon kirjataan mahdolliset havaitut turvallisuuteen liittyvät havainnot. Siihen kirjataan kyseinen epäkohta, mahdollisimman tarkasti, milloin kyseinen epäkohta on havaittu, tavoiteaika korjaukselle sekä myöhemmin kun epäkohta on korjattu, kyseinen ajankohta. Korjauspäivän laittamisella varmistutaan siitä, että tiedetään epäkohdan tulleen korjatuksi. Jos Epäkohdan tavoite aika on mennyt, eikä korjauspäivää ole kirjattu tulee aloittaa selvitys, että onko kyseinen epäkohta jo korjattu. Jos korjaus on tehty, lisätään korjauspäivämäärä. Tätä taulukkoa olisi selkein käyttää ja päivittää sähköisesti. Kuitenkin yksi taulukko olisi hyvä olla turvakansion lopussa johon työntekijät voivat laittaa havaintojaan heti luettuaan turvakansion.

Epäkohta	Havaintopäivä	Riskin taso (Arvioidaan seuraavan taulukon avulla)	Tavoite ajankohta epäkohdan korjaamiseksi	Korjauspäivä
Ovi x ei mene lukkoon	X.X.2016		Viimeistään samalla viikolla havainnosta	X.X.2016

Esimerkki taulukko

Riskikartoitustaulukko

Riskikartoitustaulukolla eli riskimatriisilla pystytään arvioimaan havaittujen riskien vakavuudet ja uhkat suunnitelmia varten. Tätä taulukkoa voidaan myös käyttää Epäkohdat taulukon Riskin taso kohdan täyttämistä varten. Taulukkoa voidaan käyttää sekä pienempänä 3x3 tai suurempana 5x5 riippuen kuinka tarkasti halutaan määritellä riskien tasot. Periaatteessa taulukon jokainen kohta saa numero arvon, jonka avulla voidaan laskea riskille oma arvo. 3x3 taulukossa arvot ovat 1-9 ja 5x5 taulukossa 1-25. Toisessa taulukossa on hieman erilaiset todennäköisyyden määritelmät esimerkkinä, että taulukon määritelmiä voidaan muuttaa eri tilanteissa.

Tapahtuman todennäköisyys	Tapahtuman seuraukset / vakavuus		
	Lievästi haitallinen (1)	Haitallinen (2)	Erittäin haitallinen (3)
Hyvin epätodennäköinen (1)	Merkityksetön riski(1)	Vähäinen Riski(2)	Kohtalainen Riski(3)
Epätodennäköinen (2)	Vähäinen riski (2)	Kohtalainen Riski (4)	Merkittävä riski (6)
Todennäköinen (3)	Kohtalainen riski (3)	Merkittävä riski (6)	Sietämätön riski(9)

Esimerkki taulukko 3x3

Tapahtuman todennäköisyys	Tapahtuman seuraukset / vakavuus				
	Merkityksetön (1)	Lievästi haitallinen (2)	Haitallinen (3)	Merkittävästi haitallinen (4)	Erittäin haitallinen (5)
Harvinainen(1)	1	2	3	4	5
Mahdoton (2)	2	4	6	8	10
Mahdollinen(3)	3	6	9	12	15
Odotettu (4)	4	8	12	16	20
Varma (5)	5	10	15	20	25

Riskiarvot

1-2 = Merkityksetön riski 3-4 = Vähäinen Riski 5-9 = Kohtalainen Riski

10-14 = Merkittävä riski 15-25 = Sietämätön riski

Esimerkki taulukko 5x5

3 Turvallisuuden lukujärjestys

Tämän osion tarkoituksena on koota tärkeimmät toimenpiteet koulunturvallisuuden ylläpitoon ja valmistautumiseen yhteen ”Lukujärjestykseen” jota pystytään vertaaman koulun omaan vuosirytmiin ja suhteuttamaan tarvittavia toimia. Lukujärjestyksen avulla tulisi siis pystyä helposti seuraamaan lukuvuosittaista varautumista. Näihin varautumisiin kuuluu esimerkiksi: poistumisharjoitukset, turvallisuuskävelyt, koulutustilaisuudet ja muut harjoitukset. Ideana on koota ennen lukuvuoden alkua tai heti lukuvuoden alussa kaikki mahdolliset lukuvuoden halutut harjoitukset, koulutukset ja asiakirjojen päivitykset kokoon, jotta pystytään tietämään mitä milloinkin tulisi tehdä. Lukujärjestyksen ajatuksena on olla hyvin yksiselitteinen ja selkeä. Siinä on tiedot: Milloin, mikä, kenelle, kuka on vastuussa, onko ulkopuolista järjestäjää ja onko se tehty. Lisätietoja löytyy pelastussuunnitelmasta, kriisisuunnitelmasta, turvallisuussuunnitelmasta tai tästä dokumentista.

Itse turvallisuuden lukujärjestyksen koostaminen toteutetaan moduuleilla. Moduuleilla tässä yhteydessä tarkoitetaan osioita jotka tulevat lukujärjestykseen. Eli edellä mainitut: Milloin, mikä, kenelle, kuka on vastuussa ja onko ulkopuolista järjestäjää. Moduuleista valitaan koulutus/päivitys, milloin se on, kenelle se tehdään, kuka on vastuussa. Jos koulutuksella on ulkopuolinen järjestäjä, se kirjoitetaan lukujärjestykseen. Lisäksi turvallisuuden lukujärjestykseen voi lisätä koulun eri tapahtumat, kuten Joulu- ja kevätjuhlat. Kyseisiin tapahtumiin voi tehdä riskiarviot, kuinka vaarallinen tilaisuus on ja mitä tulisi olla huomioituna kyseiseen tapahtumaan. Lisäksi kyseisen tapahtuman riskin väri voidaan lisätä lukujärjestykseen jolloin osataan ottaa tapahtuman vaativuus huomioon. Esimerkki lukujärjestyksessä on käytetty Joulu- ja kevätjuhlaa merkittävänä riskinä.

Päivämäärä/ Kuukausi	**Koulutus/ Päivitys/ Tapahtuma**	**Kenelle**	**Vastuuhenkilö**	**Muita huomioita**	**Tehty?**
Koko lukuvuosi	Epäkohtien havainnointi	Koulu	Kaikki		
Kesä-Elokuu	Turvallisuussuunnitelman päivitys	Koulu/ Viranomaiset	Rehtori		
Kesä-Elokuu	Pelastussuunnitelman päivitys	Koulu/ Viranomaiset	Rehtori		
Kesä-Elokuu	Kriisisuunnitelman päivitys	Koulu/ Viranomaiset	Rehtori		
Elo-Syyskuu	Suunnitelmien tiedotus	Henkilökunta	Rehtori		
Syyskuu	Poistumisharjoitus	Oppilaat/ Henkilökunta	Apulaisrehtori		
Joulukuu	Joulujuhla	Oppilaat, henkilökunta, läheiset	Rehtori	Paljon vieraita	
Tammi-Helmikuu	Nou Hätä-kampanja/Turvallisuuskävely	Oppilaat/ Henkilökunta	Rehtori/ Apulaisrehtori	Pelastustoimi järjestää	
Maaliskuu	Mahdollinen muu koulutus	Henkilökunta	Rehtori/ Apulaisrehtori		
Toukokuu	Mahdollinen muu koulutus	Oppilaat	Rehtori/ Apulaisrehtori		
Toukokuu	Kevätjuhla	Oppilaat, henkilökunta, läheiset	Rehtori	Paljon vieraita	

Esimerkki Turvallisuuden lukujärjestyksestä

Erilaisia koulutuksia henkilökunnalle voi olla esimerkiksi kuinka kohdata vaarallinen henkilö, kiihtyneen ihmisen turvallinen rauhoittelu, EA1, EA2, alkusammutuskoulutus, toiminta hätätilanteessa, paloturvallisuus. Näitä osioita koulu pystyy lisäämään omaan turvallisuuden lukujärjestykseen oman mielenkiinnon ja tarpeen mukaan. Koulutuksia tarjoavat niin Pelastuslaitokset kuin yksityiset yrityksetkin. Lisäksi yhteistyötä voi tehdä esimerkiksi Suomen Vanhempainliiton, Liikenneturvan, Suomen Pelastusalan Keskusjärjestön, Suomen Palopäällystöliiton ja Suomen Punaisen Ristin kanssa.

4 Turvallisuuden lukujärjestyksen käyttö

Tärkeimpänä työkaluna koulun suunnitelmien ja toiminnan seuraamiseksi toimii turvallisuuden lukujärjestys. Tarkoituksena olisi tehdä siitä mahdollisimman kattava ennen lukuvuoden alkua ja sisällyttää se tulostettuna esimerkiksi turvallisuuskansion kannen sisäpuolelle tai muualle helposti löydettävään paikkaan. Kuitenkin lukujärjestystä voi myös käyttää ja säilyttää sähköisenä jos se on Rehtorille näin helpompaa. Lukujärjestykseen kuuluu kuusi (6) osiota. **Päivämäärä/kuukausi** milloin koulutus/Päivitys/Tapahtuma täytyy tehdä tai se tapahtuu. **Koulutus/Päivitys/Tapahtuma** mikä koulutus, minkä asiakirjan päivitys tai koulun tapahtuma on kyseessä. **Kenelle,** ketkä tulevat osallistumaan kyseessä olevaan koulutukseen, päivitykseen tai tapahtumaan. **Vastuuhenkilö,** kuka on kyseisen koulutuksen, päivityksen tai tapahtuman vastuuhenkilö koulun henkilökunnasta. **Ulkopuolinen järjestäjä**, jos koulutuksella on ulkopuolinen järjestäjä, se mainitaan ja lisäksi mainitaan järjestäjän yhteystiedot/vastuuhenkilö. **Tehty?** Tehty kohtaan kuitataan päivämäärällä tai Rehtorin parhaaksi havaitulla tavalla onko kyseinen Koulutus, päivitys tai tapahtuma tehty.

Turvallisuuden lukujärjestyksen tukena voidaan käyttää Epäkohdat taulukkoa jota täytetään lähinnä sähköisenä versiona. Kyseiseen taulukkoon lisätään kaikki mahdolliset havaitut turvallisuuteen liittyvät epäkohdat koulussa. Esimerkiksi talvella hiekoituksen puute, rikkinäiset lukot yms. Epäkohdat taulu-

kossa on viisi (5) kohtaa. **Epäkohta**: mikä kyseinen epäkohta on. **Havaintopäivä:** minä päivänä epäkohta on havaittu. **Riskin taso**: Määritellään riski matriisin avulla, kuinka suuri riski epäkohta on. **Tavoite ajankohta epäkohdan korjaamiseksi:** milloin epäkohta tulisi olla korjattuna. **Korjauspäivä:** Minä päivänä epäkohta on korjattu ja kuitattu korjatuksi. Tätä taulukkoa käytetään siis jokapäiväisiin turvallisuushavaintoihin.

Epäkohdat taulukon apuna voidaan käyttää: Läheltä piti tai vaarakorttia, joiden avulla epäkohtia saadaan Rehtorin tai vastuuhenkilön tietoon. Kortteja voidaan käyttää esimerkiksi oppilaiden havaitsemien epäkohtien esiin tuomiseksi. Oppilaat eivät välttämättä osaa tuoda asiaa suullisesti aikuiselle esiin, tai asia saattaa unohtua jos oppilas esimerkiksi käytävällä sanoo jonkin asian olevan huonosti. Kortteja voidaan sijoittaa esimerkiksi ilmoitustauluille ja oppilaat ja henkilökunta voivat ottaa niitä sieltä ja mainita havaitsemiaan epäkohtia. Täytön jälkeen kortti toimitetaan Rehtorille tai vastuuhenkilölle. Tämä voidaan tehdä esimerkiksi pienellä postilaatikolla tai lokerolla jonne kortit voidaan toimittaa.

Lisäksi seurantaan kuuluu ymmärrystaulukko. Ymmärrystaulukko liitetään koulun turvallisuussuunnitelmien yhteyteen, esimerkiksi turvakansion takakanteen. Ymmärrystaulukkoon kirjoitetaan ennen lukukauden alkua kaikkien koulun henkilökunnan jäsenten, joiden turvallisuussuunnitelma kuuluu lukea, nimet valmiiksi tietokoneella. Kun henkilökunnan nimet ovat valmiiksi taulukossa ei tarvitse myöhemmin miettiä onko kaikki henkilökunnan jäsenet kuitanneet turvallisuussuunnitelmien lukemisen ja ymmärtämisen vai ei. Ja lisäksi jos nimi on ymmärrystaulukossa, mutta kuittausta ei ole tullut vaadittuun aikaan mennessä Rehtori pystyy huomaamaan asian helposti ja reagoimaan siihen huomauttamalla kyseistä henkilökunnan jäsentä asiasta.

5 Liitteet

Epäkohdat taulukko

Vaarakortti ja Läheltä piti kortti

Ymmärrystaulukko

Turvallisuuden lukujärjestys

EPÄKOHTATAULUKKO

Epäkohta	Havaintopäivä	Riskin taso	Tavoite ajankohta epäkohdan korjaamiseksi	Korjauspäivä

Vaarakortti

Paikka	Havainto päivämäärä
Tarkempi kuvaus paikasta/ kohteesta	
Mitä seurauksia paikasta voisi seurata?	
Miten tilannetta voi parantaa ja riskiä pienentää?	
Yhteystiedot (Vapaavalintainen)	
Ilmoitus otettu vastaan ja riski analysoitu PVM:	Allekirjoitus

Läheltä piti-Kortti

Työtilanne	Havainto päivämäärä
Paikka	
Vaaratilanne	
Mitä henkilövahinkoja olisi voinut tapahtua?	
Miten vastaava tilanne voidaan ehkäistä tai riskiä pienentää?	
Yhteystiedot (Vapaavalintainen)	
Ilmoitus otettu vastaan ja riski analysoitu PVM:	Allekirjoitus

Ymmärrystaulukko

Työntekijän nimi	Päivämäärä	Allekirjoitus

TURVALLISUUDEN LUKUJÄRJESTYS

Päivämäärä/ Kuukausi	**Koulutus/ Päivitys/ Tapahtuma**	**Kenelle**	**Vastuuhenkilö**	**(Ulkopuolinen järjestäjä)**	**Tehty?**

Appendix 2: Questionnaire

Kouluturvallisuus-kysely

Tämä kysely on osa Laurea Ammattikorkeakoulun opinnäytetyötä,
jossa tutkitaan peruskoulujen turvallisuutta ja pyritään kehittämään työkalu koulujen turvallisuuden kehittämiseen ja sen seurantaan.

Vastausaika päättyy 10.3.

Kiitos vastauksista!

Vastaajan tiedot:
Esimerkiksi: (Nimi,) Koulu, Kunta/Kaupunki

1. Kuinka usein teidän koululla päivitetään pelastussuunnitelma, kriisisuunnitelma ja vastaavat?

2. Kuinka usein teidän koululla järjestetään pelastus- ja muita harjoituksia?

3. Millaisia harjoituksia/koulutuksia teillä järjestetään, onko oppilaille ja henkilöstölle erilaisia harjoituksia/koulutuksia?

4. Kuinka suunnittelette harjoitukset?

5. Toimitteko harjoituksissa yhteistyössä esimerkiksi viranomaisten kanssa?

6. Kuinka teillä tuodaan läheltä piti-tilanteet vastuuhenkilön tietoon?

7. Kuinka esiin tulleisiin riskeihin reagoidaan teidän koululla?

8. Kuinka seuraatte oman koulun turvallisuuden ja turvallisuuskulttuurin kehittymistä ja suunnitelmien toteutumista?

    a. Onko teillä esimerkiksi jonkinlaista työkalua?

9. Millaiseksi arvioisitte oman koulunne turvallisuuskulttuurin?