

DEVELOPING BASIC FIRST AID SKILLS

First aid readiness improvement for students of LAB University of
Applied Sciences

Abstract

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Title of publication Title: Developing basic first aid skills First aid readiness improvement for students of LAB University of Applied Sciences		
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Abstract <p>Even though the Finnish school system is perceived to be relatively safe, the beginning of the 2000s started strongly including safety perspective in the developmental work of the schools. First aid readiness and first aid skills of laypersons are a great component of the overall safety.</p> <p>This thesis concentrates on improving the first aid skills and increasing the safety among the LAB University of Applied Sciences students by utilizing video material. This thesis was implemented as an assignment from LUT student services, that produces university student services for Lappeenranta–Lahti University of Technology and LAB University of Applied Sciences.</p> <p>The implementation of the thesis was practice based. The aim was to produce LUT student services video material for the safety video. The purpose is to improve the first aid readiness of the students of LAB University of Applied Sciences and thus increase the overall safety in the campus areas. The main situations requiring first aid, in a university environment, consists of a variety of accidents and attacks of illness. These first aid situations are easy to show and efficient to distribute for the whole multilingual university by using video form.</p> <p>Research information of first aid needs and accidents in higher education level campuses is not widely implemented. For this reason, there are no universal guidelines to counter the types of accidents happening, specifically in campuses. Additional research on these subjects is advisable.</p>		
Keywords first aid, video, university of applied sciences, accident, safety		

Tiivistelmä

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Tiivistelmä <p>Vaikka suomalainen koulujärjestelmä koetaan suhteellisen turvalliseksi, on 2000-luvun alussa otettu turvallisuusnäkökulma mukaan koulujen kehittämistyöhön. Maallikojen ensiapuvalmius ja -taidot ovat tärkeä osa kokonaisturvallisuutta.</p> <p>Opinnäytetyössä käsitellään LAB ammattikorkeakoulun opiskelijoiden ensiapuvalmiuksien ja turvallisuuden lisäämistä videomateriaalin avulla. Opinnäytetyö toteutettiin toimeksiantona LUT opiskelijapalveluille, jotka tuottavat korkeakoulupalveluja Lappeenrannan–Lahden teknilliselle yliopistolle ja LAB ammattikorkeakoululle.</p> <p>Opinnäytetyö toteutettiin toiminnallisesti, ja LUT opiskelijapalveluiden turvallisuusvideoon tuotettiin videomateriaalisältöä. Sen tarkoituksena on kehittää opiskelijoiden ensiapuvalmiuksia ja täten myös lisätä kampusten kokonaisturvallisuutta. Korkeakouluissa täytyy varautua lähinnä erilaisiin tapaturmiin ja sairauskohtauksiin. Nämä ensiaputilanteet ovat helppo näyttää ja tehokas levittää koko monikieliseen korkeakoulu-yhteisöön videomuodossa.</p> <p>Kolmannen asteen oppilaitoksissa tapahtuneiden tapaturmien tyypeistä ja niiden ensiaputarpeista ei ole runsaasti tutkittua tietoa. Tämän takia ei ole virallista toimintamallia sille, millaisia tapaturmia kampuksilla tulisi erityisesti ehkäistä. Lisätutkimuksia tästä aihepiiristä olisi suositeltavaa tehdä.</p>		
Asiasanat ensiapu, video, ammattikorkeakoulu, tapaturma, turvallisuus		

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1 INTRODUCTION

Finnish school environments have been considered to be relatively safe work environment. School shootings in 21st century have destroyed this image. (TTL 2018.)

The tragic incident that happened in Kuopio, Finland, first of November in 2019 greatly influenced greatly the making of this thesis. Manslaughter is not ordinary in Finland and therefore, this attack – performed with saber and firearm – has raised concerns about the safety at schools and universities. In crisis situation like this, the first aid skills of an individual emerge – the faster the help is given the greater the chances of survival. The incident hit headlines of multiple Nordic countries and is still, months later, discussed weekly. (Myöhänen & Kajander 2019.)

Generally, the security in schools is considered to be good or relatively good by the teaching staff. More in depth review reveals that security procedures are not systematic or long term. Security culture is fragmented and individually centered. These findings have been reported in EduSafe study done by Finnish Institute of Occupational Health and Turku University. The goal of the study was to create and test models and systematic security procedures. (TTL 2018.)

Occupational safety and Health act states that first aid capabilities are part of occupational safety (Työterveyslaki 738/2002, 46 §). As such, a school environment can be considered as a workplace, with a high number of people working within.

Video formats are already widely used as a teaching tool around the world. There are a multitude of different computer programs designed for teaching purposes (Riihonen 2018, 70). The idea of new technology is, to make time and place irrelevant, when talking about learning and teaching (Hakkarainen & Kumpulainen 2011, 122). With videos, it is possible to see things that are not present in our daily lives (Hakkarainen & Kumpulainen 2011, 12). Delivering information and knowledge, via internet and online, has become a norm in the education field; the upsides of which, is that it is cost effective (Hamada 2013, 34). Considering these facts, the need for this thesis work is time relevant.

This thesis work was done as a project, ordered by LUT Student Services, to improve overall campus security. Student services had an ongoing project to develop an instructional safety video, to show to the first-year students in orientation in the beginning of their studies. The video itself would entail a first aid section about different first aid situations possible in campus environment.

The purpose of the thesis is to improve the first aid skills of individuals studying in all the fields of LAB university of applied sciences and in turn increase the overall security on the campus.

The aim is to provide LAB university of applied sciences a video, that can be used in the future for improving the safety of students in the university campuses and develop their first aid skills and abilities that may come in handy one day out-of-campus, too.

2 DESCRIPTION OF THE ORGANIZATIONAL ENVIRONMENT

LAB university of applied sciences, later referred as LAB, is part of LUT university concern. The school was founded on 1.1.2020 when Lahti and Saimaa universities of applied sciences merged. LAB provides bachelor level education in social and healthcare, technology, business, tourism and hospitality management, design, art and visual communication. In addition, the school has open university of applied sciences and specialization education to those of whom already have a bachelor's degree. LAB has campuses in Lahti, Lappeenranta as well as Online, with 8500 students and 360 members of staff. (LAB 2020a.)

LAB Lahti campus is located in the renovated Isku Center in Lahti. The new campus opened in 2018. Approximately 5000 of LAB students, study in Lahti campus, which houses all five faculties. The campus is open 24 hours a day to all students and members of staff. (LAB 2020b.)

LAB Lappeenranta campus is part of the university campus. Lappeenranta University of Technology also operates on the same campus premises. The campus houses workspaces for 10 000 students, 3 400 of which are studying in LAB. (LAB 2020c.)

The campuses house a multitude of different types of special workspaces. Each faculty has workspaces tailored for their needs. These spaces include audio, photo and production laboratories, jewelry laboratories and workshops, metal casting and galvanizing laboratories, wax milling laboratory, an enameling oven room, a polishing and stone grinding workshop, electronics, automation laboratories and robotics, hydraulics laboratories, plate and pipe workshops, 2D and 3D printing, a plastic molding workshop, a car assembly space, wood drying and heat treating space; plaster, ceramic and clay ovens and laboratories, computer electronics laboratories, and social and healthcare simulation rooms. (M19 2020.) In the Lappeenranta campus area, there are six different restaurants; and in Lahti campus there is one restaurant, an ice-cream bar and a bar (LAB 2020d; LAB 2020b; Isku Center 2020).

3 THE PURPOSE AND AIM OF THESIS

The purpose of the thesis is to improve the first aid skills of individuals studying in all the fields of LAB university of applied sciences and in turn increase the overall security on the campus.

The aim is to provide LAB university of applied sciences a video, that can be used in the future for improving the safety of students in the university campuses and develop their first aid skills and abilities that may come handy one day out-of-campus, too.

4 DATA COLLECTION

Data has been collected mainly through information gathering – by utilizing printed sources and guidebooks and EBSCO databases, Duodecim Terveysportti system databases and Finnish Red Cross (SPR) databases. The data collection method has been qualitative. Data on first aid guidelines and videomaking are abundant and well accessible. Research data on first aid itself is quite scarce, therefore, data needed to be collected from other databases as well. In this regard, the other databases included Finnish Red Cross (SPR) database, Finnish institute for health and welfare (THL) and Finnish Ministry of Social Affairs and Health (STM).

Table 1. Research from different databases

Database	Keyword	Results / Chosen
EBSCO	video development	97 099/1
	video production	165 700/1
	screenplay writing	968/1
	first aid	14 418/ 0
	first aid training	641/ 1
	importance of first aid	131/0
Duodecim Terveysportti	ensiapu	389/13

All data used should be peer reviewed as academically valid data. When collecting the first aid data, we avoided using outdated sources in order to collect the highest reliable data possible. We also searched the data available in Finnish and English as well as free of charge data. The videomaking data search was centred solely on creation of short videos and educational videos. The included data is accessible in full texts; the articles that have only abstracts available were excluded. Texts published before 2010 were mostly excluded, with the exception of few sources, where the data was usable and valid.

Table 2. Research inclusion and exclusion criteria.

Inclusion criteria	Exclusion criteria
Available in Finnish or English	Not available in Finnish or English
Available in full text	Not available in full text
Publication in between 2010-2020	Published before 2010
Free of charge to access	Non-free of charge to access
Making of short video production	Making of feature length production

5 FIRST AID IN SOCIETY

5.1 Definition and the importance of first aid skills

The World Health Organization (WHO) defines health as a state of complete mental, physical and social well-being instead of it merely being the absence of infirmity and disease (World Health Organization 2020). The experienced health varies on an individual level and health services (Terveyden ja Hyvinvoinnin Laitos 2019).

First aid is help provided for injured person. It is implemented on the site of the incident. The objective of first aid is to secure the vitals and prevent the situation from worsening. (Castrén, Korte & Myllyrinne 2017a). First aid skills are important, because they can mitigate the consequences of the accidents and even save lives (Korte 2019).

The importance of basic first aid skills of laypersons cannot be overstated. An individual possessing basic first aid skills, will be able to give assistance in a variety of emergency situations, and be of extreme importance before the injured or ill person can get to the care of the medical services. This can lessen the severity of the emergency itself immediately. Knowledge of first aid skills benefits the individual and the community around them. (Kishore 2017.) The study "Students and emergency medicine: what is the standard level of first aid knowledge?" concentrates on premedical first aid (PFA) provided by university students. The results of the research show, that from their study group, 50% had received first aid training, and 55% were confident in their first aid skills. Outcomes showed that the higher scores in first aid test did not rise above 63% - which is only a medium level of first aid knowledge. (Kujawa, Żurek, Serweta, Stachowicz, Gorączko & Olejniczak 2019, 17-19.)

In a study "Effectiveness of Nonresuscitative First Aid Training in Laypersons: A Systematic Review" it is stated, that laypersons who are trained in first aid, may prevent the prolonging of seeking medical assistance and limit damage until the professionals arrive. The importance of the first aid skills of laypersons arise when there is a sudden disaster or either a manmade or a natural incident – these skills would therefore likely reduce death rates. (Van de Velde, Heselmans, Roex, Vandekerckhove, Ramaekers & Aertgeerts 2009, 447-448.) A study performed in India that centralizes in awareness and attitude regarding first aid and focuses on college students, has similar data of basic knowledge of first aid minimizing the injury and possibly saving lives. (Arasu, Mathew, Ramesh, Fathima, & Johnson 2020, 28.)

The findings endorse, that children at the age of 4 to 5, have great abilities to learn basic first aid and utilize their skills. Teaching first aid at the young age, has an ability to

reinforce the empathy in children and boost the activity on helping behavior. (Bollig, Myklebust & Østringen 2011, 4-5.) Van De Velde and others (2009, 455) came up with a similar conclusion that first aid training improves the quality of procedures but does not necessarily increase the helping rate. A possibility, that a first aid training program would include both – first aid procedures and inhibitors of emergency helping behavior – the helping rates were higher (researched in a chest pain emergency) (Van De Velde et al. 2009, 455). It has been suggested that teaching first aid to students may be “cost-effective” and a “good long-term investment”. (Arasu et al. 2020, 28.) The study of Kujawa and others (2019, 20) conclusions include, that mandatory training of first aid competency could improve the skill level and raise awareness among students. Therefore, the authors have recommended an increase in first aid training in universities. (Kujawa 2019, 20.)

A study implemented in the UK, has provided a conclusion in primary school aged children – Campbell suggests, that first aid training started early in a child’s life and development of the skills regularly, could provide individuals the needed confidence in emergency situations. (Campbell 2012). In a Norwegian study, children were so proud of their first aid skills, that they wanted to teach learnt skills to their family members and displayed what kind of skills they had gained (Bollig et al. 2011, 5.)

In the study “Safety First: Awareness and attitude regarding first aid among college students – A cross-sectional study in Urban Bangalore”, it has been brought up that there is still a lot to research specifically of the attitudes towards first aid and knowledge on specific injuries (Arasu et al. 2020). The same issue arises as – in the study concerning the laypersons first aid training – the conclusion is, that overall completeness and the quality of evidence being low, further research should be done and the conclusion considered without full confidence (Van De Velde et al. 2009, 455). Further research is recommended to be done in the study of Bollig and others (2011, 6) as a longitudinal research over many years, to enable the veracious accomplishments of the improvement of the helping rate in real emergency situations.

5.2 Finnish laws regarding first aid

In Finland we have laws and legislations, that define how one is supposed to act in an emergency situation. The Finnish Rescue act 379/2011 has a purpose of improving the safety of people and reducing the accidents. This act is to ensure that people in need are rescued, their vitals secured, and the possible consequences of the accident are successfully limited. (Pelastuslaki 379/2011.) The law on emergency response service 692/2010 is to benefit the safety of population, establish emergency response services and to improve the availability and quality of these services (Laki hätäkeskustoiminnasta 20.8.2010/692).

These laws and legislations provide information to individuals and professionals who encounter situations where human-oriented assistance is needed. The Rescue act concerns all citizens with or without professionalism in the health care field. (Pelastuslaki 379/2011.)

The Finnish Red Cross is an association, recognized by the state and is a part of global network. It has seven principles that are guiding the functioning – humanity, impartiality, neutrality, independence, voluntary, universality and unity. The functioning of Finnish Red Cross is based on Geneva contracts founded in 1949 and a law of Finnish Red Cross (238/2000) and is obligated to aid authorities when needed. (Suomen Punainen Risti 2020f.)

Occupational safety and Health act 738/2002 have sections 46 and 47 devoted to first aid. In 46 § it is stated that the employer must ensure the needed first aid potential in relation to working conditions – considering the amount of employees, size of the workplace, nature of the work, working conditions and location. In some cases, there must be a space for providing first aid, and in all cases the needed amount of first aid products must be provided in the most convenient location possible. 47 § has been added afterwards and concerns naming the people responsible of first aid and rescue. As stated in the section 46, the first aid education must be at the required level when taking into consideration the workplace, employee education and number of employees, as the provided equipment must be sufficient. (Työterveyslaki 738/2002, 46 §, 47 §.)

6 NEED FOR FIRST AID SKILLS IN UNIVERSITY OF APPLIED SCIENCES

6.1 Accidents as a cause of first aid situations

An accident can be defined as an event which causes injuries or leads to death. There are always two causes when accidents occur – one factor is an unexpected event and other one is injury. (Tiirikainen 2009, 12.)

Universities of applied sciences have a daily population of students and staff (LAB 2020a). The average age of a Finnish university of applied sciences student is a 27-years old (Harala 2014). Accidents cause half of the hospitalizations of working aged (20-64 years old) population (Impinen, Nissinen & Lillsunde 2015, 1). Most accidents, 39%, happen at home. Second most accidents happen due to or during sport and gymnastic activities (27%) and third most at the workplace (18%). (Haikonen, Doupi, Honkala, October, Nipuli & Lounamaa 2017, 14.) Most recent statistic shows, that in 2018, 10 % of deaths in Finland were caused by non-alcohol related accidents, and 22% by circulatory illnesses (Tarkoma 2019).

In 2017, there were 270 000 workplace accidents documented. Most of the workplace accidents are related to falling or sliding (34%), sharp object injury (20%) and sudden movement or lifting (18%). More than half (52%) of workplace injuries are treatable at home, 44% by a doctor or nurse in emergency room and 4% required hospitalization. Injuries caused in accidents were mainly bruises and cuts (46%) as well as sprains, strains, dislocations and muscle injuries (36%). On a smaller scale; fractures, burns, concussions and head injuries also happen. (Haikonen et al. 2017, 27.)

In 2017, there were almost 420 000 sports related injuries reported. Most of these injuries happen due to jogging or running (16%), gym training (14%) and football (14%). (Haikonen et al. 2017, 19-20.)

6.2 Special purpose workspaces

The campus houses special purpose workspaces for engineering and design students. These workspaces are compared to industrial work environments. In 2018, 16 277 workplace accidents leading to injury happened in the industrial sector. In 70% of the cases, the accident happened inside the factory or immediate surroundings of the workshop. Industrial workshop, and foundry workers and technicians suffered 36% of all workplace injuries. Accident mechanics were in most cases, 36% impacting on a surface, 19% crushing or being maimed, and 14% of injuries caused by a sharp object. (Tapaturmavakuumuskeskus 2019.)

The campuses have the following special workspaces: audio, photo and production laboratories, jewelry laboratories and workshops, metal casting and galvanizing laboratories, wax milling laboratory, an enameling oven room, a polishing and stone grinding workshop, electronics, automation laboratories and robotics, hydraulics laboratories, plate and pipe workshops, 2D and 3D printing, a plastic molding workshop, a car assembly space, wood drying and heat treating space; plaster, ceramic and clay ovens and laboratories, computer electronics laboratories, and social and healthcare simulation rooms. (M19 2020.) In the Lappeenranta campus area, there are six different restaurants; and in the Lahti campus there is one restaurant, an ice-cream bar and a bar (LAB 2020d; LAB 2020b; Isku Center 2020).

7 DEVELOPING FIRST AID SKILLS IN VIDEO FORMAT

7.1 Video as a learning tool

Learning happens when the education has been thoughtfully planned, including the scheme and the teaching situation itself. The education includes activities during the teaching, the methods used and demonstration – which will be wrapped up in assessment and providing feedback. It has been stated that even though the methods of teaching are captivating and activating – the lack of an educator's proficiency to value the learners, will make the methods worthless. A common appreciation from both ends will bring out positive, interactive and activating atmosphere to learn. (Mykrä & Hätönen 2008, 6-9.)

Development of computer and telecommunication technologies make e-learning the next step of learning. It allows learning professionals to create learning communities and situations that are not restricted by time, distance and physical boundaries. (Hamada 2013.)

Videos are an important part of higher education and have been integrated, in some degree, to almost all course programs (Brame 2016). Videos can be beneficial in learning situations when paralleling the desired learning outcomes of the subject at hand (Al-Jandan, Farooq & Khan 2015).

Learning professionals usually use four different types of video forms when constructing educational videos. These types are, sequence videos, talking head videos, screen capture videos and animated videos. (Hals 2017, 84.) Further the videos can be classified by format: lecture, tutorials and recapitulation videos (Mehtälä 2016, 41)

The most important thing in creating educational videos is, that modality is in the pictures. People remember better what they see, rather than what they hear. It is crucial to remember that information is more embedded in pictures, than in what is said in the video. (Hals 2017, 84.)

7.2 Developing a video

The entirety of the video is about the maker trying to keep the viewer interested. Development of a video has three phases: preproduction, production and postproduction. *Preproduction* consists of budget, concept, overall planning of the project, script writing, and gathering materials and finding a shooting venue. Things to consider are also what is the overall purpose of the project and who will be the audience. *Production* consists of actively producing of the program. This means setup, rehearsals and shooting.

Postproduction consists of the evaluating and editing of the shot material. Thereafter, the marketing and distribution. (Shyles 2017.)

Video planning starts with identifying the learning objectives and considering if the video is the right format for learning this subject. If it is, the content will be divided into pieces to form a structure. ROPS model can be used to this. (Hals 2017, 90.) Videos segmented into parts of a maximum of 6 minutes long will keep the audience more engaged. The shorter the video segments, the better the engagement of the viewers. (Guo, Kim & Rubin 2014, 45.)

ROPS is a moderated version of ROPES model, which is used specifically to create digital media content for learning. The standard ROPES model consists of five components, of which the first is *review*, where learner's current knowledge base is reviewed – based on this, adjustments are made to learning content. The second is *overview*, where there is a put together high-level summary on learning outcomes and goals and key steps on the course. The third is *presenting*, where the content is presented by using the learning methods. The fourth stage is *exercise*, which consists of learners practicing new skills they have just learned. The last step is *summary* – a recapitulation of the topics learned. (Hals 2017, 39.)

In digital format, the components *review* and *exercise* need moderating. In review, immediate adjustments are not possible because the content is already produced. This means that creator of the content needs to think of existing knowledge through which the new information can be contextualized. The exercise stage is difficult to embed into an asynchronous learning digital learning platform, therefore it is cut out completely. (Hals 2017, 39.)

When the structure has been formed, attention can be turned to creating storyboard and script. In the story board, every scene is represented by still pictures. This helps the writer to think in pictures. Storyboard saves time in planning and filming; it shows how the scenes work and should appear in the screen and gives the cinematographer good directions on what should be filmed. (Hals 2017, 91.) Script writing will be discussed more in detail in 5.3. Investing heavily in the preproduction phase, also improves viewer engagement. (Guo et al. 2014, 47.)

When moving on to the production and shooting, the following things should be kept in mind: shoot what you need – too much excess footage wastes time. By setting up the shoots, editing time is saved when the video is in right angle, proper white balance and not underexposed. Different shots should work well together and have a continuous flow. By producing some extra material, the editing process has more data to work with. (Hals 2017,120.) Every image must have sound or must have at least contain the sound coming

from the film. Total silence in the video feels weird and distances the viewer. During the segments with lines or an interview going on, there needs to be dampened background noise. (Ailio 2015, 13.)

Editing binds together everything in the video creation project. Editing is done with an editing software and demands some level of experience to work. There is a multitude of different editing software's from easy to complex, from affordable to expensive. (Hals 2017, 150.) The result will rarely be precisely the same as the script. In the editing phase the script will be modified to match the shot material, this will enable better editing outcome. (Ailio 2015, 57.)

There are different types of educational videos, for achieving different goals such as lectures producing conceptual knowledge, tutorials producing procedural how-to knowledge and recapitulation videos gathering all the relevant knowledge from previously shown material. For lecture videos, it is beneficial to create optimal first-time watching experience. In tutorial videos re-watchability and skimming are the factors to be considered rather than length. Recapitulations are generally easy to produce due to them being recordings from lectures. (Guo et al. 2014, 49; Mehtälä 2016, 56.)

7.3 Writing a screenplay for first aid skill development video

Screenplay can be considered a contract between the creator and the project publisher. When the initial version of the screenplay has been created, it can be taken to the publisher and reviewed together – to guarantee a publishable product. Screenplay approved by the publisher means that no additional material can be demanded. It also helps the editor to finish the video, in the case that the creator and editor are different parties. (Ailio 2015, 6.)

Screenplays or scripts have a standard format, which is used in small productions and large feature length films. This is used so everyone who is part of the production knows what is going on. The time rule is that one page consists of one minute of screen time. Camera placements and shot selections are not important in standard script, as these matters are handled by the director and the cinematographer. Concentration of the writers should be in what the audience is seeing and hearing in the moment. For this reason, the dialogue should be in present tense. (Jech & Angiolillo 2017, 42-43.)

The most basic element of the script is a scene list. A single scene is a happening in a single timeframe or a single place. When a time or place changes the scene changes as well. Every change will be made in a list and every scene needs their own pictures. Jumping between the scenes is not allowed. (Ailio 2015, 6.) A common way to create a script is

a three-column form. The first column contains the scene number, the second column describes what is happening on the screen, and the third column contains spoken lines and possible music. (Hals 2017, 101-102.)

There are three types of basic structures for a video: process imaging, news segment and a story. Process imaging shows the action from beginning to end. Division is done by scenes and is portrayed in a time order mandated by the process. In its simplest form, scripting the process means creating a list of pictures needed and the lines spoken over voiceover techniques or the text appearing in the screen. Picture sizes should also be noted. (Ailio 2015, 10.)

A news segment is structured as a triangle, first the core of the information is given, and the following parts are non-essential support elements. When writing a script for a news segment form, it should be structured around a single argument or a question, everything else is cut out. News segment answers the questions what, where, when, who and why. When this is applied to learning environment, this means giving a compact presentation on a single subject with only essential information. If the material includes information on many different subjects these should be divided into additional videos. In the news segment the picture tells what and spoken lines explain why. The end result should be to show as much as possible, although news segment are often speech and fact orientated. It is preferable to use an interview model to increase the number of people speaking. (Ailio 2015, 16-17.)

Story structure is needed when the length of the video becomes longer than a news segment. This is because the video needs a dramaturgical acceleration toward the end of the video, to keep the viewer interested. There are six phases to building a story; initial push, introduction, deepening, acceleration, conclusion, and fading. *Initial push* means something that hooks the viewer, it can be a riddle, something startling, something that causes feeling of familiarity or showing something from the middle of action. *Introduction* explains the basics; it does not tell everything but gives new necessary information as it goes along. *Deepening* is the longest and heaviest phase of the video; it gives majority of the information but in alternating styles. In an interview this means beginning with easier not so essential questions and asking the tough and interesting questions last. *Conclusion* means constructing a single noticeable ending, after the viewer thinks that the ending happened, their attention stops. The purpose of *fading* is bringing the viewer back from the video to reality, this means visible settling of the videos tone, a recap or ending graphics. (Ailio 2015, 21-25.)

When creating a script to a short film, with strict time constraints, it is important to remember that the purpose is to show action and image, not to rely only on spoken information. For this reason, although the dialogue is important, it should support the action in the film. Good dialogue is short and understandable. (Jech & Angiolillo 2017, 43-44.) Spoken lines should be put in segments that have less action in them. Because of the video format itself, the information in it should be more quickly understood and recognized, therefore the structure of spoken lines should be clearer and simpler. Sentences should be in active form and short; no longer than 18-word sentences and 8-word clauses. Synonyms and pronouns should be used instead of repeating. Clichés and proverbs should be avoided. During the recording, it should be read to the one who is watching the video. Lines are spoken slightly more slowly than normal conversation. Outsider review on the recording helps to remove personal mannerisms. (Ailio 2015, 20) When talking about the educational videos in an e-learning environment, studies show that viewer engagement is higher in videos with fast speaking and enthusiastic instructors. It is recommended that the instructor pays more attention on being enthusiastic and not to pay attention on deliberately speaking slower. (Guo et al. 2014)

Lastly, regarding the picture sizes, there are eight internationally agreed picture sizes: general picture, big whole picture, whole picture, big half picture, half picture, close half picture, close picture, special close picture. Each of these pictures have a meaning, the more compact the picture, the more it reinforces emotion of the picture. (Ailio 2015, 36.)

8 DESCRIPTION OF THESIS PROCESS

8.1 Practice based thesis

This thesis is practice based thesis work. The aim is to provide LAB university a video, that can be used in the future for improving the safety of students in the university campuses and develop their first aid skills and abilities that may come handy one day out-of-campus, too. Characteristics of a practice based, developmental activity project, contains following concepts: value in being new, benefits from the final product, usability, operator led, visible working, planned, concrete end product, closed or open, supervising organization, time and place bound. (Salonen 2013, 13.)

A developmental activity project produces new information and improved or new kind of procedure or innovation. In the thesis report the new tool can be added to the end of the report or added as appendices. An important part is that the report and the created new tool are separate entities. The thesis report gathers the information which was used to create the tool and the learning process of the authors. (Salonen 2013, 25.)

The model used as a framework of this developmental work is Linear model. This project has phases: defining the goal, planning, Implementation and closing and review. Thesis process followed the model depicted in Figure 1.

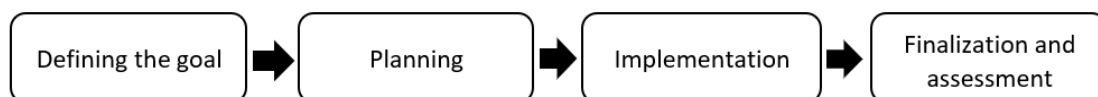


Figure 1. Translated linear model (Toikko & Rantanen 2009, 64.)

In the implementation part of the project, the process of the work will be monitored. Parts of it may change depending on the needs of the project. The end result of the implementation will be the final product and introduction of it. (Toikko & Rantanen 2009, 65.)

8.2 Creating the first aid content

When *defining the goal* for the project, the project team members survey the organizational need and technical-economical requirements for the project. This will lead to project plan, which will consist of timeframe, budget, project organization and workplan. The project goal is defined by a singular idea, known need or outside pressure to change operational environment. Defining the goal is the foundation of the process. (Toikko & Rantanen 2009, 64.) The thesis goal came from LUT Student Services' need for content and knowledge for a security video. Student Services had an ongoing project to produce a

security video for LAB and first aid was one theme of it. The purpose of the video is to be shown to all new students at the beginning of their first academic year and this way to increase overall security. Organization for the project consisted of two authors of this thesis, head of the LUT Student Services and the video cinematographer. Required funding came from the target organization as did the specific needs of the implementation. Work regarding the project was divided as followed: authors of this work did the research and planning needed contents and write the screenplay for the video's first aid part and worked as actors in the scenes. The filming was done by the professional cinematographer, assisted by the head of student services. Editing was done by the cinematographer.

The first tangible step of implementing our thesis project was *planning*. In this phase the main goal was to research valid information about possible situations, happening in the campus environment, that require first aid. When sufficient data of the possible injuries was collected, the research of how to treat possible injuries and what is the first aid is then began. Situations and data on what should be done can be found in Appendix 1. When the information about the situations requiring first aid was gathered, we approached the target organization for specifying the needs for the situations showed in the video.

The next step after defining the goal and planning was to *implement* what we had gathered. The head of student services was provided with our initial findings on what are the most common causes of first aid situations in university of applied sciences environment, which included presentation on what first aid skills are required. The proposed first aid situations and skills were: dislocation of a joint, head injury, bleeding, burn injury, eye injury, lifelessness and defibrillation, allergic reactions and choking and emergency evacuation. These contents were chosen based on the possible accidents and causes of death that could happen in university of applied sciences environment, which are shown in chapters 6.1 and 6.2. Meeting with the head of student services was done in order to continue modifying our proposal, so as to meet the needs of the target organization. Allergic reactions were not seen as relevant – since it is common for an individual to already have the tools to control the situation – and choking was modified so, that the Heimlich manoeuvre was left out. Evacuation techniques was raised to be something the organisation wants. Additional needs for the video were also highlighted: the video would consist of short clips from every scenario, audio would be added as a voiceover in Finnish and English and emphasis should be on showing, rather than telling.

According to the plans made with the target organization, a script was formulated in a three-column form. The first column consisted of different scenes, the second of what is happening in the scene and the third of what lines are spoken in every scene. The script

gives emphasis on showing more than telling. The script gives room also for modification made during the filming. Our script followed mainly the process imaging guideline. Final script can be found in Appendix 2.

The script acted as a framework to the planning of the video. In the planning we used the modified ROPS model to our advantage. Current general knowledge base of the viewers can vary significantly but it was concluded that most have only intermediate knowledge on first aid. For this reason, only basics are only shown and explained, this being the learning goal. As the video is to be presented to a wide audience in a short video segment this will act as a tutorial type video; learning happens by seeing what to do in specific situations. Recapitulation in this kind of tutorial video is difficult and counterproductive in the video itself, but rather it is convenient in the ability to be re-watched by the viewer later, in their own time.

The next step of progress was to set a date for the film making, as well as gathering the needed team for filming. The date was set to be in one week, at the end of April. On the day of filming, all the scenes were able to be put together. Most of the scenes were filmed using two or more filming angles to produce enough different material per one scene to give the editor more to work with. The filming took approximately three hours and consisted of planning the day, the filming locations in the campus and filming the scenes. After this, the editor started the editing process. A professional editor is able to produce a better-quality end result.

At the end of the project, it will be *finalized and reviewed*. Projects tend to continue as a future project, and as re-development projects. In the end, ending report and development ideas will be documented. (Toikko & Rantanen 2009, 65.) The feedback of the video making was positive – meaning, the acting was genuine, making the scenes seem authentic.

As the filming process proceeded, it became apparent that these situations were indeed plausible and could happen in everyday life on the campus. We got a teacher from the faculty of engineering to help us in the metal workshop. The teacher gave us their input on how the most common accidents happen in the workshops. On that day, the decision was made, that the video material will be edited and based on the timetable of that a new day for voice-over's was chosen. The voiceovers were considered, by the cinematographer and the writers of this thesis, to be a better way of conveying the information needed, rather than to have actors speak the lines in the scenes themselves. During the voiceover recording, some small changes were made to the script. The evacuation and resuscitation scenes were altered the most. The target organization implied, that it would be good to emphasize more that in the video it is shown a representation of an evacuation from the

campus, in an event of emergency. The resuscitation-scene was given extra spoken lines to specify the amount of chest compressions and ventilations; and the defibrillator, to make the message clearer.

Mid-edition versions of the video material were shown to two LAB students. Questions and the actual feedback can be seen in Appendix 3. Both students saw the video as interesting and got the information out of the video that they regarded necessary. They both regarded situations shown in the video realistic and probable to occur in everyday situations. Both students liked that videos were compact with no excess footage. Student 1 had had first aid training during their conscription training almost 10 years ago, and the video gave them much needed recapitulation. Student 2 had no prior first aid training and the videos gave them an idea on what to do in an emergency. In addition, they had thought that the defibrillators in school are only for nursing students to use. A student friend had told that laypersons should not use them.

Overall, the target organization was satisfied with the material created. Feedback, seen in Appendix 4, displays, that first aid content is consistent and focuses on the needs of the campus security team. The content is generic, and the information will keep its value in the future. Organization representative believes, that the videos and the instructions given in them, are easy to understand by a layperson. The organization representative liked the English language content especially, which makes the video more accessible in consideration of the international students.

9 DISCUSSION

9.1 Conclusions

The importance of basic first aid skills cannot be overstated. Individual in possession of basic first aid skills allow for assistance to be given in variety of emergency situations and be of extreme importance before the injured or ill person can get the care of the medical services. This can lessen the severity of the emergency itself on the spot. Knowledge of first aid skills benefits the individual and the community around them. (Kishore 2017.)

First aid in Finland is directed with laws and legislations that influence the life of a layperson and within the workplaces. The Occupational Safety and Health act 738/2002 has two sections, 46 and 47, that are completely devoted to first aid in the workplaces and ensure that the first aid potential is at the required level when considering the workplace itself (Työterveyslaki 738/2002, 46 §, 47 §). The Finnish Rescue act 379/2011 is to ensure that people in need are rescued with their vitals secured and the potential consequences of the accident being successfully limited (Pelastuslaki 379/2011). Finnish Red Cross functions basis law of the Finnish Red Cross (238/2000) and Genevan contracts from 1949. The association is, by law, obligated to aid authorities in need. (Suomen Punainen Risti 2020f.)

A polish study, on university level students' knowledge of first aid, found out that students in universities only have medium level first aid knowledge. Of their study group, 50% had received first aid training and 55% were confident in their first aid skills. The result of the study showed that the higher scores in first aid test did not rise above 63%. Therefore, the authors have recommended an increase in first aid training in universities. (Kujawa 2019.) First aid knowledge amongst the higher education students is lacking, although the students feel like they have adequate skills. For this reason, we feel that it is imperative to increase the first aid readiness level in the LAB University of Applied Sciences.

The content of the first aid part of the security video was defined by Finnish studies on accidents of the work aged population and what mechanics cause the most deaths in Finland. Of the working aged population, 20-64-year old, accidents are cause of half of the hospitalizations (Impinen et.al. 2015,1). Second and third most likely places to have an accident is during a sport activity or in the workplace (Haikonen et.al. 2017,14). Excluding cancerous tumors, the top causes of death are heart and circulatory illnesses, alcohol related illnesses and non-alcohol related accidents (Tarkoma 2019). As there are no specific studies on accident and death rates in Finnish higher education schools, accident studies on working aged population is the most relevant data to use. This is supported also by the

idea that university of applied sciences is a workplace and according to Tiirainen (2009,12) students studying there, are on average 27- years old.

The most common workplace accidents are related to falling or sliding, injuries caused by sharp object and caused by sudden movement or lifting. More than half of the injuries are treatable at home, 48% of injuries require a visit to the doctor or a nurse or hospitalization. Workplace accidents cause bruises, cuts, sprains, strains, dislocations, muscle injuries, fractures, burns, concussions, and head injuries. (Haikonen et al. 2017, 27) Of all the sport related injuries, gym training causes 14% of all cases (Haikonen et al. 2017, 19-20)

By using this data, the content of the video was compiled. Accidents arise as a major factor in causing a need for a medical attention. Also, deaths caused by circulatory illnesses cannot be overlooked as a potential cause for first aid situation. The list of first aid situations include dislocations, head injuries, wounds and massive open wounds, burn injuries, eye injuries, lifelessness and defibrillation, allergic reaction, anaphylaxis and choking. These situation and what are the treatment guidelines can be found in Appendix 1.

The most important thing in creating an educational video is, that people remember what they see instead what they hear in the video and the dialogue used should be short and understandable (Hals 2017, 84; Jech & Angiolillo 2017, 43-44). The emphasis was put on this when creating the video. This was discussed in meetings with the target organization and it was decided that the video should have short simple spoken lines as a voiceover. One of the educational video creation tools is a ROPS model, consisting of categories reviewing viewer prior knowledge, overview of learning goals, presenting the material to the viewers and summarising what should have been learned. (Hals 2017, 39) This model was used to build the first aid video.

Scriptwriting was the core of planning what was to be shown in the video. Individual scenes were based on specific first aid situations as process imaging. Process imaging is showing the action from beginning to end, divided into scenes (Ailio 2015, 10). A three-column form was used to create the physical script. The three-column form is the basic script form of the script (Hals 2017, 101).

The video content that this thesis process has produced, was created following the guidelines of good educational video creation. The content will be a part of the security video produced by the LUT Student Services, to the LAB University of Applied Sciences. This video will be shown to all the first-year students at the beginning of their studies. Re-watchability is one important factor to be considered in tutorial type videos (Guo et.al. 2014, 49). This also acts as a summarising factor to the video. The security video will appear in LAB University of Applied Sciences intra-web, which is accessible to all students

and staff. Videoclips made can be viewed at:

<https://www.youtube.com/playlist?list=PLtqUm-GCOcc09ggpagMx9hEIT2ps9ImJZ>

9.2 Ethical considerations and reliability

Finnish national board on research integrity (TENK) defines that during the thesis process, it must be proceeded in a way that is ethically acceptable and research results are credible. The first national guidelines to handle cases of alleged misconduct were formulated in 1994 and were updated last in 2012. The guidelines were made to ease the recognizing of research misconducts and to establish common norms for handling ditto. (Tutkimuseettinen neuvottelukunta 2013.)

Reliability is a central factor in scientific information, especially when the research methods, research process and research results are considered. In a developmental project the key element is usability of the research results. (Toikko & Rantanen 2009, 121-122.) The thesis work gathered information on types of first aid situations, mainly accidents and certain types of attacks of illness, that are most probable to happen in University level school environment. The legal aspects of first aid readiness needs was also considered. These research results formed the basis on which the first aid video content was created. The video content itself also can be used and moderated for future usage.

Developmental projects have complex problems. Especially concerning the ability to duplicate group working process with a new team is not self-evident. Problems arise also from the brevity of gathered material. These factors create problems in duplication of the project and internal validity of the materials. (Toikko & Rantanen 2009, 123.)

One of the factors of developmental projects is commitment of different parties involved in the project. It is important to show how much the different parties have been involved in different parts of the process. Non-commitment among the team members lowers the reliability of gathered material, processes, and results. The probability of errors increases if team members are not present in all process phases. (Toikko & Rantanen 2009, 124.) The project began with meetings with the LUT Services. The aim was defined, and the distribution of work was confirmed. The aim being creating first aid video material for the LUT Services, Head of Services was to organize the funding, filming equipment and staff and the necessary permits, and the authors were to gather the research necessary to create the video material. Themes and materials used in the video were selected based on the meeting held with the head of LUT study services. Whole team gathered for the creation of the video material itself.

9.3 Development ideas

During the thesis process it became apparent that there is little research data on first aid in general and first aid in Finnish university level schools. There is data available on accidents in primary school level in Finland but not on university level. These subjects would need further domestic research.

This thesis has gathered information on first aid situations and needs in university and how to react in these situations. This could be further developed in to a first aid training day which would build upon the tutorial type video we developed in this thesis work. The knowledge gained from the video could act as a basis for the training itself, which would increase the first aid skill level. In turn, this would contribute to the overall campus security. LAB University of Applied Sciences has nursing education in both Lappeenranta and Lahti therefore creating a first aid day and implementing it to yearly school programs could be done.

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10 APPENDICES

Appendix 1

Dislocation

Dislocation is an injury of a joint in which the joint slides out its normal anatomical location. The most common dislocation injury happens to a kneecap (*lat. patella*) or shoulder joint (*lat. humerus*). There is a risk of additional injuries when sliding out from the glenoid, these include for example breaking or stretching the surrounding tissues and ligaments. (Castrén, Helveranta, Kinnunen, Korte, Laurila, Paakkonen, Pousi & Väisänen 2012.) Common accidents that lead to a dislocation are falling and slipping, different kinds of collisions and a twist of a limb. The injury site gets swollen, painful and possibly bruised, the positioning of the limb may be incorrect, and the limb is unusable. (Suomen Punainen Risti 2020a.)

The first aid of dislocation injuries is to immobilize the joint to the position it is at the moment. To reduce the pain, when it is the shoulder joint that has been dislocated, let the arm hang without restraint. Take the injured person to the emergency room or if needed, call 112. (Castrén, Korte & Myllyrinne 2017b.) Even if the joint returns back to its anatomical location, it is recommended to see a doctor for a possible puncture to remove blood from the joint (Saarelma 2019a).

Head injuries

Head injury is most commonly caused by an impact to the head or hitting the head when tumbling or falling. It can be mild or severe and have grave consequences. When the injury is milder, it is often called concussion and does not include unconsciousness. (Castrén, Korte & Myllyrinne 2017b.) It is classified as a brain injury whenever there has been any length of unconsciousness, memory loss right after the incident or if a transient or permanent symptom in the nervous system occurs (Saarelma 2019b). The symptoms of a mild brain injury also include possible visual and/or balance disturbances, and headache and nausea. Skull fractures are difficult to diagnose in the emergency site but can be suspected – sometimes there can be a clear fluid (cerebrospinal fluid) dripping from ear or a nose. A bump or a dent on the head can also be a sign of a fracture in the skull. (Castrén, Korte & Myllyrinne 2017b.)

The first aid instruction varies on the gravity of the injury and it is not always necessary to visit a doctor but often recommended, especially in the case of a more severe the injury. With a following symptoms caused by the injury, the injured must immediately get to the

hospital: unconsciousness or difficulty to stay conscious, difficulties in understanding speech or writing, loss of ability to feel, general weakness, loss of hearing or vision, bleeding from ear or black eye without an external impact. If there is no need for a medical attention, the head injury can be followed up at home, too – the person must not be left alone, and the consumption of alcohol is recommended to be avoided. (Saarelma 2019b.)

When providing the first aid, it is important to clarify the level of consciousness, the nature of the breathing, possible memory loss and if there is a noticeable injury to the head. If the symptoms are mild, observe the state of the injured and if severe, then contact 112. (Suomen Punainen Risti 2020c.) The possibility of a bleeding in the brain is greater when there is an anticoagulant medication or alcohol has been consumed – the symptoms may appear after hours or days or even weeks after the incident. If the person is unconscious, vomiting or unconscious and gagging, it is recommended to place the injured into the recovery position to enable vomiting freely and lower the risk of aspiration and choking. (Castrén, Korte & Myllyrinne 2017b.)

Wounds and massive open wounds

A scratch or a superficial wound often excrete drops of blood or tissue fluids and can be caused by falling or a minor scrape. Incision wounds can be caused by for example a knife or a glass bottle – the wounds can be superficial or deep. Deep wounds can damage tissues, muscles, nerves, blood vessels and tendons causing heavy bleeding – the edges of the wound are often clean and precise. (Castrén, Korte & Myllyrinne 2017e.) Sometimes when the wound is located in the limbs, it does not need to be deep to harm tendons, blood vessels or nerves (Saarelma 2020). Stabbing wounds come from something sharp penetrating the skin and often does not bleed heavily outside but can cause severe injuries inside the body – it is extremely dangerous when in the torso. Contusion has torn edges and mild bleeding and it can be caused by blunt trauma or destructive violence. (Castrén, Korte & Myllyrinne 2017e.)

The first aid includes covering the wound preferably with a clean and dry gauze – the more abundant the bleeding, the heavier gauzes are needed. Sometimes pressure can be added to reduce the bleeding and possible bleeding in the intestines and inside the skin must be kept in mind. (Saarelma 2020.) The foreign object should not be removed from the wound due to the possible abundant bleeding. A tourniquet should only be used in situations when it will be needed to save a life – it is never the primary approach and is supposed to be used only when the person is trained to do so. (Castrén, Korte & Myllyrinne 2017e.)

Reasons to seek professional treatment for the wound, in the following six-hour time period, are: if the wound is torn from the edges, the size of the wound is great, the tissues/bones are visible, or there is a foreign object or dirt in the wound. Always if the wound is a bite wound or located in the face or joint areas, or starts to show symptoms of infection, the need for a Tetanus-vaccination arises. (Suomen Punainen Risti 2020e.) The six-hour time period is for ensuring the possibility to close the wound either with a glue or stitches – the delay increases the risk for infections. In deeper wounds the possible need for fixing nerves and tendons usually requires surgery in the operation room. (Saarelma 2020.)

Burn injuries

A burn injury is a tissue damage caused by heat or corrosive chemical. These injuries can be caused by electricity, radiation, open fire, thermal liquid or steam and thermal or burning item. (Castrén, Korte & Myllyrinne 2017c.) Burn injuries are divided by the stage of the damage, there are three different stages that are based on the depth of the tissue damage. First degree burns can be recognized from pain and redness without any vesicles on the skin – the feeling is still normal, and this burn injury heals quickly. Second degree burns can be identified by the vesicles on the skin caused by the leaking tissue fluids. Third degree burns reach subcutaneous tissues and the skin is perished from the area of the injury. (Saarelma 2019c.) Third degree burns, when being very severe, can be charred and very dry with no sense of feeling in it (Suomen Punainen Risti 2020b).

There is a so-called nine percent rule when defining the extent of the burn damages, for example on an adult body, the size of a palm is qualified as one percent. Upper limbs are 9% combined as the head is 9%, as well, however, only one leg is 9% – making the legs 18% in overall. On a small child, the percentages are different due to the variation of the dimensions of small children's bodies – the head itself is 18%. This so-called nine percent rule is important when assessing the extent of the burn damage – the possibility for a shock increases when an adult has more than 15% and child has 5-10% of their body damaged by the burn injury. (Castrén, Korte & Myllyrinne 2017c.)

The first aid of the burn damage varies due to the extent, degree and the cause of the injury. The injured area should be dipped into water or kept under running water for at least 10 minutes – the water should not be too cold, preferably room temperature when the burn is second or third degree. If the burn area is more than 10% the risk of hypothermia increases and keeping the victim warm otherwise has great part in the first aid. (Castrén, Korte & Myllyrinne 2017c.) Vesicles must not be punctured – this increases the risk of bacteria getting into the burn wounds. If the burn injury is not severe, it can be covered

with a clean light gauze and will heal by itself in few weeks. More severe burn injuries, and the ones that are located in the face area, joints, mucous membranes or in the respiratory organs must be treated by professionals – special attention must be paid also to the burn injuries caused by electricity, chemicals, radiation or steam. (Suomen Punainen Risti 2020b.) In cases where the burn is more than 1% second degree burn or a third degree or capacious burn, it is recommended to go to the hospital immediately – some of the most intense burns must be treated in specialized wards (Saarelma 2020c).

Eye injuries

Most common eye injuries are foreign objects in the eyes. The eye can also be damaged by piercing or blunt force, chemicals, physical stress or ultraviolet radiation. Foreign objects in the eye should not be rubbed. Small objects usually come out on their own, but sometimes the feeling of “speck in the eye” continues and in that case, medical attention should be sought. A patient with a piercing wound in the eye should be put laying down so, that both eyes are covered, to decrease any eye movement. Pressure should not be applied to the injured eye. (Castrén, Korte & Myllyrinne 2017d.)

UV radiation damage can be caused by welding, UV-light or sunlight. The eye starts to secrete tears, turns to red, is sensitive to light and has a feeling of a “speck in the eye”. First aid for this is to cover the eyes and spend time in the dark. If needed, a salve-patch can be used. If chemicals wind up in the eye, the eye should be rinsed – rinsing should last from 10 to 30 minutes. Medical attention should be sought afterwards. (Saarelma 2019d.)

Lifelessness and defibrillators

Lifelessness can be caused by issues related to the heart or breathing. Cardiac arrest is one of the leading causes of death in Europe. The majority of these begin with ventricular fibrillation or fast rhythm. First aid in cardiac arrest is cardiopulmonary resuscitation with early defibrillation. In Breathing related cases CPR is begun with inflations. (Suomen Punainen Risti 2020.)

There are defibrillators that are for professional use as well as those that are specifically made for laypersons. When the heart has stopped, there is always a need for a cardiopulmonary resuscitation. Older defibrillators require that compressions are stopped for the analysis – nowadays there are defibrillators that can analyze the rhythm without stopping. In the 2015 guidelines, the European Resuscitation council stated that stopping compressions, even for 10 seconds time, weakens the possibility for survival and it has been stated that it is recommended that ceasing should be done as little as possible. (Safedo 2020.)

Allergic reactions, anaphylaxis and choking

Allergic reactions can be caused by, for example, bee stings, medications, food or a specific ingredient in the food or from a specific smell. Mild reactions can be anything from an itch to a swelling or a reaction on the skin. More severe situations can lead to the blockage of the airways due to swelling and severe vomiting and diarrhea and disturbance of consciousness. (Suomen Punainen Risti 2020d.) The allergic reaction reaches its peak between 10 and 30 minutes and the symptoms may start within ten minutes and up to four hours from for example consuming food which may cause a reaction. The cause of the anaphylactic reaction can't always be detected. (Hannuksela-Svahn 2014.)

The first aid of anaphylaxis is adrenaline which can be enhanced by asthma medications or antihistamines. Adrenaline is most commonly carried within a Jext®- or EpiPen® auto-injector pen which is then inserted into a muscle and the pen releases the adrenaline – these pens are often carried by the people who have had an anaphylactic reaction before. (Hannuksela-Svahn 2014.) The first aid of a milder allergic reaction can be prescription free drugs from the pharmacy, such as an antihistamine or hydrocortisone, for example (Lönrot 2018).

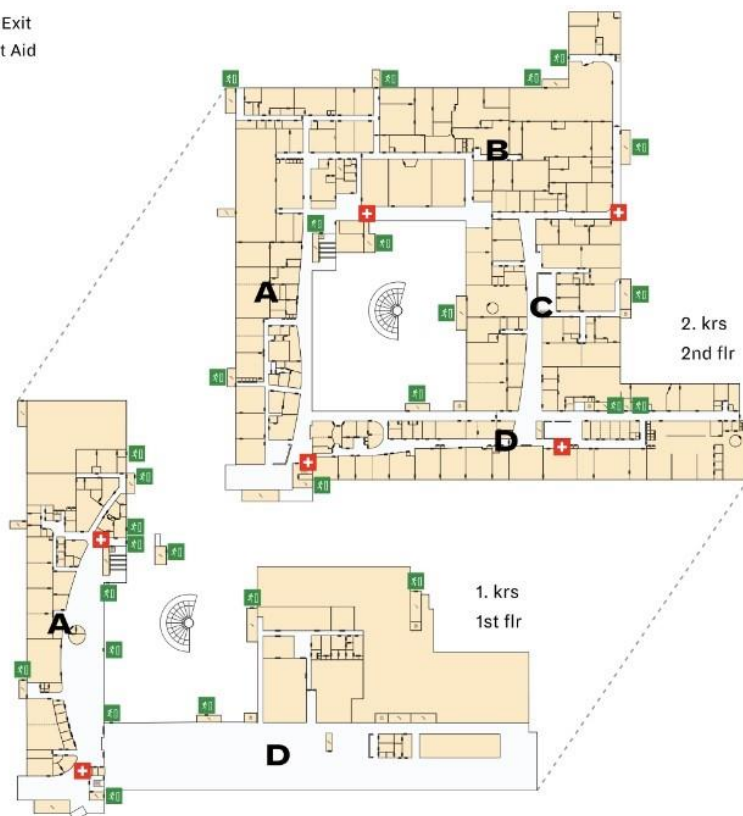
Choking is caused by aspirating a foreign object. First aid begins with giving the patient a stiff strike between the scapulae. If the strikes do not help, the Heimlich maneuver can be attempted. In the Heimlich maneuver the patient is grabbed from behind in a way that the helpers arms go around the patient and the person must grab their own arms below the patient's chest. After this, pressure is applied to individual's lower chest in a slightly upward movement. Foreign objects in the throat can be attempted to be removed only when the patient is unconscious. (Silfast 2018.)

Evacuation from the campus area

Poistumistiet ja EA-välineet

Exits and First Aid equipment

-  Poistumistie | Exit
-  EA-piste | First Aid



Appendix 2

Kohtaus	Tapahtuu X= autettava/uhri/potilas H= hoitaja/auttaja Y= apukäsi/lisäauttaja	Vuorosanat/teksti
Dislokaatio/päävamman samaan	X kävelee portaissa, liukastuu ja kierii muutaman portaalan alas. Olkapää sijoiltaan.	"Yleisimpiä tapaturmia ovat liukastumiset ja kaatumiset"
	H paikalle, todetaan olkapää sijoiltaan.	"Jos jokin nivel on mennyt sijoiltaan, tuetaan se liikkumattomaksi"
	H auttaa X istumaan ja jututtaa. Jätetään käsi roikkumaan ja lähdetään viemään ensiapuun. X kävelee portaissa/käytävällä, liukastuu ja lyö päänsä.	"Jos olkapää menee sijoiltaan, voidaan se jättää roikkumaan kivun vähentämiseksi"
Päävamman tajuissaan	H tulee paikalle ja auttaa X istuvaan asentoon, kummu päässä. Jututtelee.	"Päänlyönnin jälkeen on hyvä tarkkailla vointia seuraavan vuorokauden ajan"
Päävamman Tajuton	H tulee paikalle ja yrittää herätellä X:ää. Kun ei herää niin asettelee kylkiasentoon ja soittaa 112.	"Jos päänlyönti on johtanut tajuttomuuteen, pistetään autettava kylkiasentoon ja soitetaan 112"
Iso vuotava haava	X käyttää puukkoa tai vast. puutyöpajassa. Leikkaa haavan käteen.	"Vuotavassa haavassa pyritään tyrehtyttämään verenvuoto. Jos haavassa on jokin vierasesine ei sitä tule yrittää poistaa"
	Hakee itse siteen ja painaa haavaa.	"Haava on hyvä käydä näyttämässä ensiavussa"
Palovamma/samassa silmän kanssa	Kichenetissä X tekemässä ruokaa/keittämässä vettä. Käsi hellalle / kiehuvat vedet päälle.	"Palovammoja tapahtuu herkästi keittiöissä tai työtiloissa, jossa käytetään tulta/kuumia työvälineitä"
	X laittaa palaneen ihoalueen viileähkseen veteen likoomaan/vesihanalle	"Palaneen ihon ensiapuna ihoa pidetään viileässä vedessä vähintään 10min."
Silmävamma	X työskentelee pajassa, silmään lentää kovalla vauhdilla metalli/puupala.	"Silmävammoista suurin osa on vierasesineitä silmässä. Pienet roskat poistuvat itsestään"
	H laittaa X:n makuuasentoon, molemmat silmät peitetään liinalla.	"Vakavammassa vammassa autettava laitetaan makaamaan ja molemmat silmät peitetään, jottei silmät liikkuisi. Painetta ei saa silmiin kohdistaa."
Silmävamma kemikaali	X työskentelemässä tilassa, jossa kemikaaleja. Kemikaalia roiskahtaa silmään.	"Kemikaalin jouduttua silmään huuhdellaan silmää juoksevan veden alla 10min"
	X hakeutuu vesihanalle huuhtelemaan silmää	
	X käyttää EA kaapin silmähuuhdetta.	

Tukehtuminen	X ja H ruokalassa/Lamkoomassa syömässä ja juttelemassa. X alkaa tukehtumaan ruokaan, näyttää hätäntyneeltä.	”Tukehtuminen tapahtuu yleensä, kun ruokaa tai juomaa menee ”väärään kurkkuun” ”
	X yskii etukenossa pöytää vasten H siirtyy X:n taakse ja antaa kolme napakkaa iskua lapaluiden väliin. Kolmannella X sylkäisee suustaan palasen ruokaa.	”Ensiapuna ystävä auttaa yskimistä antamalla nappakkoja iskuja lapaluiden väliin”
Elottomuus+deffa	X makaa maassa kyljellään. H tulee paikalle ja yrittää herätellä. Huutaa apua ja aloittaa painelut ja puhallukset.	”Tukehtuminen tai sairaskohtaus saattaa johtaa elottomuuteen. Löydettäessä tarkistetaan hengittääkö autettava ja huudetaan apua. Samalla soitetaan 112”
	Y tulee paikalle deffan kanssa. Näytetään kuinka deffa asennetaan.	”Pyritään saamaan defibrillaattori paikalle mahdollisimman nopeasti” ”Ohjeet käyttöön löytyvät defibrillaattorista”
Evakuointi	X makaa maassa, H nostaa siten istumaan, että saa kainaloiden alta takaapäin otteen, lähtee raahaamaan.	”Tulipalo tai muussa hätätilanteessa tulee auttaa muita ihmisiä poistumaan. Jos ihminen on vaarassa eikä itse kykene liikkumaan suoritetaan hätäsiirto. Tässä muutamia tekniikoita”
	X makaa maassa, H ja Y ottavat etupuolelta kainaloiden ali otteen ja alkavat raahaamaan.	
	X istualteen, H ja Y nostavat olkapäille ja kantavat pois.	

Kohtaus	Tapahtuu X= autettava/uhri/potilas H= hoitaja/auttaja Y= apukäsi/lisäauttaja	Vuorosanat/teksti
Dislokaatio/päävamma samaan	X kävelee portaissa, liukastuu ja kierii muutaman portaan alas. Olkapää sijoiltaan. H paikalle, todetaan olkapää sijoiltaan. H auttaa X istumaan ja jututtaa. Jätetään käsi roikkumaan ja lähdetään viemään ensiapuun.	"The most common injuries are slipping and falling" "If a limb is dislocated, it will be immobilized" "When shoulder joint dislocates, it can be left hanging to decrease the pain."
Päävamma tajuissaan	X kävelee portaissa/käytävällä, liukastuu ja lyö päänsä. H tulee paikalle ja auttaa X istuvaan asentoon, kuhmu päässä. Jututtelee.	"After an impact on the head, for the next 24 hours, it is important to observe the state of health."
Päävamma Tajuton	H tulee paikalle ja yrittää herätellä X:ää. Kun ei herää niin asettelee kylkiasentoon ja soittaa 112.	"If the impact on the head has caused concussion, the injured will be placed in recovery position and 112 is alerted"
Iso vuotava haava	X käyttää puukkoa tai vast. puutyöpajassa. Leikkaa haavan käteen. Hakee itse siteen ja painaa haavaa.	"The bleeding of the wound is attempted to be terminated. A foreign object should not be removed from the wound." "It would be recommended to go to the emergency room for a checkup of the wound."
Palovamma/samassa silmän kanssa	Kichenetissä X tekemässä ruokaa/keitämässä vettä. Käsi hellalle / kiehuvat vedet päälle. X laittaa palaneen ihoalueen viileähkөөn veteen likoomaan/vesihanan alle	"Burn injuries are often happened in kitchens and workspaces where is open fire or have equipment that get heated." "The first aid for a burn injury is to cool down the skin under running water for at least 10 minutes."
Silmävamma	X työskentelee pajassa, silmään lentää kovalla vauhdilla metalli/puupala. H laittaa X:n makuuasentoon, molemmat silmät peitetään liinalla.	"Majority of eye injuries are foreign objects in the eye. Small object often vanishes themselves." "In more severe injury, the injured will be placed laying down and both eyes are covered to minimize the eye movement. Pressure should not be applied."
Silmävamma kemikaali	X työskentelemässä tilassa, jossa kemikaaleja. Kemikaalia roiskahtaa silmään. X hakeutuu vesihanan alle huuhtelemaan silmää X käyttää EA kaapin silmähuuhdetta.	"If chemical gets into the eye, eye should be rinsed under running water for at least 10 minutes."

Tukehtuminen	X ja H ruokalassa/Lamkoomassa syömässä ja juttelemassa. X alkaa tukehtumaan ruokaan, näyttää hätääntyneeltä.	"Choking often happens when food or drink "gets stuck in the throat."
	X yskii etukenossa pöytää vasten H siirtyy X:n taakse ja antaa kolme napakkaa iskua lapaluiden väliin. Kolmannella X sylkäisee suustaan palasen ruokaa.	"As a first aid, the helper eases the coughing with brisk strokes in between the shoulder blades."
Elottomuus+deffa	X makaa maassa kyljellään. H tulee paikalle ja yrittää herätellä. Huutaa apua ja aloittaa painelut ja puhallukset. Y tulee paikalle deffan kanssa. Näytetään kuinka deffa asennetaan.	"Choking or an attack of illness may cause lifelessness. The possible loss of breathing should be checked, and help should be yelled. 112 ought to be alarmed." "Strive to get the defibrillator as fast as possible." "The instructions, how to use the defibrillators, are attached to the machine."
Evakuointi	X makaa maassa, H nostaa siten istumaan, että saa kainaloiden alta takaapäin otteen, lähtee raahaamaan. X makaa maassa, H ja Y ottavat etupuolelta kainaloiden ali otteen ja alkavat raahaamaan. X istualteen, H ja Y nostavat olkapäille ja kantavat pois.	"In case of fire or other emergency, it is important to help others evacuate. If a human is in danger and unable to move themselves, an emergency transfer is performed. Here are few techniques."

Appendix 3

Opiskelijoiden palaute

Herättikö video mielenkiintosi?

Vastaaja 1: Mielestäni videoilla oltiin saatu vakavista aiheista pienellä huumorilla erittäin mielenkiintoisia. Tärkeä informaatio välittyi, eivätkä videot olleet peruskuivia opetusvideoita, jotka eivät herätä mielenkiintoa

Vastaaja 2: Kyllä herätti mielenkiintoa. On mielenkiintoinen aihe muutenkin, koulullakin näkee ensiapupisteitä ja kun ei tiedä itse mitä ne tavarat on, niin ei oikein tiedä mitä niillä tekisi. Kokemusta kun itselläkään ei ole, en ole käynyt mitään ensiapukursseja.

Oliko video sellainen, että sitä kykeni seuraamaan?

Vastaaja 1: Videota oli helppo seurata. Eriolaisten hätätilanteiden vaiheet oli kerrottu informatiivisesti jouhevasti, eikä herättänyt hämmennystä tai lisäkysymyksiä.

Vastaaja 2: Kykenee seuraamaan. Selostavat lyhyet tekstit tukivat hyvin videota.

Ovatko videon tilanteet sellaisia, joihin voisit kampuksella törmätä?

Vastaaja 1: Hätätilanteet, sairaskohtaukset, tapaturmat yms. ei katso aikaa ja paikkaa, joten videon tilanteet ovat todellakin sellaisia joihin kampuksella voi törmätä ja osa tulee törmäämään.

Vastaaja 2: Tilanteet ovat todellakin sellaisia mitä voi käydä. Itsekin kun pajalla työskenteleminen, niin roiskeita tapahtuu. Muutkin tilanteet näyttivät hyvin arkisilta mitä kampuksella päivittäin varmasti jollain tavalla tapahtuu.

Näyttikö video auttamisprosessin niin että kykenisit sitä jäljittelemään?

Vastaaja 1: Olen käynyt armeijassa EA1:sen ja EA2:sen. Varusmiespalveluksesta tosin on jo lähes 10-vuotta aikaa, joten opit ovat pikkasen unohtuneet ja ruosteessa. Video toi mielestäni asiat hyvin takaisin mieleen, joten mielestäni video näytti auttamisprosessit niin, että niitä pystyn jäljittelemään.

Vastaaja 2: Ensimmäistä kertaa nyt kävi ilmi, että saisin maallikkona käyttää defibrillaattoria. Yllätyin, joskus joku sanonut koululla, että ei maallikko sitä saisi käyttää. Nyt voisin sanoa, että uskaltaisin lähteä sitä ainakin hakemaan, jos hätä tulisi. Tuli tyhmä olo, että olen kuunnellut jotain, joka väittänyt, että ne on koululla vain hoitajaopiskelijoita varten.

Näetkö kuvassa mielestäsi tarpeeksi?

Vastaaja 1: Kuvassa näkyi tarpeeksi ja vain ne asiat, jotka olivat tärkeitä. Videossa näytettiin vain tärkeä informaatio, eikä mitään turhaa, joka saattaisi johdattaa harhaan tai herpaannuttaa keskittymistä.

Vastaaja 2: Videokuvasta näen mitä tarvitsee nähdä. Täyttää mielestäni tarkoituksensa. Hyvä ettei ollut ylimäärästä, pelkästään kohtaus, joka tarvitsi olla, ei turhaa täytettä.

Appendix 4

LUT opiskelijapalveluiden päällikön/tilaajan edustajan palaute

Ensiapuvideot vastasivat hyvin opiskelijapalveluiden sekä kampusturvallisuusryhmän toiveita sekä laadullisesti että käytettävyydeltään. Ensiapuvideoita tullaan jatkossa hyödyntämään mm. uusien opiskelijoiden orientaatioissa, opiskelijapalveluiden Youtube-kanavalla, sekä kampusturvallisuusryhmien toiminnassa. Videot toteutettiin geneerisellä tasolla, joten niitä voi katsoa uudestaan, eikä itse asiasisältö vanhene niissä. Tekijät ottivat hyvin huomioon projektin tarpeet, sekä toimeksiantajan kommentit videoiden kehittämiseen. Ohjeistus ja videoissa käytetty kieli oli ymmärrettävää ja selkeää myös ensiapumaallikoille. Videoihin tehtiin selkeät käsikirjoitukset, jotka helpottivat kuvaustilannetta. Erityismaininta englanninkielisestä toteutuksesta! Tämä palvelee varmasti LABin ja LUTin englanninkielisiä opiskelijoita.