

PROCEEDINGS

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PERSPECTIVE SECURITY

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FOREWORD

Uno Silberg
Editor-in-Chief

Welcome to the fourth publication of the Proceedings of the Estonian Academy of Security Sciences, (which is indexed by the 1.2 Classification of the Ebsco database). The Proceedings is one of the few annual journals in Estonia which publishes security-related research papers.

Today's main issue is how to respond to recent developments that require action, such as the migration.

Immigration raises the leading role and influence of English as a global language. English as a medium of instruction (EMI) has become a growing global phenomenon in higher education in non-English speaking countries, including Estonia. We try to introduce key aspects of the design and structure of an EMI course, and offer particular recommendations on how to improve teacher training and make it sustainable.

In addition, there are many other forms of migration which are becoming more important in the international area. Higher education migration from third countries is growing, bringing people to Estonia, whose national, cultural, religious, etc., background differs from that of local residents. The results of students from third countries as well as what security threats such migration poses have never been analysed. We will give an overview regarding the theoretical standpoints of security, migration and higher education migration, along with the practice of applying and using residence permits by foreign students from third countries.

We will also give an overview of the size and structure, in monetary terms, of the total economic burden attributed to fires in Estonia in 2013. We will measure the opportunity cost of fires using three different cost categories: costs in anticipation, costs as a consequence and costs in response.

Prolonged situations call for shared resources and cooperation in (internal) security. In the interests of EU citizens, internal security officials must serve the objective of ensuring that members of the public feel secure in all places, at all times.

In summary, in this edition of the Proceedings, named Perspective Security, we aim to add further to the discussion on internal security matters.



QUANTIFYING THE COST OF FIRES IN ESTONIA

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Keywords: fires, costs, Estonia

ABSTRACT

The aim of this study is to quantify the size and structure, in monetary terms, of the total economic burden attributed to fires in Estonia in 2013. We measure the opportunity cost of fires within three different cost categories: costs in anticipation, costs as a consequence and costs in response. We found that the cost of fires amounted to 347 million Euros in 2013 or the equivalent of 1.8% of GDP, of which about three-fourths is variable cost. Research shows that the largest part of the economic burden arises as a consequence of fires, mainly in the form of property damage and human loss. The results indicate that allocating more resources to fire prevention and response in Estonia could be justified.

1. INTRODUCTION

Property damage, injuries and fatalities are just some of the harmful consequences resulting from fires. A number of public policies have been designed to prevent fires and to mitigate the harm they cause. As an example, the installation of smoke alarms is compulsory in many countries in order to diminish the amount of damage caused by house fires. Construction regulations that address the risk of fire in buildings are also common. Fires can in any event be associated with a considerable economic burden borne by different groups in society.

Prior studies (e.g., see Ashe *et al.* 2009) have distinguished three categories of costs. First of all, the designing and implementation of various preventive measures, such as the ones described above entail expenses that are incurred in anticipation of fire. Then there are costs that have to be borne due to consequences, such as when structures suffer damage or are destroyed by fire. Finally there are costs involved in responding to fires, typically by emergency services. Estimates concerning such costs have been reported by several countries like the United States (Hall 2014), England and Wales (Office of the Deputy Prime Minister 2005) and Australia (Ashe *et al.* 2009). The ranges of these cost estimates vary from equivalents of 0.7% to 1.8% of GDP. In general, this study follows an approach similar to prior studies. The aim is to quantify the size and structure of total economic costs in monetary terms that can be attributed to fires in Estonia in 2013.

The main benefit provided by estimating the cost of fires is the indication this provides to the magnitude of fire-related social problems. To do so also helps to make wiser decisions with regard to the allocation of scarce public resources across different government policy areas. In addition, knowledge of the level as well as structure of social costs resulting from fires can be used as an input in finding the most efficient policy measures regarding fire safety. For example, having information about cost as a consequence helps us to see the potential benefits of different fire prevention activities. Comparing these benefits with the cost of alternative interventions enables one to examine their efficiency.

In addition to measuring the cost of fires in Estonia, the novelty of this paper lies in quantifying new cost categories found rarely or not at all in

prior studies. For example, we monetize CO₂ emissions from fires, the cost of implementation of fire policies, the cost of police patrol services and the efficiency cost of taxation. But even more importantly, we separately assess the variable or incremental costs of fires. Specifically: one of the key issues in making cost estimates more applicable in policy analysis is to determine the opportunity cost of a marginal fire. This is because a certain proportion of costs attributed to fires don't change even when the number of fires changes. Consequently, the total cost of fires usually been reported in prior literature probably overestimates the economic savings that could potentially be attained owing to fire safety interventions (Office of the Deputy Prime Minister 2005).

As far as the Estonian context is concerned, the reduction of fire incidents has been declared a strategic goal of the Estonian Ministry of the Interior. Over the past ten years, several new policy initiatives have been introduced, including mandatory installation of smoke alarms in dwellings, a prohibition on the sale of non-fire-safe cigarettes, more systematic support provided to volunteer fire brigades and several additional changes in fire safety regulations. During the same period, the total number of fires per 100,000 population decreased from 815 to 528, and the fire-related fatality rate per 100,000 of the population fell from 10 to 4 (Statistics Estonia 2015a). Improving the fire safety situation even further requires more carefully planned policy measures, supported by impact evaluations and efficiency analyses, including different cost estimates. To our knowledge, no prior empirical estimations have been carried out for Estonia that would reveal the problems brought about by fires in monetary terms. This paper aims to fill that gap.

The paper is outlined as follows. After the introduction, the second section describes the methodological approach used, along with the data sources. The results are presented in the third section. The last section discusses the results and draws conclusions.

2. DATA AND METHODOLOGICAL APPROACH

2.1 GENERAL APPROACH

We follow the traditional approach by dividing all costs into three categories: costs in anticipation, costs as a consequence and costs in response. The cost of a fire is defined as an opportunity cost. This means that we count costs for society as a whole and exclude all sorts of transfer payments within society. In order to establish discounted present values, 6% as a discount rate is used throughout the paper. To monetise working time, we use hourly labour cost measured as an average hourly gross wage in Estonia in 2013 from Statistics Estonia (2015b), multiplied by 1.34 to account for social security taxes (OECD, 2015). As concerns valuing leisure time – e.g., the time a household has to spend on maintenance of fire devices is monetised – we use an average hourly net wage, measured as gross hourly wage, net marginal personal income tax rate in 2013, as reported by Statistics Estonia (2015b) and OECD (2015).

The cost of public institutions providing fire-related services are computed through the use of an incidence based approach, meaning that costs attributed to fires are determined based on the number of fire incidents the institution must deal with, or the number of response teams involved in these incidents. Fire-related working hours and the structure of personnel in particular institutions are also taken into account. As concerns personnel, we often differentiate as to whether the parties work in mission units or support units. Support unit workers in this paper include top and intermediate managers and those whose responsibilities are purely supportive by nature, i.e., accountants, lawyers, communication specialists and so on. Mission unit workers are those involved in directly providing some sort of public service. In addition to total opportunity costs, we also estimate the variable cost of fires, except for cost in anticipation, which is probably only slightly responsive with respect to the number of fires. Primarily we rely on actual working hours spent on dealing with fires or their consequences.

This paper defines a fire as an uncontrolled process of combustion outside a designated area (such as a stove, a fireplace and other areas intended for such purposes, or where fire has otherwise been consciously ignited) that releases smoke, heat and cause damage to property or health (Estonian

Centre for Standardisation, 2013). From this definition it also follows that not all contacts with smoke or flame that cause property damage or affect health are formally considered as a fire. For example, a girl burning her finger in a bonfire, it is not a fire in the sense of this paper because the fire was within a designated area. However, if a bonfire ignites someone's shirt, then this is regarded as a fire, as combustion has spread outside the designated area.

While most of the data sources are explained below, we note at this point that the market prices of commodities such as smoke detectors and fire extinguishers have been obtained by using the Google search engine. This way we researched the prices offered by retailers in Estonia, to which we applied the cheapest available price.

2.2 COSTS IN ANTICIPATION

2.2.1 *Fire prevention*

The main state agency responsible for fire prevention is the Estonian Rescue Board (ERB). The ERB (2014) website shows that they employed 2,279 persons in the middle of 2014. We found that 2.7% of the workers in mission units are directly involved with general preventive activities and another 3.1% are involved in fire prevention more specifically. Since – according to the ERB (personal communication, April 15, 2015) – 64.3% of the callouts for professional response teams were related to fires in 2014, we assume that the same percentage of the workload of workers specifically tasked with general preventive activities is also related to fire prevention. Since the budget of the ERB also includes appropriations to volunteers, we subtract those expenditures (ERB, 2013) from the total costs of the ERB, and perform the following calculation:

$$\text{Cost of fire prevention} = (64.3\% \times 2.7\% + 3.1\%) \times (\text{total cost of ERB} - 940\,000)$$

It should be noted that this approach accounts for all costs allocated to fire prevention by the ERB, including administrative costs. This is because the two percentages (i.e., 2.7% and 3.1%) were calculated based only on the workers assigned to mission units, but they are multiplied by the total costs at the end. In addition, the resulting figure does not

include the preventive work carried out by the members of fire brigades. Although this could be open to discussion, we assume that their primary task is responding to fires.

As regards the contribution of volunteers: the ERB reported that volunteer firefighters spent 2,823 hours on different prevention activities like informing, educating and consulting, or on carrying out specific project activities in 2013 (ERB, 2013). As 71.9% of rescue events responded to by volunteers were fires (ERB, 2013), we assume that the same proportion of hours were related to fire prevention. We employ the average hourly labour cost as the value of that time.

The resulting figure constitutes 2.3% of total appropriations from the ERB to volunteers. In order to arrive at the total contribution made by volunteers, we also add 2.3% of spending by local governments on fire protection services (Eurostat, 2015a) because in Estonia the financial involvement of local authorities in fire safety is primarily related to supporting volunteer responders.

2.2.2 Fire safety policy formulation

Fire policies and regulations in Estonia are formulated by the Ministry of the Interior. Data about the personnel and total expenditure of the Ministry was gathered from public documents (Estonian Ministry of the Interior, 2015; 2014). 63 civil servants worked in the Ministry of the Interior's mission units during 2015. Of these, 20% work in a department responsible for managing fire safety in Estonia. We assume that 64.3% (see section 2.2.1) of the work time of employees in this department is spent on activities related to fire safety. In order to obtain the cost of the formulation of fire safety policy, we therefore take 12.9% (i.e., 64.3% of 20%) of the total cost expended by the Ministry of the Interior.

2.2.3 Fire research and education

The Estonian Academy of Security Sciences (EASS) is a centre of education and research in the field of fire safety in Estonia. In addition to rescue officers who are trained at the Rescue College of the EASS, the Academy also trains prison officers at its Justice College, police officers at the Police College, and tax and customs officers at the Financial College.

Based on the distribution of students across the four colleges in 2013, we can assume that 23.3% of the total cost of the EASS is related to the Rescue College (EASS, 2014). As in the cases of the ERB and the Ministry of the Interior, we assume that 64.3% of their workload is related to various aspects regarding fire. In order to derive the cost of fire-related research and education carried out by the EASS, we obtain a proportion of fire-related costs in the EASS budget (EASS, 2014) as a product of 23.3% and 64.3%.

2.2.4 Fire safety in buildings

In general, there were three types of requirements for buildings in Estonia in 2013 imposed by the Fire Safety Act (2010), the Building Act (2002) and related standards (Estonian Centre for Standardisation, 2011). These include the requirements i) to install or possess certain fire safety devices such as smoke alarms, automatic fire alarms, firefighting water supply or fire extinguishers, ii) that evacuation routes with lighting meet certain prescribed requirements, such as the length and width of those routes, and iii) for the existence of fire compartments in order to help stave off the quick spread of fire to other parts of the building. To calculate the total cost of fire safety, we differentiate between six types of buildings: i) office and educational buildings, ii) hotel, service, trade, health care and entertainment buildings, iii) other non-residential buildings, consisting mostly of storehouses and industrial buildings, iv) one or two dwelling buildings and terraced houses, v) blocks of flats of 8 or less stories in height and vi) blocks of flats of 9 or more stories in height.

There are notable differences in regard to fire safety devices and water supply equipment is seen across different types of buildings. In residential buildings a smoke alarm must be installed in all dwellings. In 9- or more storeyed blocks of flats, firefighting water supply and alarm systems are also required. As a general rule, water supply is required in non-residential buildings if the cubature of such a building exceeds 10,000 m³ (except schools) or if it is a hotel, service, trade, health care or entertainment building of 4 stories or higher. Almost all types of non-residential buildings must have some sort of a fire alarm system, except for small buildings such as accommodation buildings with less than 10 beds, or office buildings with an area of 750 m² or less. In such cases a smoke alarm like those for ordinary dwellings is deemed sufficient. The

second exception concerns other non-residential buildings where the need to install an alarm system would arise only from certain conditions related to the area or purpose of a building. Finally, one fire extinguisher of 6 kg per 200 m² of floor space must be available in all non-residential buildings.

In order to determine the economic value of these requirements, we obtained construction budgets of 13 buildings from two construction budgeting companies (OÜ Eke Nora, Eelarvestusgrupp OÜ, personal communication, September 24-25, 2015). These budgets included the costs of four office buildings, two warehouses, two schoolhouses, a hospital, a prison, a sports facility, a hostel and a border guard station. As a result, we were able to ascertain the average proportions of costs in total construction budgets for the six different types of fire safety elements in non-residential buildings (see Table 1).

The cost of firefighting water supply in “other” buildings is simply half of 1.01%. This means that at least half of all other buildings are assumed to have this system. As the average cubature of new “other” buildings exceeds 10,000 m³, this seems a reasonable assumption (Statistics Estonia 2015c). As concerns alarms, 0.23% was obtained by taking 23% of 0.99%, since data from the ERB (personal communication, October 3, 2014) indicates that 23% of buildings that experienced a fire in 2013 had an automatic fire alarm system installed.

TABLE 1. Assumed proportions of fire safety costs in total construction costs of new buildings in Estonia

Fire safety measures	Non-residential buildings			Residential buildings		
	Office, education	Hotel, service, trade, health care, entertainment	Other	1 or 2 dwelling buildings, terraced houses	8 and less storeyed blocks of flats	9 and more storeyed blocks of flats
Doors	0.21%	0.21%	0.21%	0.05%	0.13%	0.13%
Ventilation	1.04%	1.04%	1.04%	–	1.04%	1.04%
Evac. lighting	0.10%	0.10%	0.10%	–	–	–
Water supply	–	1.01%	0.51%	–	–	1.01%
Alarm system	0.99%	0.99%	0.23%	–	–	0.99%
Smoke detector	–	–	–	0.01%	0.01%	0.01%
Total	2.34%	3.35%	2.09%	0.06%	1.18%	3.18%

Source: OÜ Eke Nora, Eelarvestusgrupp OÜ, Parliament of Estonia (2002a), Statistics Estonia (2015c, 2015d), authors' calculations

For residential buildings it was estimated that the average construction cost per dwelling in blocks of flats is 79,706 euros and 205,311 euros in private and terraced houses. These values were arrived at by dividing the total construction costs of dwellings expended in 2013, by the yearly average number of dwellings constructed between 2011-2013 (data from Statistics Estonia 2015c, 2015d). The cost of meeting the smoke alarm requirement is 7.29 euros in flats and 14.58 euros in private and terraced houses. These values are based on the following assumptions: i) the market price of a smoke detector is 6.5 euros, ii) installation is assumed to take around 10 minutes, which is then converted to 70 cents, ii) one detector is installed per flat and two in private or terraced houses. The proportions assigned to fire doors are based on the following assumptions: i) each dwelling requires one fire door; ii) the cost of a door is 100 euros. Ventilation, water supply and alarm system proportions are assumed to be the same as in the case of non-residential buildings.

Total construction cost by type of building is presented in Table 2. While Statistics Estonia (2015d) does not publish cost data separately for educational structures or blocks of flats of 9 stories or more, we derived these costs based on the area of buildings that were being constructed between 2011-2013, as reported by Statistics Estonia (2015c). We multiplied the proportions presented in the last row of Table 1 by the respective total construction costs incurred as presented in Table 2, and summed up the resulting figures to get an initial estimate of safety cost in new buildings. The cost of fire extinguishers is calculated separately as a product of the number of required fire extinguishers (see above for the actual requirement) – found based on the yearly average square metres of non-residential buildings constructed between 2011-2013, obtained from Statistics Estonia (2015c) – and their market price of 25 euros.

TABLE 2. Total construction costs of new buildings by type in Estonia in 2013 (million euros)

Type of building	Costs
Office, education	77.8
Hotel, service, trade, health care, entertainment	86.7
Other non-residential	166.4
1 or 2 dwelling buildings, terraced houses	48.5
Blocks of flats of 8 stories or less in height	62.2
Blocks of flats of 9 stories or more in height	24.2

Source: Statistics Estonia (2015c, 2015d), authors' calculations

To also account for costs in existing buildings, our strategy is to add up all fire-related costs of new buildings constructed in 2013 over their life span. We make the following assumptions: i) the life span of an average building is 80 years, ii) fire safety measures have the following life spans: doors, ventilation systems, lighting and water supplies – 40 years, alarm systems – 20 years, smoke detectors and fire extinguishers – 10 years. We simply sum up all the future costs in 2013 prices incurred once in 40 years, once in 20 years and once in 10 years, respectively.

2.2.5 Fire safety in motor vehicles

As there must be at least one fire extinguisher of 1 kg in each motor vehicle, as stipulated by the Traffic Act (2010), we multiply the market price of 10 euros by the total number of newly registered motor vehicles in 2013. We assume that all owners of a motor vehicle need to buy a new extinguisher every five years. Accordingly, we assume that old extinguishers are replaced with new ones in 20% of cars each year.

To sum up, as there were 725,200 vehicles registered in total at the end of 2013 (Statistics Estonia 2015e) and also 23,672 first registrations during that year (Statistics Estonia 2015f), we first subtract the latter figure from the total number of registered vehicles, then take 20% of the resulting figure, and finally multiply it by 10 euros. This measures the cost of the replacement of old extinguishers. Additionally, the cost of new extinguishers is calculated by multiplying the price of an extinguisher by the number of new registrations.

2.2.6 Maintenance of fire safety devices

Here we consider the maintenance cost of fire extinguishers in non-residential buildings and in motor vehicles, as well as the maintenance of smoke alarms and chimney flues in residential buildings. These requirements had been determined in regulations issued in the Fire Safety Act (2010) and the Building Act (2002). We assume it takes 15 minutes to check an average fire extinguisher once every two years, 10 minutes to check a smoke alarm and change its battery (that costs 2 euros) once every two years, and 60 minutes to clean a chimney flue once a year.

As the proportion of households in Estonia using stoves for heating was 37.4% in 2012, we assume that the same percentage of existing dwellings require chimney maintenance (Statistics Estonia, 2013). These assumptions enable us to find the total amount of time spent on maintenance of fire extinguishers and chimney flues in existing motor vehicles and dwellings respectively, and on the maintenance of fire extinguishers and smoke alarms over the life span of all new buildings.

2.2.7 Insurance administration

Data regarding the administration costs of insurance companies was obtained from statistics published by the Financial Supervision Authority (FSA, 2015) and the Estonian Insurance Association (EIA, 2015). Compensations as such are not considered as costs, since they are just transfers within the economy. We do however use the compensation paid as an indicator reflecting the division of the administrative burden arising from different insurance areas. From FSA statistics it is known for 2013 that 10% of all insurance compensations paid were related to fires and natural forces. Since the exact division between fires and natural forces is unknown, additional calculations had to be carried out.

To solve that uncertainty, we combined the data from the FSA and EIA for 2011. According to the FSA, 7.6 million euros was paid to private persons in 2011 due to damage from fires and natural forces. The EIA reports for 2011 that 4.2 million euros (i.e., 55% of 7.6 million euros) had been paid to private persons purely as a result of fire. Accordingly we can assume that 55% of compensation paid due to fires and natural forces arises specifically from fire-related cases. Therefore, 5.5% (i.e., 10% of 55%) of the total administration costs of insurance companies in 2013 are assumed to be fire-related.

2.3 COSTS AS A CONSEQUENCE

2.3.1 Property damage

In accordance with the Rescue Act (2010), the Estonian Rescue Board is the chief processor of data in the rescue information system. This is the system in which property damage is recorded along with other data.

Since 2008, assessments have been given based on various attributes of a structure involved in a fire and also the severity of a fire, focusing on the type of building, the construction year, the materials involved, information about renovation and square meters that were burned (ERB, personal communication, September 14, 2015). Information about damage to the contents of the structure is based on the owner's estimate. For this study, these values – obtained from the ERB (personal communication, October 3, 2014) – were simply summed up.

2.3.2 Health care costs

Health care costs include direct spending on the treatment of injured victims. The data on health care costs was mostly obtained from the Estonian Health Insurance Fund (EHIF) – the body through which the publicly incurred costs are financed – on the basis of the categories of the International Classification of Diseases (ICD) (EHIF, personal communication, October 9, 2014). This study includes the following medical cases categorised based on the ICD: i) exposure to uncontrolled fire in a building or structure (X00), ii) exposure to uncontrolled fire, not in a building or structure (X01), iii) exposure to ignition of a highly flammable material (X04), iv) exposure to ignition or melting of nightwear (X05), v) exposure to ignition or melting of other clothing and apparel (X06) and vi) exposure to other specified smoke, fire and flames (X08). In addition, we also accounted for cases under the ICD category formulated as assault by smoke, fire and flames (X97).

In general, health care services in Estonia are provided at three different levels: primary medical care, specialised medical care and paramedical care. The cost data by ICD categories is available only for specialised medical care. We simply summed up all the costs that were made in 2013 attributed to injuries and resulting illnesses as listed above. Primary medical care in Estonia is based on family doctors who are mainly financed by the EHIF, based on the number of persons on the list of a particular family doctor. We computed the share of fire-related medical cases in primary medical care (EHIF, 2015) and assumed that the same proportion of total primary health care costs incurred as a result of fire.

Since the EHIF cost estimates include the total cost of health care, variable costs were identified based on the structure of the personnel of the

two largest hospitals in Estonia – Tartu University Hospital (2014) and the North Estonia Medical Centre (2014). We found that the proportion of medical workers among the personnel of hospitals is around 70%. Accordingly, we assume that at least the same proportion of costs are directly related to the treatment of various diseases and injuries, and thus can be considered as variable costs by nature.

Within paramedical care, there were 258,399 callouts for emergency medical services. The total budget for these services in 2013 was 28.74 million euros (2013 State Budget, 2012). As there were 5,745 fires in 2013, of which 2,047 occurred in buildings or motor vehicles representing 0.8% of total emergency callouts, we assume that the same proportion of the total budget for emergency services arises from fire-related emergencies. In order to find variable costs, we consider 0.8% of the variable management cost such as car repair costs, fuel costs, clothing costs, and medical devices to be fire-related. Labour costs are calculated based on the assumption that it takes 30 minutes for an emergency response team with three members – a driver and two paramedics – to drive to the fire scene, provide services and then return to the location they departed from. As the hourly labour cost of a medical response team was 29.19 euros in 2015 (Health Board, 2015), we got 27.9 euros as a monetary value for the working hours involved by deflating it back to 2013 through a GDP deflator (Statistics Estonia, 2015g).

2.3.3 Human costs

Human costs arise from premature mortality and injuries sustained, reflecting loss of life and lost quality of life. In order to quantify this, we employ the willingness-to-pay approach. In order to avoid double counting, we don't tally the value of the output lost, as we expect this to be included at least partly in the value of statistical life. The value of statistical life (VSL) in this study is based on the EU average value of 1.7 million euros (Korzhenevych and Dehnen, 2014; Nellthorp et al., 2000). We adjust this to the Estonian context by assuming that the elasticity of VSL with respect to real GDP is 1.0 (OECD, 2012). As a result we obtain 853,333 euros as the VSL for Estonia. We use the following formula to annuize the VSL over the life expectancy of a victim:

$$VSLY = \frac{rVSL}{1 - (1+r)^{-L}}$$

where r is discount rate, VSLY is the value of statistical life year and L is life expectancy. This is a standard annuity payment formula that has also been used in earlier studies (Kallaste et al., 2015; Aldy and Viscusi, 2006). Applying the formula by assuming life expectancy of 40 years, i.e., the approximate life expectancy of the median aged individual in the EU (Eurostat, 2015b; 2015c), we got $VSLY=56,714$ euros.

To compute the human cost due to premature mortality, at first we derive the monetary value of life expectancy for each victim as a sum of discounted VSLYs. This is done based on the VSLY, the ages (ERB, 2015) and life expectancies of victims (Statistics Estonia, 2015h). In order to find the total human cost, the derived monetary values of the life expectancies of all victims were summed up. In the case of injuries, we apply 13% of VSL to severe injuries and 1% of VSL to slight injuries (HEATCO, 2006). Based on the data obtained through personal communication with the EHIF (October 9, 2014) and the SIB (October 30, 2015), we categorise all cases that required the involvement of specialized medical care as slight injuries and all cases that resulted in a determination of permanent disability (due to fire as the main cause) as severe injuries.

2.3.4 Environmental costs

The main environmental damage caused by fires is that they reduce the quality of air as a result of the emission of several pollutants that harm human health. In this study we make an attempt to monetise the emission of CO_2 . We use the study carried out by Love et al. (2010). We are aware that the objective of that analysis was to demonstrate the methodological tool rather than to estimate actual emissions. Even so, this is the only study we know of that has reported the information we need.

Authors report that with the total loss of the content of an exemplar house in New Zealand (the house content was actually taken from a Canadian study) at least 4,700 kg of CO_2 per 195 m^2 is emitted. Considering that climate conditions in Canada are rather similar to those of Estonia, we suggest that this figure can be used in this study in order to obtain at least the conservative estimate. We multiply that value with the total burned area in residential buildings for 2013 and thereby get our estimate for CO_2 emissions. In order to monetise the calculation, we take the minimum value of the shadow price of CO_2 estimated for OECD countries with

the output distance function. That was 238 PPP US Dollars (2005 USD) per ton of CO₂ (Dang and Mourougane, 2014). Based on the exchange rate of 1 US Dollar being equal to 0.74 euros in 2013 (Bank of Estonia, 2015) and inflation of 42% from 2005 to 2013 (Statistics Estonia, 2015i), we get 250.1 euros as a monetary value for per tonne of CO₂.

2.4 COSTS IN RESPONSE

2.4.1 Public fire service response

The first thing we need to take into account is that there is a water cost of approximately 2.5 tonnes incurred during fire extinguishing activities (ERB, personal communication, November 10, 2015) or 2.75 euros per average fire (Estonian Environment Agency, 2015). Total water cost was found as a product of 2.75 and the total number of fires. In computing the fire response cost borne by the ERB, we first observe that 93.2% of workers in mission units are directly involved in rescue activities of various kinds. In addition, 1.1% of workers assigned to mission units are involved in activities related to fire investigations. Therefore, in order to obtain the proportion of fire response cost as part of the total costs of the ERB, net appropriations to volunteer fire brigades, we perform the following operation: (Estonian Ministry of the Interior 2015a; ERB 2013).

The total cost of fire investigation is also considered as a variable cost. Remaining variable costs were found based on the average time that a fire brigade is utilised to provide a service. In 2014 this was 52.43 minutes per fire (ERB, personal communication, April 15, 2015). Total working hours are computed as a product of the average number of firefighters in one brigade (that being four), the average time in hours spent on one fire, and total number of fires. Variable management costs were found based on the ratio of management cost to labour cost that the ERB pays to volunteer fire brigades in order to cover their cost in participating in a response to a fire (ERB, 2015b). We found that this is 0.67, meaning that 67 cents of additional costs are incurred on each euro spent on labour.

An additional cost of fire service response involves answering calls from people who get into an emergency situation because of medical reasons or due to some other specific event such as a fire, an explosion,

a traffic accident etc. The Emergency Response Centre (ERC) reported in 2013 that 4.7% of all emergency events were rescue events (ERC, 2015). Considering that 77.9% – including false alarms – of all rescue events associated with fires (ERB, 2015c), we assume that the product of these proportions, which is 3.7%, reflects the share of the total cost to the ERC that arises as a result of fires.

Variable costs are found based on the amount of time it takes to handle a fire event. Considering that one person from the ERC is in contact with the fire scene during the whole period of the fire and that the aim of the ERC is to handle all calls within 100 seconds, one person from the ERC is involved with a fire event for 54.10 minutes on average. We multiply this by the number of fire-related rescue events and the resulting figure is monetised through an average hourly labour cost. We do not account for management costs here, as they should be mostly fixed with respect to fires, and represent a relatively modest share of the total budget of the ERC, amounting to less than 15% in 2013 (Estonian Ministry of the Interior, 2014).

2.4.2 Volunteer response

Appropriations from the ERB to volunteer fire brigades were 0.94 million euros in 2013 (ERB, 2013). We subtract prevention costs of volunteers (see section 2.2.1) from this figure and consider 71.9% of the resulting figure to be the response cost of volunteer fire brigades (see section 2.2.1 about the reasoning behind this proportion). To get the total cost we also add the same proportion of spending on fire protection services, net prevention costs (see section 2.2.1), made by local governments. Variable cost was estimated by summing up appropriations of the ERB to volunteer fire brigades, specifically for participation in the extinguishing of fires.

2.4.3 Police patrol services

Usually one police unit with two police officers is dispatched to the fire scene to ensure public order. This would for instance involve the regulation of traffic. As there were 3,323 fires in buildings, in forests, on land or in motor vehicles (ERB, 2015c), we assume that police patrols were called to the scene on as many occasions. We also assume that police officers and firemen spend a similar amount of time at an average fire scene,

meaning 52.43 minutes per fire. As a result, we find that police patrols spent 5,807.5 labour hours on driving to the scene, ensuring public order and driving back to their stations. That represents 0.06% of the total workload of the Estonian Police and Border Board (EPBB) and is also assumed to reflect the proportion of the cost of the budget of the EPBB allocated to these activities (Estonian Ministry of the Interior, 2014). The resulting cost figure is a variable cost by nature. Thus we assume that fire-related callouts for police patrols do not place a remarkable burden on the administrative and management staff of the EPBB, and we ignore these costs in our estimate.

2.5 Efficiency cost of taxation

Public spending places a burden on the public budget. Specifically, whenever dealing with fires calls for resources that cost 1 euro, society actually ends up bearing the economic burden of more than 1 euro, because each euro must be collected via distortionary taxes. The efficiency cost of taxation arising from the following cost categories are estimated in this paper: implementation of fire safety policy, prevention services, research and education, health care costs, fire service response, police patrol services, compensation for the loss of income to the fire victims through the social protection system and fire safety in government-owned non-residential buildings.

The proportion of government-owned buildings among the total number of buildings was assumed to be the same as the proportion of value added by the government sector in the total value added to Estonia's economy, as reported by Statistics Estonia (2015g). Regarding the compensation for the loss of income, the duration of the temporary disability of victims was identified based on the duration of medical cases involving sick leave from work, as registered by the Estonian Health Insurance Fund (EHIF, personal communication, October 9, 2014). As the EHIF compensates only 70% of lost labour income and does this beginning until the 9th day of a claim (Health Insurance Act, 2002), the benefits received by the victims were computed as follows:

$$\text{Benefit per victim} = (\text{Duration of a case} - 9) \times \text{average daily net wage} \times 0.7$$

To compute the total amount of fiscal transfers that come about due to permanent disability, we obtained data from the SIB about burn victims

by age, the percentage of disability and the duration of disability determined by medical experts (SIB, personal communication, October 30, 2015). We only account for injuries experienced in 2013 in which fire injury was the leading cause of permanent disability. Since disability pensions in Estonia are calculated based on old-age pensions, the benefit paid to a person with a permanent disability is computed as a discounted sum of the product of the duration of disability, average monthly retirement pension (from Statistics Estonia, 2015j) and percentage of disability.

We assume that fire-related public spending is funded by labour taxes. Barrios et al. (2013) have estimated that the marginal cost of public funds in the case of labour taxes in Estonia is 1.3. Consequently we take 30% of fire-related government expenditures in order to arrive at the estimated efficiency cost of taxation.

3. RESULTS

The total cost of fires in Estonia as well as a breakdown of this cost is presented in Table 3. We managed to quantify and monetise a burden of 346.9 million euros, of which 76% is variable by nature. Most of the cost arises from the consequences of fires, representing approximately three-fourths of the total costs. This also explains the relatively high proportion of variable costs, since costs as consequences are mostly variable. More than four-fifths of the consequences in monetary terms are associated with the direct harm that fires have caused to the material wealth of victims. While 1,660 structures in all were affected by fire in 2013, estimated property damage involved 679 structures and amounted to 220 million euros.

Property damage was also the main contributor to the efficiency cost of taxation from costs as a consequence, because 15% of the property damage of non-residential buildings was assumed to be borne by the government sector. As seen in Table 3, the efficiency cost of taxation from disability benefits ranges up to 32.4 million euros. This should however be differentiated from the actual transfers themselves that are somewhat

greater, but cannot be considered as opportunity costs from the social perspective.

TABLE 3. Estimated cost of fires in Estonia in 2013 (thousand euros)

COST COMPONENTS	TOTAL COSTS	% OF TOTAL COSTS	VARIABLE COSTS
COSTS IN ANTICIPATION	44,741.1	12.9%	0.0
Formulation of fire safety policy	3,349.6	1.0%	0.0
Fire prevention service	2,423.8	0.7%	0.0
Fire research and education	1,462.7	0.4%	0.0
Fire safety in buildings	25,394.7	7.3%	0.0
residential buildings	4,583.7	1.3%	0.0
non-residential buildings	20,811.1	6.0%	0.0
Fire safety in motor vehicles	1,639.8	0.5%	0.0
Maintenance	2135.2	0.6%	0.0
Insurance administration	5,227.6	1.5%	0.0
Efficiency cost of taxation	3,121.3	0.9%	0.0
COSTS AS A CONSEQUENCE	260,638.3	75.1%	260,404.0
Health care costs	435.7	0.1%	273.0
Property damage	220,015.8	63.4%	220,015.8
residential buildings	100,724.6	29.0%	100,724.6
other structures	119,291.1	34.4%	119,291.1
Human costs	34,358.8	9.9%	34,358.8
premature mortality	28,522.0	8.2%	28,522.0
severe injuries	1,664.0	0.5%	1,664.0
slight injuries	4,172.8	1.2%	4,172.8
Environmental costs	296.8	0.1%	296.8
Efficiency cost of taxation	5,531.2	1.6%	5459.7
from temporary disability	11.5	<0.1%	11.5
from permanent disability	20.9	<0.1%	20.9
COSTS IN RESPONSE	41,578.1	12.0%	2,245.6
Public fire service response	30,296.4	8.7%	1,112.5
Volunteer fire service response	1546.5	0.4%	150.7
Police patrol services	140.3	<0.0%	140.3
Efficiency cost of taxation	9,594.9	2.8%	860.7
TOTAL	346,929.5	100%	262,649.7

Total human costs in terms of injuries and mortality amount to more than 34.4 million euros. Human costs can be categorised as the second largest source of economic burden for society due to fires. This is the result of 46 deaths, 15 severe injuries and 489 slight injuries. The largest part of the human cost comes from deaths, amounting to 28.5 million euros. This value reflects the value of life of the victims, most of whom were aged from 50 to 75. Only 5 victims were younger than 50 years of age, while 3 victims were older than 75 years of age.

Two additional cost components – environmental cost and health care cost – are of the same magnitude, ranging from 297 to 436 million euros. Concerning environmental costs, the burned area in buildings in 2013 was 49,251 m², and we estimated that as a result 1,187 tonnes of CO₂ were emitted. In our estimate concerning fire-related health care costs, 73.2% of these are allocated to specialised medical care, 26.4% to paramedical care, and the remaining proportion to primary care. We need to add that roughly half of the costs of specialised medical care are associated with fires outside buildings, and 10% with fires within buildings, while 25% of fires that caused health damage have been categorised as related to the ignition or melting of clothes. Cases in the latter category mostly occur in buildings and not as frequently in homes.

Costs in prevention of fires were estimated to be more than 6 times lower than costs as consequences. More than half of this cost comes from fire safety regulations being applied to buildings. The cost in response to fires represents slightly more than 10% of the total costs of fires and is mainly associated with extinguishing activities carried out by professional firefighters and related efficiency cost of taxation. Most of the cost of the fire service is however fixed with respect to the number of fires, since standby costs remain constant, regardless of whether response teams are called out or not. Volunteer firefighter's costs were estimated to represent roughly 5% of fire service costs.

4. DISCUSSION

This study is the first attempt to quantify the economic burden due to fires in Estonia. Our estimate for 2013 is 347 million euros or 1.8% of that year's GDP (Statistics Estonia, 2015g). In order to make these results more apparent, we compared them with four relatively recent studies conducted elsewhere (see Table 4). It is seen that the cost components that different authors have quantified vary considerably. It appears that all five studies have succeeded in monetising the following cost components: fire safety in buildings, insurance administration, human costs, property losses and the cost of fire service responses. Summing up all of these overlapping cost categories makes the results more comparable, as

well as making them similar. While total cost estimates from three earlier studies are within 0.7-0.9% of GDP, the US estimate for 2011 and the Estonian estimate for 2013 are both two times higher.

Estimates also suggest that the costs in buildings seem to be rather similar in all the observed countries. The Geneva Association (2014) that provided a comparison of 15 different countries with regard to cost of fire protection for buildings reports that these costs vary from 0.12% to 0.40% of GDP. Therefore the estimate for Estonia seems rather realistic. Estonia's somewhat lower level when compared to others might arise for several reasons, such as a lower level of activity in the construction sector, her possibly less stringent safety regulations, or different methodology used.

Unlike in other countries, property losses and human costs are clearly the leading sources of the fire-related economic burden in Estonia. One simple explanation for this is that Estonia's GDP is much lower compared to the other countries and these costs just stand out. On the other hand, this might also be explained by a somewhat higher rate of fires and more severe consequences in terms of the burnt area and numbers of fatalities. For example, while the age-standardised mortality rate per 100,000 related to fire, heat or hot substances in 2012 in Estonia was over 2.9, in other countries it was 0.7 or lower (WHO, 2015). As a result, although other studies have used a considerably higher value of statistical life and have also included lost production as a part of human costs, the respective estimate for Estonia still remains at a remarkably higher level.

Compared to other countries, Estonia seems to contribute a relatively low share of its GDP to fire response services. This seems somewhat surprising as according to Eurostat (2015), Estonia's public spending on fire-protection services tends to be above the European average. There are several explanations for this. First of all, one should note that the cost of fire-protection services published by Eurostat also includes civil protection services such as beach surveillance and the evacuation of flooded areas, which complicates the comparison of the cost of fire services alone. Additionally, according to the Geneva Association (2014), the costs of public fire brigades in the US, UK, Australia and New Zealand are higher than in most European countries. Finally, the relatively low

level of response cost in Estonia can be attributed to the modest contribution made by volunteers.

TABLE 4. Comparison of the most recent estimates regarding the cost of fires (equivalent % of GDP)

Cost components	England and Wales ^a , 2003 (Office of the Deputy Prime Minister, 2005)	New Zealand, 2003 (BERL, 2005)	Australia, 2005 (Ashe et al., 2009)	United States, 2011 (Hall Jr., 2014)	Estonia, 2013 (present study)
Buildings	0.26	0.23	0.19	0.20	0.13
Civil engineering	-	<0.00	0.20	-	-
Maintenance	-	-	0.13	0.29	0.01
Consumer items	-	-	0.18	-	-
Motor vehicles	-	-	-	-	0.01
Insurance	0.07	0.11	0.04	0.13	0.03
Prevention service	0.01	0.01	-	-	0.01
Research and education	-	-	-	-	<0.01
Human costs ^b	0.15	0.12	0.04	0.20	0.18
Property losses	0.22	0.13	0.11	0.08	1.16
Lost business	<0.01	0.01	0.01	0.01	-
Environmental costs	-	-	0.02	-	<0.01
Fire service response	0.20	0.16	0.37	1.18	0.17
Volunteers	NE ^c	0.03	0.22	0.89	0.01
Criminal justice	0.01	-	-	-	<0.01
Efficiency cost of taxation	-	-	-	-	0.10
TOTAL (all)	0.91	0.75	1.28	2.09	1.82
TOTAL (overlapping)	0.89	0.72	0.74	1.79	1.70

^a proportions of gross value added instead of GDP; ^b also includes health care costs;

^c NE denotes not estimated.

In fact, the contribution made by volunteers represents more than half of the total costs of fire service response in the US and Australia and approximately one fifth in New Zealand, but less than 5% in Estonia. The big difference can be partly ascribed to the computational methodology used. For example, in the US, the authors have computed the alternative costs if all communities currently served by volunteer firefighters were to be protected instead by paid professionals. All other things being equal, this should produce a higher cost estimate than the one used in the present study. For example, we included only the costs of volunteers who were compensated by the ERB or local governments. Volunteers

apparently bear a remarkable economic burden without remuneration. In addition to methodological considerations, another factor that might help explain the low cost of implementing volunteers might be Estonia's rather modest recent history of volunteer firefighting. It was only a few years ago that voluntary fire departments began to be promoted and more seriously supported.

An additional observation from this study is that while in most countries cost as a consequence seems to be lower than cost in anticipation, or at least in the same range, in Estonia the former was estimated to be almost 6 times higher than the latter. Even if we could monetise some additional cost categories such as costs in consumer items, in civil engineering and additional maintenance cost, and if these costs would represent a similar share of GDP as, say, in Australia, costs as a consequence in Estonia would still exceed cost in anticipation by about two times. These differences could of course also be explained by the different stages of overall socio-economic development of the countries surveyed, or in connection with assessment methods used. Nevertheless, the distribution of costs revealed here should not be ignored in making cost allocation decisions. For example, considering the dominance of costs as a consequence over other cost components, one could wonder whether increasing cost in anticipation by 1 euro might possibly decrease costs as a consequence by more than 1 euro. If that were the case, it would mean that the total cost of fires could be reduced.

From a social perspective, the objective of the government could be the minimisation of total costs, because it would improve social welfare by increasing the efficiency of resource allocation. At this point in time, it would however be difficult without further analysis to make specific recommendations with regard to changes in specific cost categories or their ultimate impact in Estonia. For example, one can find evidence for other countries that a net benefit can't be achieved through the increase of costs allocated to fire prevention and response (Ashe et al., 2011; Särdaqvist and Holmstedt, 2000).

Although this might apply to certain specific preventive or responsive activities in Estonia as well, the results of the present study indicate exactly the opposite from that perspective. In other words, we speculate that considering the enormous difference between the cost structures

in Estonia and other more economically developed countries (based on Table 4), optimal resource allocation probably lies somewhere in between. However, further analysis such as social cost-benefit tests or the application of some alternative safety-specific methods (e.g. see Ma et al., 2016 or Farrow and Hayakawa, 2002) is required if we are to go forward from here.

In addition to total opportunity costs, we also estimated that 263 million euros or more than three-fourths of total costs are variable costs. The part of total costs considered as fixed in this paper could of course be changed through regulations and budgeting decisions in the public sector, as suggested in the preceding paragraph. Even then, while planning and evaluating fire safety interventions in practice within a given environment, taking a variable costs approach might be more useful. For example, based on the estimate of this paper, one could say that a fire safety policy that costs 263 million euros would be efficient only if it prevented all fires in Estonia. By averaging total variable costs over the total number of reported fires (Statistics Estonia, 2015a), we arrive at a sum of 45,779 euros per fire. Under constant marginal cost, this value can be interpreted as the marginal cost or “shadow price” of a fire, since it reflects the social value that is gained by preventing one fire. It follows that it would be socially efficient to spend up to 45,779 euros to prevent one additional fire. One must however be mindful of the fact that since there might be a considerable number of unreported fires, the latter statement would then be true only if the level of reported fires were strongly correlated with the level of unreported fires.

This study has several limitations. We failed to quantify several cost components, and some estimated figures include a great deal of uncertainty. Missing components include and are not limited to costs in civil engineering and in consumer items, the cost of fire services offered by private companies, privately funded health care costs, the cost to the family and friends of victims, police processing of fire-related crimes or providing temporary watchman services to damaged properties, and to businesses due to fire-related interruptions. In particular we are uncertain concerning the environmental cost that was computed based on uncertain emission data, and the costs in buildings that deserve a separate study to respecify the proportion of fire safety costs in construction costs. Another example of issues that remain unresolved concerns the cost of

maintaining fire alarm systems and of conducting fire drills. Concerning the efficiency cost of taxation, we did not account for indirect fiscal effects, such as lost tax revenues from deaths and injuries, or cost savings to health care and pension systems from deaths. However, since the age of fire victims in Estonia is mostly over 50, these effects are relatively small and cancel each other out, at least to some extent.

To conclude: estimates about the costs of fires are valuable inputs into the process of designing national fire safety systems. Studies so far have managed to provide an initial indication to the level of the total economic burden of fires and the allocation of this burden across different sectors. However, there is much uncertainty in respect to the magnitude of several cost components and the resulting structure of the costs. This complicates efforts to make the best-cost allocation decisions as well as the task of carrying out comparison across different countries. Future research should seek to fill these gaps. In addition, as the problem concerning the optimal mix of various fire-related costs still remains unresolved, more attention should be paid to analysing the optimality of resource allocation in the fire safety sector.

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SOME ASPECTS OF THE DESIGN
AND IMPLEMENTATION
OF AN ENGLISH AS A MEDIUM
OF INSTRUCTION (EMI) COURSE
IN TEACHER TRAINING:
AN EXAMPLE OF THE ESTONIAN
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‘...a person learns significantly only those things which he perceives as being involved in the maintenance of or the enhancement of his own self’

– Carl Rogers, Freedom to learn, 1969, p. 15

ABSTRACT

This paper introduces and discusses key issues as well as challenges concerning the implementation of English as a medium of instruction (EMI) in teacher training. Here the experience of teacher training practice in the professional higher educational system of internal security is reflected upon and the main strategies of developing subject teachers’ linguistic and didactical competence are presented. As the aim of the paper is to introduce the key aspects of the design and structure of an EMI course, the content of the article may be of interest to professionals working in the area of teaching academic subjects (specialities) in English, it can also be beneficial to those higher education institutions who are partners of the Estonian Academy of Security Sciences and who practise the teaching of curricular subjects in English. The authors offer particular recommendations on how to improve EMI teacher training and make it sustainable.

Key words: English as a medium of instruction (EMI), Content and Language Integrated Learning (CLIL), teacher training, professional teacher development, professional higher education, integrated course design, significant learning, didactical competences, linguistic competences

1. INTRODUCTION

According to the policy of internationalisation of higher education at a European, national and institutional level, English as a medium of instruction (EMI) has become a growing global phenomenon in higher education in non-English speaking countries, including Estonia (Coleman 2006, Dearden 2015, Miller et al. 2012, Ehin & Gross 2010, Klaas-Lang & Metslang 2015, Saar & Mõttus 2013, Soler-Carbonell 2015). The leading role and influence of English as a global language will continue to grow in near future (Crystal 1997), therefore the interaction between the three components of proficiency: professional, linguistic and cross-cultural communication skills, become important in the learning process.

In 2010, the Estonian Academy of Security Sciences (EASS) became the only educational institution in Estonia, where all professional higher education curricula had passed an evaluation carried out by an independent quality agency (i.e., the Estonian Higher Education Quality Agency). Therefore, the curricula of the academy meets the requirements and trends present in international higher education. Being a part of the European cooperation network in the sphere of security education, the EASS faces an obvious need to provide its academic staff with efficient EMI training and to fill the gap concerning EMI. It is therefore crucial to indicate the importance of EMI teacher training, which aims to raise teachers' awareness of methodological and didactical strategies so they can teach content through the English language. Moreover, this is consistent with the increasing role of overall educational qualifications for EU citizens, which indicate the trend of rising demands on sufficient English skills.

In response to this challenge, the Language Centre of the EASS officially commenced a permanent instructional course entitled „Teaching Academic Subjects in English”, which was carried out between November 2014 and May 2016. The aim of the course was to develop speciality lecturers' professional English language skills. The course is comprised of two main competences: English for special purposes (ESP) and didactics. The learning process was adjusted to meet the needs of the course participants and based on their linguistic and didactic preparation. In an academic environment, an individual's readiness and willingness to

become proficient in English, are influenced by each person's own social preparation and background, this being due to the impact of their current and previous socio-linguistic environment.

It is also important to consider the feedback received from students and current employers (Tax and Customs Board, Police and Border Guard Board, Rescue Board, Prison Service). According to the results of the needs analysis, the graduates' acquired language skills were unsatisfactory, i.e. the expected language level needed for coping in classroom situations was inconsistent. Consequently, the expectations regarding the language proficiency of the speciality lecturers of the EASS are high.

Considering all the aforementioned, the aim of this paper is to introduce the key aspects of the design and structure of an EMI course for lecturers who were teaching or planning to teach their subjects in English, conducted at the EASS during the 2014/15 and 2015/16 academic years. The authors hope the article may be of interest to professionals working in the area of teaching academic subjects (specialities) in English and also useful to those higher education institutions who are partners of the Estonian Academy of Security Sciences and who practise the teaching of curricular subjects in English.

2. EASS'S EXPERIENCE IN TEACHING THROUGH THE MEDIUM OF ENGLISH (INSTITUTIONAL CONTEXT)

Consistent with the EASS Development Plan 2020, the Academy's structural units are actively contributing to the internationalisation of higher education and vocational training by developing actions/measures to be taken in the organisation of studies and increasing the competence of conducting lectures in English or any other foreign language.

By 2020 it will be possible for EASS students to choose between the variety of internal security and law enforcement related subjects in English, in the field of international cooperation (in the capacity of 60 ECTS). Therefore, there will be a strong need to involve foreign lecturers in the internationalisation process.

In order to increase and intensify the mobility of international communication, additional opportunities to learn foreign languages will be created for the academic staff of the Academy. The main focus will thus be on the development of English language proficiency.

Development of the first international module for ERASMUS students at the EASS began in 2011 (Table 1). The module consisted of subjects in the MA programme conducted in English. In addition to that, professional higher education level lectures were conducted in English. Lecturers whose level of English was sufficient, were offered an opportunity to conduct their courses in English.

In 2011/2012, the number of ERASMUS students at the EASS was 9; in 2012/2013 it was 28; in 2014/15 it was 16; in 2015/16 it was 19. In the 2015 autumn semester, there were 20 subjects (in the capacity of 50 ECTS) in the international module conducted in English. The module is continuously being developed in cooperation with the Department of Academic Affairs, the Department of International Affairs and the colleges.

During the years 2011-2016, the international module has constantly been developed and the inspection as to the quality of the module is most essential. During those years, the ERASMUS students of the EASS have been asked to provide feedback on the subjects taught in English within the module.

According to the latest ERASMUS students' feedback collected during a focus group interview conducted in the spring semester of the 2015/16 academic year, there are some aspects concerning the quality of the module, which need to be improved. The students have mentioned the teachers' insufficient level of English. Additionally, they referred to the necessity of having course materials compiled in good English. Therefore, some of the suggestions for the improvement of the quality of the module include offering fewer subjects in English, and the subjects which are then offered should be conducted by lecturers whose level of English is advanced and whose course materials are in good English, having been compiled in cooperation with the specialists of the Language Centre.

As a result, the Language Centre of the EASS has offered a support programme (a 24-hour course "Teaching Academic Subjects in English") for

the academic staff of the EASS, to improve their (professional) language and teaching skills. Participating in the course has always been voluntary and it is meant for lecturers and trainers who have to teach their subjects/speciality in English, both to visiting Erasmus students and the participants of different international internal security related training sessions. Lecturers wanting to improve their language competency were also welcome. The pilot course was launched in November 2014 and lasted until January 2015. After the successful pilot, three courses were held from spring 2015 to spring 2016.

TABLE 1. Development of the international module in the EASS by year

Year	Lecturers	Subjects
2011 / 2012	15	Academic English; European Monetary Union; Innovation Management; Community Policing Management; Crisis Management; Basics of Economics; Migration, Refugees and Media; International Organised Crime; Cooperation in the field of Internal Security; Operational Activities in the field of Internal Security.
2012 / 2013	23	Professional English in the Field of Internal Security; Innovation Management; Domestic Violence; Crisis Management; Crime Analysis; Current Issues in Criminology and Penal Policy; Maintaining Road Safety; Basics of Economics; Change and Stress Management; Oil Spill Management; Project Management; International Organised Crime; Cooperation in the Field of Internal Security; Identification and Inspection of Strategic Goods; Prison Management and Staff Policy.
2014 / 2015	22	Professional English in the Field of Internal Security; New Challenges to Security and Stability in the Euro Area; European Monetary Union; Innovation Management; Geoinformation in Civil Protection; Smuggling and Human Trafficking as Cross-border Organised Crimes; Crime Analysis; Cultural Intelligence. Nations, Religions, Ethnoses; Domestic Violence and the Society; Psychology; Weapons Study; Management of Rescue Works on Operational Level; National and International Crisis Management; Introduction to Self-Defence; Russian for Beginners; Identification and Inspection of Strategic Goods.
2015 / 2016	24	Professional English in the Field of Internal Security; New Challenges to Security and Stability in the Euro Area; European Monetary Union; Geoinformation in Civil Protection; Smuggling and Human Trafficking as Cross-border Organised Crimes; Innovation and Development; Project Management in the Field of Internal Security; Crisis Management; Domestic Violence and the Society; Psychology; Management of Rescue Works on an Operational Level; Weapons Study; National and International Crisis Management; Introduction to Self-Defence; Russian for Beginners; Operational Activities in the Field of Internal Security; Developing Study and Training Programmes in the Field of Internal Security.

3. EMI AND CLIL IN HIGHER EDUCATION: CONVERGENCE AND SPECIFICITY

Many scholars (Coleman 2006, Coyle et al. 2010, Dearden 2015) have noted the strong influence of English-medium teaching in Europe, especially in higher education. Herewith the teaching of subjects through the medium of English is considered as a way to support institutional participation in international partnerships and networks, and the internationalisation of higher education in order to improve not only the foreign language skills of students, but also raise the international prestige and mobility of academic staff.

When teaching a subject through the medium of a foreign language, or bringing content into an English lesson, the lecturer has to deal with the area of content and language integrated learning (CLIL). This method envisages teaching a subject through the medium of a foreign language, in other words, learning of content and a foreign language simultaneously (Marsh 2002, Coyle et al. 2010). Nevertheless, the difference between the two approaches of CLIL and EMI lies in the fact that CLIL provides teaching both curriculum content subjects and a language (i.e., English) together, but in the case of the English-medium approach “the learner is not necessarily expected to have the English proficiency required to cope with the subject before beginning study” (Graddol 2006: 86). English is used as a vehicular language.

The notion of EMI itself was only coined recently and therefore there is no single definition that is accepted by all. There are cases where CLIL and EMI have been used interchangeably. Methodologically CLIL and EMI are interrelated, as both consider language as a predominant medium of instruction and learning, herewith the subject content contextualises language learning. While CLIL has a dual aim woven into its name (the development of both language and content), EMI does not. The latter is only about teaching subjects to students, whose mother tongue is not English, using English as a vehicular language (Marsh 2002, Coyle et al. 2010, Dearden 2015).

Taking into account the widespread discussion about what EMI and CLIL are and how they differ from one other, the most appropriate distinction between these approaches is teaching curricula non-linguistic

(academic) subjects in English precisely to non-English speakers. Unlike EMI, CLIL, as well as other types of content-based teaching, refer to the improvement of both content and language, and involves teaching content primarily and before the linguistic goals.

For instance, one of the researchers (Atkin 2013: 146) concluded that a more effective way to achieve better results when dealing with language in content courses is to move from EMI to CLIL, with regard to Hellekjaer and Wilkinson’s consideration about “letting the language aspect influence teaching and course design” (Op.cit., 90).

In the following table some differences between applying CLIL and EMI in higher education have been brought out. Note that the table is not conclusive and consists of only a brief comparison of some aspects the authors of the article saw as significant.

TABLE 2. Differences between the concepts of CLIL and EMI

Comparable aspects	CLIL	EMI
The essence of the method	Integrated content and language learning	English as a medium of instruction
Learning methods and environment: language and subject (content)	CLIL lecturer provides the environment, context of where and how the vocabulary is used	EMI lecturer teaches subjects through the target language. EMI lesson is a regular lesson with emphasis on the subject, not the language.
The role and responsibility of content and language lecturers	Content lecturer can do CLIL tasks. Language lecturer provides language. Teaching is carried out in cooperation with the language and subject lecturers.	All activities are carried out only by the content lecturer. Language lecturer is not involved. Language lecturer may help the content lecturer prepare for the course.
Teaching techniques	Language teaching support (from language lecturer to content lecturer)	No language teaching techniques Clear instructions in English (classroom English)
Feedback	Feedback can be given in both the language taught in and the trainees’ mother tongue	Little or no feedback on language (feedback on concepts and vocabulary, not grammar)

Learning materials	Authentic learning material (environment); 95% of content and 5% of language assessment	Authentic material (little or no emphasis on language)
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4. WHAT ARE EMI TEACHER TRAINING CHALLENGES?

There is no doubt that teacher training is crucial in order to conduct lectures in another language in an effective way. However, according to some recent surveys (O'Dowd 2015; Dearden, 2015) many European universities, including some in Estonia (Klaas-Lang & Metslang 2015), are offering a notable number of subjects in English, but they are not paying sufficient attention to the training and accreditation of the teachers involved in it. In recent years, the EASS has been dealing with the same challenges.

A recent study of 70 European universities showed that almost 68% of the universities who participated in the survey provide courses for teachers who teach their subject in English. The study identified that courses are mostly given by the training staff of the home institution and are classroom-based. The length of the courses varies considerably: 25% of the courses are between 1 and 15 hours, 36% between 15 and 30 hours, 25% lasting between 30 and 60 hours and 15% said that their courses lasted longer than 60 hours. Most of the courses concentrate on improving teachers' language competence and providing feedback on it. Unfortunately, less than half pay attention to bilingual educational methodology, and only a few focus on the development of academic language (O'Dowd 2015).

The lack of bilingual education methodology is also found in Dearden's (2015) recent EMI survey of 55 European universities. The teachers who participated in the study affirmed that EMI is beneficial for students, but at the same time, they strongly believed that teaching English was not their job. In this light, the author raised a question: "We may ask how students are supposed to understand lectures and classes if the EMI teacher does not help with their knowledge of English by paraphrasing, by teaching subject-specific vocabulary and technical terms" (Dearden

2015: 28). Cots (2013) claims that the methodology tailored for EMI aims to focus on greater student participation and on supporting the construction of understanding, rather than the transfer of information. This can be achieved with the help of different resources and scaffolding provided by the teacher. Therefore, it is essential to understand the changing roles of a teacher. There is also a cross-cultural aspect of teaching that should be taken into account when teaching within the context of EMI. A teacher has to be prepared for multicultural classrooms because learners' beliefs, values and norms may be different and have to be taken into account. Thus, it is crucial for teachers to have cross-cultural competence in addition to the linguistic one.

Another challenge of EMI includes qualifications and forms of accreditation required when teaching through EMI. Dearden's (2015) survey identified that there were not enough qualified EMI teachers, the majority of the respondents were also unaware of the language levels, what is more – of qualification tests meant for EMI teachers. They teach their subject in English because they have volunteered, or they speak the target language well, or have participated in Erasmus programmes abroad. As mentioned above, there is a similar situation at the EASS where lectures in English are being conducted on a voluntary basis depending on the lecturer's English language proficiency level.

Similarly, there is no common understanding with regard to the level of English a teacher should have, in order to be able to teach a subject in English. According to O'Dowd's (2015) survey, the required minimum level ranges from B2 to C2: 43% of the institutions require their teachers demonstrate a B2 level in English, 44% require C1 and 13% require C2. However, one may wonder whether a B2 level is enough for teaching at a university level. On the basis of our previous EMI experience at the EASS and recent student feedback, we dare to claim that a B2 level in English is insufficient for lecturers to successfully conduct an EMI course.

Thus, the findings of recent studies have shown that there is a need for universities to pay greater attention to the whole teacher training and accreditation process for teachers who are involved in EMI. Also they indicate the need for common guidelines across the whole European Higher Education system (Dearden 2015, O'Dowd 2015).

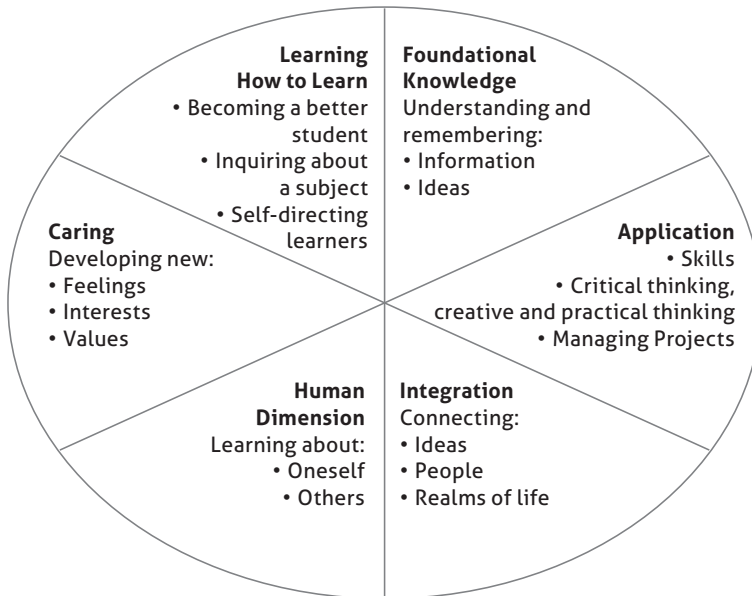
5. DEVELOPING DIDACTIC COMPETENCE AND LANGUAGE COMPETENCE: THE KEY DESIGN ASPECTS OF THE EMI TEACHER-TRAINING COURSE “TEACHING ACADEMIC SUBJECTS IN ENGLISH”

The basic structure of the course is the area of intersection between three educational components: language, professional language and didactics. Therefore, the task for our teacher-training course was to find a middle ground that enables all three aspects to develop simultaneously.

The course was constructed on the principles of significant learning (Dee Fink 2003), based on the six relational and interdependent key categories (Figure 1): foundational knowledge, application, integration, human dimension, caring and learning how to learn. According to the taxonomy of significant learning, each kind (or category) of learning is related to another and achieving any one kind of learning simultaneously enhances the possibility of achieving the other kinds of learning as well. So the process of learning becomes synergistic.

FIGURE 1. Taxonomy of significant learning

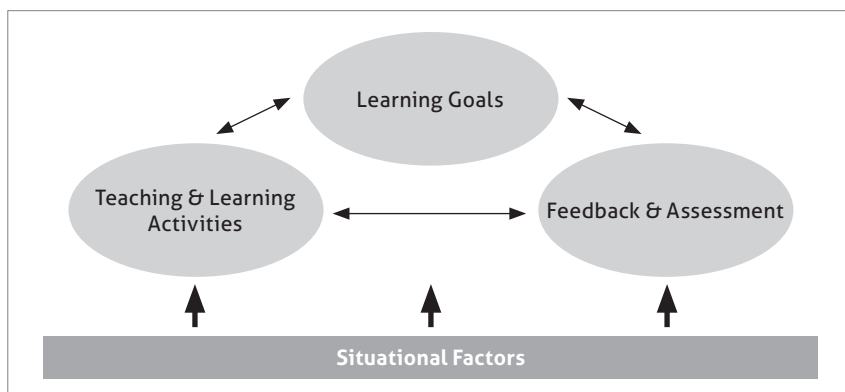
Dee Fink 2003: 30



In view of the variety of learners’ comprehension levels, the teaching method adopted by the authors focused on the aspects described as a model of integrative course design by Dee L. Fink, which envisaged identification of the learning goals, situational factors, educative assessment and activities as a learning opportunity and holistic view of active learning (Figure 2).

FIGURE 2. The model of integrative course design

Dee Fink 2003: 62



The aim of the EMI teacher training course “Teaching Academic Subjects in English“ implemented at the EASS is to develop the skill of teaching in English, which enables a specialist to realise oneself in international research, learning and working environments. The course was first launched in the autumn of 2014 and the length of the course was 24 academic hours of classroom-based learning (2 hours per week) plus individual homework. The course enabled the possibility to analyse different teaching methods and to practice teaching one’s subject in English (observing and noticing, analysis, non-judgemental communication of conclusions, friendly feedback, practical application, 3-in-1 (student-teacher-mentor), learning by doing, communication skills by a language teacher, peer experience, creative ideas encouraged, synergy of communication and sharing, hands-on work in different roles: learner-teacher-observer, lecturer-presenter). As a result, the course participants’ presentation and expression skills improve and language block disappears.

The abovementioned course has been created for lecturers and trainers who have to teach their subject (speciality) in English, and who want to develop the following skills:

- Professional English skills: receptive skills (listening and reading), productive skills (speaking, including oral presentations) and writing, knowledge of the terminology and professional language of the speciality.
- English language skills: communication in dialogues, considering learners' cultural context and their target language.
- Speciality teaching skills: knowing the methods of didactics, practical skills needed for holding a lecture or seminar, and carrying out individual supervision.

During the course, the trainees practise the following language activities, catering for the development of language skills:

- Using English at levels of B (Independent User) and C (Proficient User). During the contact lessons the main focus is on presenting and analysing the language structures of the speciality as required by the group.
- Using professional English related to the speciality of the trainees.

When practising speaking skills, learners formulate the content of their research idea/lecture using correct English, outline their reports by moving from general to specific, and use the acquired expressions.

The didactical skills needed for teaching the speciality are developed by solving didactical tasks either in groups or pairs and explaining together how the solution could be reached. The trainees test their speciality related teaching techniques in English. They give immediate feedback to their fellow trainees, either orally or in writing (didactical skill, language skill and the skill of forwarding information, communicative capability). The tasks include practicing teaching, receptive and productive language skill development, analysis of the trainees' performance as well as feedback given by the both lecturer and other trainees.

Within the course, the learners are also given homework assignments: a prerequisite for attending the course is the learner's individual

preparation on a previously agreed topic. The learner is supervised and the following competencies are assessed:

- The use of English, both spoken and written.
- The use of professional English, both spoken and written (incl. discovering the language level of the learners and taking this into consideration when teaching is practised).
- Teaching competency: implementation of the knowledge of didactics in practice, taking the learner's subject profile into account.
- Communication with learners from different backgrounds and language levels.

The goals were achieved by:

- Creating a safe and supportive learning environment.
- Modifying the learning activities according to the groups' needs and evolving the skills of individual participants.
- Out-of-the-box approach, i.e. thinking differently, unconventionally, from a new perspective, searching and exploring uncommon ways and solutions, creating new paradigms.
- Creating a supportive atmosphere.
- Giving friendly feedback.
- Using the strategy of noticing – personal and peer observation.

By the end of the course, the trainees:

- Will have acquired a word bank on academic and speciality-related topics, through reading and analysing the texts.
- Will have become familiar with their students' cultural and language context.
- Will have learned the basic tools for teaching their subject in English.

The trainees received essential theoretical and didactical input about the following topics, which are based on the core sources:

1. The meaning of significant learning (Dee Fink 2003).
2. The main techniques and key ideas of teaching CLIL and EMI (Deller & Price 2007; Coyle et al. 2010, Dale & Tanner 2012):
 - The 4 “C”-s concept: *content* (understanding of content and clarification of learning outcomes), *cognition* (developing thinking skills to provide a sufficient challenge), *communication* (linguistic tools and genre-specific language needed to understand the

- content and use the vehicular language) and *culture* (developing tolerance and cultural awareness).
- The principle of matching tasks and questions with Bloom's revised taxonomy (i.e. remembering, understanding, applying, analysing, evaluating, creating);
 - The idea of *scaffolding* needs to be provided by language teachers in both language and content learning, in order to help learners solve possible problems;
 - The specificity of the classroom language, the language of instruction;
 - The specificity of assessments and giving feedback: assessment of learning (a summary of what a learner knows) and assessment for learning (an informal assessment to encourage the learners' achievement rather than simply measure it).
3. Intercultural competencies. The *cultural iceberg* model (Hall 1989). According to Edward T. Hall, culture has the shape of an iceberg with its internal and external parts. External culture is the outward behaviour of a society. The internal culture is expressed by beliefs, values and thought patterns.
 4. Learners' mindset: the specificity of teaching different generations X (1965-1980), Y (1980-1995), Z (1995-2015) (Coyle et al. 2010). Representatives of different generations have been brought up with different thinking conventions, and they are prone to developing a mindset to which educators and trainers need to respond. The learning practice needs to be adapted to meet the cultural demands of learners from all the above-mentioned generations, through the key principle of integration.

Other methodological topics discussed within the course were:

1. A heuristic model of teacher's professional development (Berliner 2004): the novice stage of development (minimal skill and competency in the tasks of teaching), the advanced beginner stage (experience becomes merged with verbal knowledge), the competent stage (further experience creates a more competent performer), the proficient stage (professional intuition becomes evident), the expert stage (a fluid teaching performance).
2. Teacher concerns model: head, heart and hands, originally referring to famous educator Johann Heinrich Pestalozzi's idea of integration of the main spheres of learning: cognitive, affective and practical.

There are central dimensions of the learning matrix from the point of view of modern educational theory: the intellectual, the personal, the social and the practical (Light & Cox 2008).

3. Constructive feedback. Collegial feedback on teaching. FIDeLity feedback: Frequent, Immediate, Discriminating (based on clear criteria and standards), and delivered Lovingly (supportive, performer-friendly feedback) (Dee Fink 2003).
4. Different methods to be used (incl. problem-based learning, flipped classroom, etc.).
5. Using electronic resources in teaching.
6. Classroom English: lectures, presentations and classroom expressions.
7. Teaching an item: micro-teaching session.

The following table shows a set of tasks aimed at the development and improvement of the trainees’ didactic, linguistic, professional language and creativity skills. Note that all these activities were used in a course which aimed to also teach English to the trainees, but the main aim was to introduce different methods the lecturers could use with their students when teaching a subject in English. Although the EASS has excellent professionals working as lecturers, their teaching skills can sometimes be limited. Therefore, the structure of the course and the methods used also aimed to increase their teaching skills.

TABLE 2. Some tasks used in the course “Teaching Academic Subjects in English”

	Didactics	Language	Grammar	Professional language	Creativity
Trainees are asked to fill in a needs analysis (“Teaching Academic Subjects in English”). Pair discussion and comparison of the answers follows. The activity is meant to ease tension and let people know about each other’s needs and fears (See Appendix 1).	x	x		x	
Trainees are asked to mark down the sources they are using when preparing for classes in English. Pair discussion first, followed by class discussion and sharing of the resources.	x	x		x	x

Brainstorming where the trainees are asked to mark down individually what feedback means to them and how it must be provided. Then they share it with their neighbours. Class discussion follows.	x	x			
As a warmer, trainees are asked to finish sentences beginning Fortunately,... / Unfortunately,... Alternatively: trainees are asked to use conditionals (I, II, III) by starting with the end of another trainee's sentence and adding their own ideas		x	x		x
Trainees are given a list of teaching techniques. They are asked to mark the methods they or their colleagues use, and add the missing methods that they could practise. Class discussion follows.	x	x			
Jigsaw reading, where a text about different generations is divided into 5 parts and each person in a group of 5 gets information about 1 generation. Each member reads the given passage and shares it with the group. A whole class discussion follows.	x	x			
A text (a story with extended metaphors) ¹ is given to the trainees. First they have to read it and then in pairs they convey the message of the text to the public by using any preferable teaching method.	x	x			x
The trainees are given a text, which they mark in the following way: "+" for a good point; "-" for disagreement; "?" for what raises questions. A class discussion follows.	x	x			
Trainees are asked to read a text at home, come to the class and complete an exercise (team-based learning) on it. Checking in class and the discussion follows.	x	x	x		
The teaching methods for each generation are put onto slips of paper and the trainees have to discuss, decide and make 3 columns out of those (Generation X, Y, Z teaching methods). Class discussion follows.	x	x			

¹ The texts are found in the book "The magic of metaphor: 77 stories for teachers, trainers & thinkers" by Nick Owen (2001). The author understands the metaphor is not "simply poetic or rhetorical embellishments", but "powerful devices for shaping perception and experience", which allows learners to "externalise abstract thinking and translate it into a sensory-based tangible representation" (pp. 15-16).

Problem solving. Trainees are given a worksheet where they are asked to write what they could say in each of the following situations.	x	x			
Trainees have to watch a video lecture and analyse it from the perspective of how it is started and ended. They must submit written comments into the blog.	x	x	x	x	x
The flipped classroom method. Students watch a video at home, then come to the lesson where they do exercises based on the video and discuss what they saw.	x	x			x
Trainees are asked to play a board game, which covers the main aspects of the course. After that they are asked to design their own board game about the whole course.	x	x		x	
Trainees are shown a video about how not to make a PowerPoint presentation. Discussion concerning how to best make a PowerPoint presentation follows.		x			x
Using the guidelines trainees are given a task to make a 1-minute presentation. After the preparation they are asked to give their presentations.		x		x	x
Trainees are asked to give a 7-10-minute introduction to their course in English. Class analysis and feedback follows.	x	x	x	x	x
Trainees are asked to prepare a 10-minute item of teaching. Class analysis and feedback follows.	x	x	x	x	x
Trainees are given a worksheet where they can group the terms to be used in the classroom into categories. The exercise is meant to have a test function.	x	x			
Trainees are asked to choose one of the interactive methods or techniques (from the list given) and teach something in the classroom by using the appropriate classroom language when instructing, giving orders, guiding, etc.	x	x	x	x	
An alias game, where trainees are asked to describe one of the teaching methods and the rest of the class has to guess what method it is.	x	x			
Trainees are given worksheets with classroom language. They are asked to write down the exact words they would use to give instructions, orders, praise, etc. to trainees.	x	x			x
Trainees are given different types of diagrams on the worksheets. They are asked to make an exercise for their students where they can use one of the diagrams and explain why they have chosen it.	x	x		x	x

Learner-centred approaches were used (Brandes & Ginnis 1986, Rogers 2001), these included group-work activities, discussions, an exchange of ideas, design of activities (mini teaching sessions), individual work, brainstorming, round-tables, problem-solving, educational games, written tasks, presentations, written texts, blogs, etc. Participants were asked to create and submit some 'artefacts' as a learning output – a presentation of an open EMI lesson, where the trainees had to implement the learning outcomes.

6. ASSESSMENT AND EVALUATION

During the course, different ways of assessment were used, such as educative assessment, forward-looking assessment, evaluation of learners' performance, self-assessment, and peer assessment. At the beginning of the course the trainees were asked to fill in a self-assessment questionnaire with the help of which all were able to find out and identify their needs, expectations and worries about the upcoming course (*See: Appendix 1*). Such a questionnaire also seemed helpful in exploring the underlying reasons behind the trainees' linguistic barriers.

During the course the trainees received immediate feedback from both the lecturer conducting the course and their peers. Oral feedback focused on both language and didactics. It should be mentioned that only positive feedback on didactics was given by peers and the lecturer. All critical notes were given to each trainee personally. In addition to that, the whole activity was recorded and thus all participants received a video recording of their performance which they could watch later and analyse.

However, the assessment of the trainees' on the EMI course should expediently be related to the evaluation of their linguistic and methodological competences. The need for the teacher's evaluation is indicated by the results of the abovementioned survey (O'Dowd 2015), in which the teachers were asked if they need to certify or accredit their methodological and linguistic skills in EMI. Only 40% of the participants of the survey mentioned the necessity of some evaluation criteria for teaching and the importance of English language skills in order to teach in English.

The authors strongly agree with O’Dowd, who has pointed out that many institutions do not yet have an official and regular evaluation process for EMI teachers (lecturers), however, they should have to pass both practical and theoretical evaluation in order to show the sufficient and required proficiency in order to teach subjects in English. This issue remains open for our academy as well. Moreover, this factor is also found in the feedback given by the trainees.

7. FEEDBACK OF THE LEARNERS: EXPECTATIONS AND EXPERIENCE GAINED

The final feedback on the course (written and face-to-face video recordings) reflects enough encouraging and positive aspects of the course held. All participants gave both oral and written feedback. The quotes shown in this chapter are taken from the written feedback.

The majority emphasised the usefulness of the content and the structure of the course, which clarified the main question – what is it like to teach a subject in English. The way of developing language and didactical skills through the discussed topics, both theoretical and methodological, seemed to be suitable and acceptable for the trainees:

“The course was extremely good. I improved my English language skills and received many materials to help me lecture my own subject in English. I can now present my own course materials in a much more sophisticated way. The course was very much needed to develop the proficiency of my language skills”.

“It is essential to support the language, methodology and communication of the lecturer”.

“I got many good ideas how to be a better teacher and implement active learning methods”.

“Quality of lectures is improved through the lecturer’s self-development”

It is noteworthy, that the learning environment is described as inspirational and as a precisely significant learning process:

“A friendly and stress-free atmosphere was challenging and motivating simultaneously. The course gave me opportunity to develop my language skills as well as didactics. Recording the presentations was very useful, it helped to analyse the performances more effectively”.

“I liked the positive atmosphere, competence of the teacher, the clear structure and the creative home exercises”.

“The course is a confidence builder”.

In some cases, the trainees noted the significance of the course for international mobility:

“The course enables the lecturer to be more active in the international context, Erasmus”.

One of the disadvantages mentioned, concerns one of the widely discussed educational trends of today – multilevel classrooms. It seems to be an essential obstacle for many – being faced with learners of different knowledge levels, including knowledge of the English language².

Also the inability to obtain a certificate, which would prove the lecturers have attended such a course, was also mentioned:

“The course was useful, but there was no certificate for attendance!”

In general, it can be said the feedback was positive and the trainees valued the experience gained from the course. However, the trainer admits she expected the trainees (who were lecturers themselves) to provide more constructive comments in order to improve the content and structure of

² Although most secondary school leavers in Estonia have a relatively good proficiency in English (B1 or B2), there are exceptions. And as there are no requirements in English language for those entering the Academy, the cadets' language levels are very different. Besides those starting their studies at the EASS directly after finishing secondary school, there are distance learning students of various ages and thus their language levels can vary from A1 to C2 (until Estonia regained independence the first foreign language at general education schools was Russian and English was not learned by many).

the course. Unfortunately, the results were different from the expectations – the feedback was rather emotional and no significant recommendations were given.

8. CONCLUSIONS AND RECOMMENDATIONS FOR THE FURTHER DEVELOPMENT AND SUSTAINABILITY OF EMI TEACHER TRAINING PRACTICES

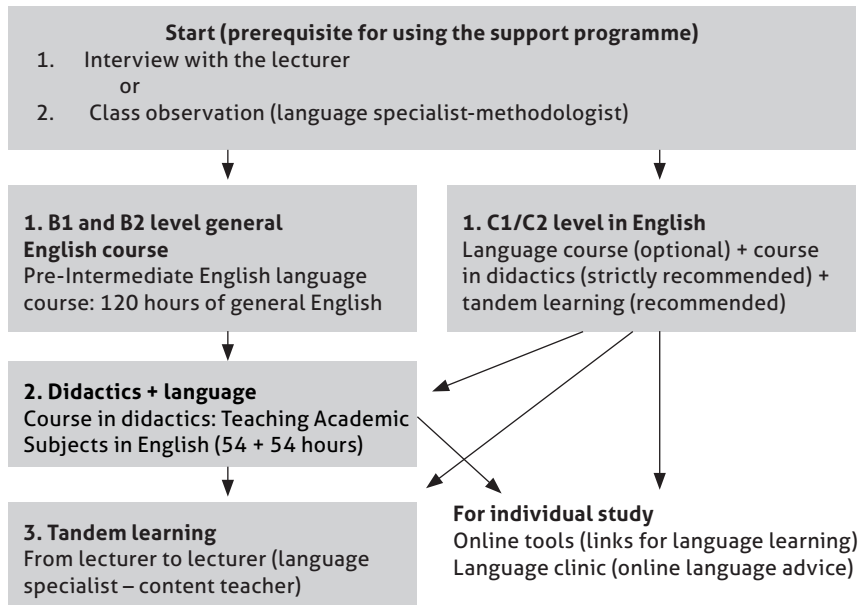
Taking into account that English as a medium of instruction has become a growing trend in higher education in Estonia and in other countries where the mother tongue is different from English, there was an obvious need to provide the academic staff with EMI training. Therefore, the EASS designed and implemented a course to develop speciality lecturers' professional language skills needed for teaching in English.

The EMI courses conducted at the EASS have significantly raised awareness of the notions of CLIL and EMI, as well as the importance of teacher training in the field of EMI amongst the academic staff of the EASS. The participants of the EMI course found both parts of the course – linguistic and didactical – useful, which were suitably adapted for their individual teaching contexts and met their professional needs.

The course has also started a discussion about the level of English, which a teacher should have in order to teach a subject in English. As mentioned earlier in this article, on the basis of our previous EMI experience at the EASS and recent student feedback, we believe that a B2 level in English is insufficient for lecturers to successfully conduct an EMI course. Having a sufficient English language level is also important to participate in an EMI course, so that during the course lectures could concentrate more on improving their didactic skills. Therefore, at the EASS we will first focus on the development of English language proficiency by increasing the opportunities for academic staff to develop sufficient English language skills before they participate in the course „Teaching Academic Subjects in English”.

In conclusion, the experience from the EMI course and the encouraging feedback received led to the development and implementation of a more sustainable system for EMI teacher training at the EASS (Figure 3).

FIGURE 3. Suggestion: B2 (vantage or upper intermediate level – practical subjects); C1 (proficiency or advanced level – theoretical subjects)



The figure above illustrates the step-by-step support programme meant for EMI lecturers at the EASS. The prerequisites for starting the programme are different for lecturers who have already taught some subjects in English than for those who have not. Therefore, if there is a lecturer who has never taught in English, but wants to enter the programme, the first step for him/her is to attend an interview carried out by a language specialist-methodologist. The aim of the interview is to discover the lecturer's objectives (what and why he/she wants to teach in English) and his/her language level, and then recommend a suitable language course for him/her if the latter is needed at all. Although all lecturers at the EASS are expected to have a B2 level proficiency in English, it is often not so. The requirements for applying for the position of a lecturer state that the applicant should have B2 level in a foreign language, preferably English, but since many areas taught at the EASS are very specific and

ask for very good specialists, language level is not the predominant factor that is considered when employing a new lecturer. Lecturers who already have some experience in teaching in a foreign language, can invite a language specialist-methodologist to observe their lecture. Again the aim of the observation is to assess the lecturer's language level and give recommendations based on that, but also give some feedback on the lesson as a whole (techniques, environment etc.).

After the interviews and observations lecturers/trainees are ready to move on to the first stage of the programme. As mentioned above, lecturers are given recommendations on which courses it would be suitable for them to attend in order to deliver successful EMI courses. Here it is important to note that although not all lecturers are advised to attend a language course since their language levels are already above the intermediate level, most of them are advised to attend a course in didactics (since many of the lecturers at the EASS are excellent specialists in their fields, their knowledge of didactics can be limited).

Another element of the first stage of the programme involves tandem learning³, which is recommended, but not a compulsory part of the programme.

The second stage of the support programme focuses on the didactics and classroom language. During the course trainees are given support on didactics, they can attend each other's lessons and participate in CLIL courses. (A more detailed description of the course is given in the previous parts of the article).

After attending the course „Teaching Academic Subjects in English“, trainees can participate in tandem learning. Here tandem learning is carried out so that the language specialist and content lecturer meet on a regular basis and teach each other – the language specialist gives the content lecturer language-related advice, and since the language specialists at the EASS often participate in CLIL lessons they need to learn about the content themselves and thus this is the place where the content lecturers can teach the language specialists about their subjects,

³ A method used in language learning which involves people with different mother tongues working together and by doing so learning from each other in order to acquire communicative and cultural skills. We have adapted this method for our needs.

which helps to make the future CLIL lessons even more successful. At the moment there is no strict regimen set for conducting the tandem learning sessions.

In addition to the described stages EMI lecturers are provided with materials for individual study and can always turn to the language specialists should they have any language-related worries. The above scheme would become the foundation for improving EMI teacher training at the EASS, making it more sustainable and consistent.

APPENDIX 1. PRELIMINARY SELF-ASSESSMENT QUESTIONNAIRE

Statements	Me	My partner	Compare your results with your partner and comment (3 items) on what you have in common and what is different.
1. My English is not good enough.			
2. Some of my students may speak better English than me.			
3. It is difficult for me to conduct a lecture in English.			
4. I am afraid of feedback.			
5. There are problems with sources on the terminology of my field.			
6. English-speaking students probably come from different cultural and educational backgrounds.			
7. I am not confident with different teaching methods.			
8. I know the terminology of my field, but I've had no practice with everyday expressions.			
9. I don't want to make mistakes.			
10.			

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**IMMIGRATION OF
INTERNATIONAL STUDENTS
FROM THIRD COUNTRIES
FROM THE PERSPECTIVE OF
INTERNAL SECURITY:**

**A CASE STUDY OUTCOME IN COMPARISON OF
REPRESENTATIVES OF HIGHER EDUCATION
INSTITUTIONS AND OFFICIALS**

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Keywords: security, internal security, immigration of international students,
securitisation, migration, security threat

INTRODUCTION

Immigration of international students is migration that occurs in order to obtain higher education or for student exchange, which is becoming more important in the international area. Promoting immigration of international students in Estonia is tied to inviting talent to higher education institutions and to the labour market (New Immigrant Adaptation in Estonia, 2014). One of the main goals set in the Estonian higher education internationalisation strategy (2007) was to improve the position of Estonia's higher education in the international higher education area and to make Estonia's higher education system more visible and open. The new higher education program 2016-2019 emphasizes the need to continue developing the international attractiveness of Estonia's higher education institutions. For this purpose, foreign students are admitted, including from third countries, which is part of external marketing of higher education (Immigration of International Students – Estonian report, 2012). Third countries in this article are countries outside the European Union and European Economic Area. Immigration of international students from third countries shows a growth trend (New Immigrant..., 2014) and it brings people to Estonia whose national, cultural, religious background differs from that of the local residents. The task of the state is to ensure the sense of security in the best possible way, so that it would give everybody certainty (Internal Security Development Plan 2015-2020) and this is why it is important from the states perspective to have an overview of all people living, studying and working in its territory, in order to ensure safety. Different strategies and development plans (Action Program for the Government, 2015-2019, Competitiveness program “Estonia, 2020”, Higher Education Internationalization Strategy, 2006-2015) set a goal to simplify regulation regarding immigration of international students in order to attract more foreign students. According to different studies (New Immigrants..., 2014; Immigration of International Students – Estonian report, 2012) it was necessary to have more flexible legislation for immigration of international students and the state has now done this by making amendments to the Aliens Act. By 2020 Estonia aims that around 30% of the international students who obtain a Master's or PhD degree will remain working in the country after their studies (The Strategy for International Promotion of Estonia's Higher Education 2015-2020). However, at the same time, it has never been analysed how foreign students from third countries succeed in their

studies and it does not appear from any of the studies or strategies what kind of security threats accompany immigration of international students. Therefore, the main research question of this article is: what is the situation with foreign students from third countries in Estonia, meaning do they obtain higher education, discontinue their studies, compete in the Estonian labour market and what internal security threats may accompany immigration of international students?

The aim of the article is to give an overview on the immigration of international students to Estonia from third countries and to discover the position of Estonian universities and security authorities regarding cooperation in the field of immigration of international students and security threat prevention. The article will give an overview of the theoretical standpoints of security, migration and immigration of international students and the practice of applying and using residence permits by foreign students from third countries. In addition the outcome of the statistical analysis carried out during the case study on the immigration of international students in Estonia between 2003-2013 and the analysis of semi-structured expert interviews regarding cooperation in the field of immigration of international students and security threat prevention will be presented.

CONCEPTUAL BASIS OF IMMIGRATION OF INTERNATIONAL STUDENTS IN THE CONTEXT OF SECURITY AND MIGRATION

Immigration of international students is primarily connected to the field of education, but is also linked to migration, security, economy, culture, etc. Therefore, in the following theoretical overview immigration of international students is observed in the context of migration and security, in the light of securitisation.

Internationalisation of higher education and concurring immigration of international students is a growing phenomenon in the world. In 1995 foreign students formed 1.3 million of all students, by 2004 there were already 2.7 million foreign students in the world (Varghese, 2008, p. 15). One of the supporting measures boosting the immigration

of international students has been the Bologna process, which caused the immigration of international students to grow by 11% in the years 2000-2008 (Marginson, 2011). By the year 2020 the number of foreign students in the world is estimated to be 7 million (Trends..., 2009, p. viii). A large number of foreign students are from Asia, mostly China (Global ... , 2009; Marginson, 2011; Pugach, 2011) and immigration of international students is growing both inside and outside Asia (Global ..., 2009; Marginson, 2011). Research on Asian foreign student's shows that international education is important to them because employers attribute a high status to education obtained abroad, allowing them to seek more prestigious jobs (Brooks, Waters & Pimlott-Wilsonc, 2012) and in return, this invites foreign students to return home after studies. A quarter of all foreign students in the world move to Europe, they are mostly supported by student mobility schemes and programs due to Bologna process. A smaller degree of foreign students come from Africa and Latin America (Marginson, 2011; Global ..., 2009). The globalisation of higher education has also changed universities marketing strategies (Findley et al., 2011, p. 120). Researchers have also been interested in the reasons for immigration of international students, both from the aspect of the student and the university, and it has been concluded that they are to some degree different. There is a general understanding in seeing immigration of international students as a mutually beneficial process for both the sending and receiving country (Wiesbrock, 2010, p. 276). At the state level, benefits of higher education migration are considered more in the context of population. Since the birth rate is declining and population is ageing, there are not enough skilled workers, for this reason accepting foreign students is considered a possible solution (Gribble, 2008). The rise of student migration is connected to many International agreements (Sorbonne Declaration, 1998; Bologna declaration, 1999; Prague Communicae, 2001; Berlin Communicae, 2003; Grazi declaration, 2003; Bergen Communicae, 2005). Different studies also emphasize additional value for the student through developing social, language, intercultural and other abilities, and to the academic personnel, university and the broader society, by creating an opportunity to satisfy the needs of the labour force (Juknyte-Petrikiene & Pukelis, 2007; Marginson 2011). Researchers have found that in addition to supporting the global labour market, immigration of international students encourages people to think from a new perspective and creates many opportunities for cultural development (Juknyte-Petrikiene & Pukelis, 2007),

it allows a cosmopolitan identity to be obtained (Findley et al., 2011, p. 120), improves social competence of students and boosts confidence to manage in a changing environment (Juknytė-Petrikienė & Pukelis, 2007; Mercer, 2011). The aspect of internationalisation without leaving a home university has been seen as one of the benefits from the immigration of international students, because having foreign students in the university entails the rise of cultural and language awareness among all students, and there are more opportunities for the development of research activities. (Juknytė-Petrikienė & Pukelis, 2007; Eremina, 2012). At the same time researchers have emphasized that student migration might have negative impact on the academic score of the student who is changing the university (Finch, 2009) and in the case of immigration of international students they are less likely to graduate university within the nominal period (Donets, 2010; Eremina, 2012). Higher education may also entail a situation where talented students with good academic results emigrate (Eremina, 2012). Depending on the country and university, the tendency of talented students to emigrate will benefit countries that are looking to bring talent in to their higher education system and labour market, such as Estonia (New Immigrant..., 2014). Therefore, when dealing with immigration of international students you need to take into account the different expectations and needs of different parties.

Entering the European Union for the purpose of studying is not only a question about controlling immigration flows for the countries, but it is also influenced by education politics, national labour markets and developing cooperation between them, which are influenced by immigration (Wiesbrock, 2010, p. 275). Cooperation in the field of migration can only take place when the interests of countries are connected and demand joint action, without one country acting at the expense of another. When countries have different expectations on the volumes of migrants, for example the receiving country does not want so many migrants that the sending country is offering, then cooperation is complicated. (Hansen, 2011; pp. 17-18) Measures established are not always directed for the protection of third country students' rights and interests, but for the cooperation between administrations, especially in the field of security (Wiesbrock, 2010, p. 717). Although economic aspects are important Brooks, Waters, Pimlott-Wilson (2012) have said that the increase of foreign students might give the impression to the sending countries that the main goal for the country is to profit from foreign students, actually

the main reason is the need for a highly qualified workforce (Wiesbrock, 2010, p. 284). For this reason, the European Council adopted a directive 2009/50/EC on the conditions of entry and residence of third-country nationals for the purposes of highly qualified employment, which is called the EU Blue Card directive. According to the Lisbon strategy the European Union needs to become an area with the most competitive and dynamic knowledge-based economy in the world. (Wiesbrock, 2010, p. 284) Therefore, it is understandable that with a declining population, immigration is seen as one solution and favouring higher education immigration from third countries might ensure a qualified workforce for the country.

Migration is defined as the movement of people or animals from one region to another or from one country to another. The concept of migration can be divided as immigration, in which case you enter a country with the aim to settle there permanently and emigration, in which case you leave a country with the aim not to return and to settle somewhere else. (Garner, 2004). In the context of this article, migration is viewed as the immigration of foreign students. Growing migration is an important characteristic of the globalising world and it is increasing together with the rise of the world population. According to the United Nations, the population of the world is estimated to be 9.2 billion by 2050, with the majority originating from less developed countries migration will increase correspondingly (Angenendt, 2008, p. 7). Researchers have dealt with migration in different fields, for example economy, sociology, government science, psychology and disciplines (Castles & Miller, 2003, p. 21). The theories of migration and economy seek answers for the mobility of people from the aspect of economic growth (Castles & Miller, 2003, p. 21; Massey et al., 2011, pp. 3-18). According to this approach, the cause of migration is the supply and demand on the labour market. The belief that moving to another country will be beneficial (education, skills, language knowledge, etc.) increases the probability of international migration (Castles & Miller, 2003, p. 30; Kondakci, 2011). This theory is also linked to the conceptual basis of immigration of international students. For a long time, migration was considered a topic for internal politics (Rudolph, 2011, p. 279), however it is not preserved solely for Ministries of Social and Population Affairs but has developed into international politics and become the field for Ministries of Internal and International Affairs along with internal security authorities. (Rudolph,

2011, p. 280; Weiner, 2011, p. 245). Herein one might notice the movement in an opposite direction with the securitisation of migration as a social, internal security phenomenon by the Copenhagen School, where the treatment of a military and transnational threat was extended to an internal level (Buzan et al., 1998). Migration may be viewed as a threat to the economy and security, which entails a feeling of insecurity and the need to eliminate the latter. Huysmans (2006, p. 2) calls the lack of security as politically and socially constructed phenomena. Perceived threats caused by immigrants could strain the relationship between the sending and receiving country, the political or security risk for the receiving country, cultural threat to the receiving country, social-economic threat for the receiving country and a threat to the sending country (Weiner, 2011, p. 254; Angenendt, 2008, p. 6). Migration has been discussed in the context of security by politicians, officials and the mass media who have a legitimate aim to describe migration as a threat to security (Boswell, 2007, pp. 1-2). After 9/11 and other acts of terror in the 21st century, international migration has been considered as a threat to security. Not only new immigrants, but also second and third generation youngsters who have had troubles assimilating with the social-economic mainstream of the receiving country, have been perceived as the source of threat (Djajic, 2006, p. 4). The need for global security contradicts our current world's terrorism threat and it is caused not only by international or religious conflicts, but also from demographic changes inherent to countries and the migration of different nationalities and races (Juknytė-Petrikienė & Pukelis, 2007). Student migration could be considered a type of migration with the smallest risk factor, especially when taking into account the benefits accompanied with immigration of international students to the receiving country (Wiesbrock, 2010, p. 275). However, if before 9/11 foreign students were observed as a potential threat to security, then after 9/11 they were considered a real threat to national security (Ewers & Lewis, 2008). For example, foreign students arriving to the USA were regarded as objects of securitisation and in Australia thousands of student visas were annulled (Ewers & Lewis, 2008; Marginson, 2011; Friman, 2006, p. 12). The nation states can only consider foreign students as temporary immigrants, because threat perception also entails security threats that students overstay their time, use their residence permits issued for studying for illegal migration, become involved in crime or even commit an act of terror (Marginson, 2011). These threats might be socially constructed, but for example, the economic gain from

immigration of international students is objectively at risk of being hit if limitations are set for higher education. For security, the main starting point is the existence of a threat and its elimination, in order to provide safety and security for the threatened. If the state fails to provide security for its citizens from internal and/or external threats, the main reason for the existence of a state has expired (Bobbit, 2002, p. 216). There are two ways to understand security from the point of threats: traditional understanding, according to which the centre of security politics is the state and its safekeeping through military resources (Väljaru, 2005) and security is defined by the ability to stand against external aggression (Luciani, 1988). On the other hand, there are contemporary understandings, where security should be expanded to other fields besides military and it should be defined from other viewpoints besides the state (Väljaru, 2005). There are many theoretical approaches to study and explain security: depending on the traditional approach to security the focus is on power, state (realism), economy (liberalism, historic materialism), person (humanism, gender approach), ideas, interaction (social constructivism), articulated security, speech act (securitisation), etc. (Collins, 2010, pp. 5-7; Buzan & Hansen, 2009, pp. 35-37). Securitisation is considered the new approach to security and its representatives, the Copenhagen School, observe the security policy through a five-dimensional model: military, environmental, economic, political and social (Buzan, Wæver, de Wilde, 1998, pp. 22–23). Therefore, the approach to security has evolved broader than the military, including social and internal, this approach enables a country to deal with migration as a source of threat to security. The context of research in this article is internal security.

The concept of internal security covers national security, community safety, safety and civil defence, etc. (Smith, 2006, ref Christensen, Fimreite & Læg Reid, 2007, p. 12). A general term, safety, is also used, but the main term is still internal security (Internal Security Development Plan 2015-2020). Security's internal nature, communal security, entails an internal social security dimension that is defined by sustainability, considerable development opportunities, traditional patterns of language, culture, communication and religion, national identity and traditions. Change to this ethno-cultural security concept, is often a threat. (Rudolph, 2011, p. 281) Therefore, the underlining idea with security is that the residents of the state and its communities feel protected and no external pressure can threaten the state; it must operate independently

and in sovereignty (Bobbit, 2002, pg. 215). The goal of Estonia's security policy is also to ensure independence and sovereignty, wholeness of its territory, constitutional order and the security of its people (National Security Concept of the Republic of Estonia, 2010). Although the migration of people presents a challenge to security, it is the duty of the state to ensure security to any national or ethnic community in the population and it is in the interest of security for the state to regulate migration policy. At the same time, it is necessary to remember that immigration of international students has become a major global export product – according to an OECD assessment the value of the higher education market, headed by the USA, Great Britain and Australia, is about 40 billion USA dollars annually (Gribble, 2008). Securitisation of foreign students is therefore an important matter both culturally and politically, but also from the perspective of the economy. For example in the academic year 2006/2007 international students brought 20 billion dollars to the USA, which caused international education to rise to fifth place in the national export product list, but at the same time it did not stop student securitisation (Ewers & Lewis, 2008). Therefore, the securitisation of foreign students can be considered to affect a higher education business or at least weakening it, because limiting the multiplicity of foreign students, limits the potential income of higher education institutions. Nevertheless, immigration of international students operates on a large scale and ambitiously, regardless of securitisation because in a knowledge based innovative society a highly qualified workforce is highly valued.

METHODOLOGY OF THE CASE STUDY

The article is based on the Master's thesis written and defended by Andres Ratassepp at the Estonian Academy of Security Sciences Institute of Internal Security (supervised by Liis Valk and Shvea Järvet) (Ratassepp, 2014). Data for the case study was collected in two phases. During the first phase, statistical data was collected from the Ministry of Education and Research (EHIS) database regarding the immigration of third country foreign students to Estonia between 2003 – 2013. Altogether, the author of the Master's thesis obtained data for 3020 people. The statistical data received during the first phase of the study was analysed anonymously. The analysis concentrated on foreign students

from third countries by the following characteristics: citizenship, gender, higher education institution, starting time of studies, end time of studies, including time of discontinuation, time of finishing studies, time of dismissal, acquired academic degree, reason for dismissal. During the second phase, semi-structured expert interviews were carried out with representatives of higher education institutions and officials representing authorities responsible for immigration of international students. The selection included ten experts, who are involved with immigration of international students professionally in higher educational institutions, or are developing and implementing strategies, who are responsible for upholding cooperation in the field of immigration of international students, who develop the regulation for immigration, who process residence permit applications or carry out research in the field of immigration of international students. Therefore, interviews were carried out with representatives from Tallinn University (TLU), Tartu University (TU), Tallinn University of Technology (TTU), Estonian Business School (EBS), two experts from the Ministry of the Interior (SIM 1 and SIM 2), Ministry of Foreign Affairs (VM), Police and Border Guard Board (PPA), Archimedes Foundation (SAA), Centre for Migration Studies in Estonian Academy of Security Sciences (SKA). The length of service of the experts was taken into account when the selection was made. Interviews were recorded, transcribed, codified, categorised, analysed, and associated to previous theoretical standpoints. Data was analysed using the qualitative content analysis method (Flick, 2009, pg. 323).

This case study sought answers to the following research questions:

1. How many foreign students from third countries arrived to study in Estonia during the years 2003-2013 and what is the overview of immigration of international students in Estonia?
2. How representatives of higher education institutions and authorities perceive immigration of international students from third countries?
3. What possible security threats accompany immigration of international students from third countries and how to prevent them?

CASE STUDY OUTCOMES: IMMIGRATION OF INTERNATIONAL STUDENTS FROM THIRD COUNTRIES DURING THE YEARS 2003-2013

The first research question

Sought to answer: how many foreign students from third countries arrived in Estonia for study purposes during the years 2003-2013 and what is the overview of immigration of international students in Estonia?

In order to get the statistical overview the Ministry of Education and Research (HTM) presented data for 3020 people from their database (EHIS). Institutions not offering higher education were removed from the data set and out of the remaining 2895 there was data in the EHIS for 1723 students. Police and Boarder Guard Board (PPA) made an extract from the Register of Residence and Work Permits about students who received a residence permit to study during the years 2003-2013 and asked for additional information from the HTM about these students from EHIS. During the first phase of research, it was interesting to find out how many and from what third countries foreign students arrived to Estonian higher education institutions in the past ten years, where did they study, how many of them graduated successfully and acquired a degree, and how many were expelled.

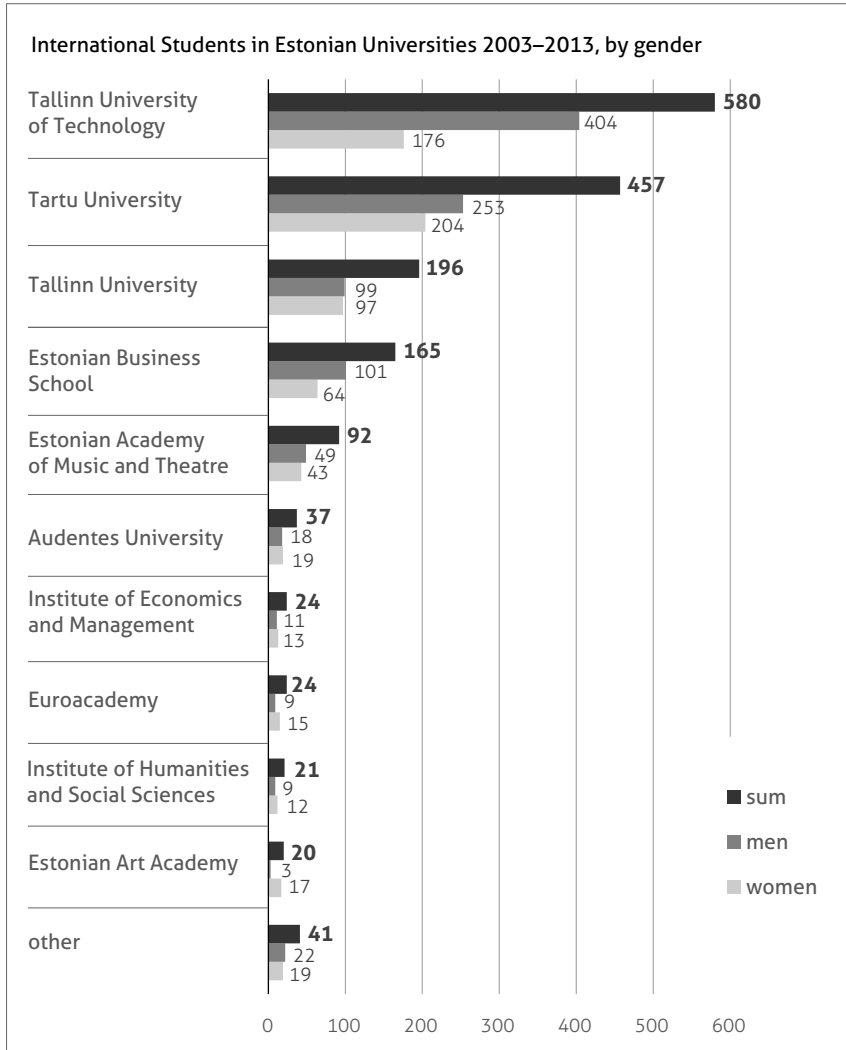
In figure 1 there are ten Estonian higher education institutions who accepted 1616 foreign students during the years 2003-2013. The rest of the higher education institutions¹ have accepted altogether 107 foreign students. 1010 men and 713 women came to study in Estonia. When generally the rate between men and women in higher education institutions is balanced, then in Tallinn University of Technology is a clear dominance of male students (404 men and 176 women), which might be

¹ Other higher education institutions active in years 2003-2013 (18): Academy Nord, Computer College, Estonian EKB Union Higher Theology Seminar, Concordia International University Estonia, Estonian Entrepreneurship University of Applied Sciences Mainor, Estonian Hotel and Tourism University, Estonian Humanitarian Institute, Estonian Infotechnology College, Estonian University of Life Sciences, Baltic Methodist Theological Seminary, Estonian American Business Academy, Institute of Cultural and Humanitarian Education, University I Studium, International Social Science College LEX, Tallinn School of Economy, TTK University of Applied Sciences, Tallinn Health Care College, Tallinn Business Administration College

due do the technological speciality. Altogether 60% of foreign students studied at either Tallinn University of Technology or Tartu University.

FIGURE 1. International students from third countries to Estonian higher education institutions over the years 2003-2013

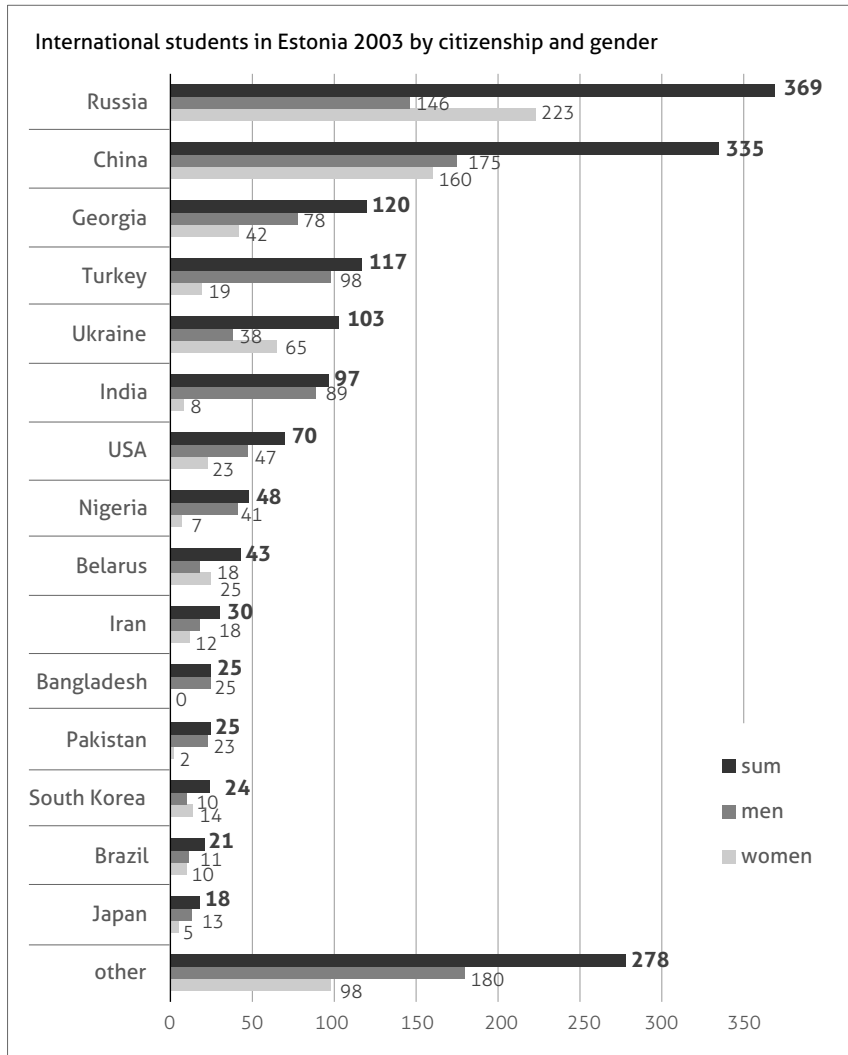
Source: EHIS 12.02.2014, composed by A. Rataspepp 2014



International students arrived from 78 countries. Figure 2 shows the main 15 countries of origin of foreign students in Estonia. 278 students came from the remaining countries. Altogether 40% (704 in total) of foreign students arrived from Russia or China.

FIGURE 2. International students in Estonia during the years 2003-2013 by citizenship and gender

Source: EHS 12.02.2014, composed by A. Ratassepp 2014)

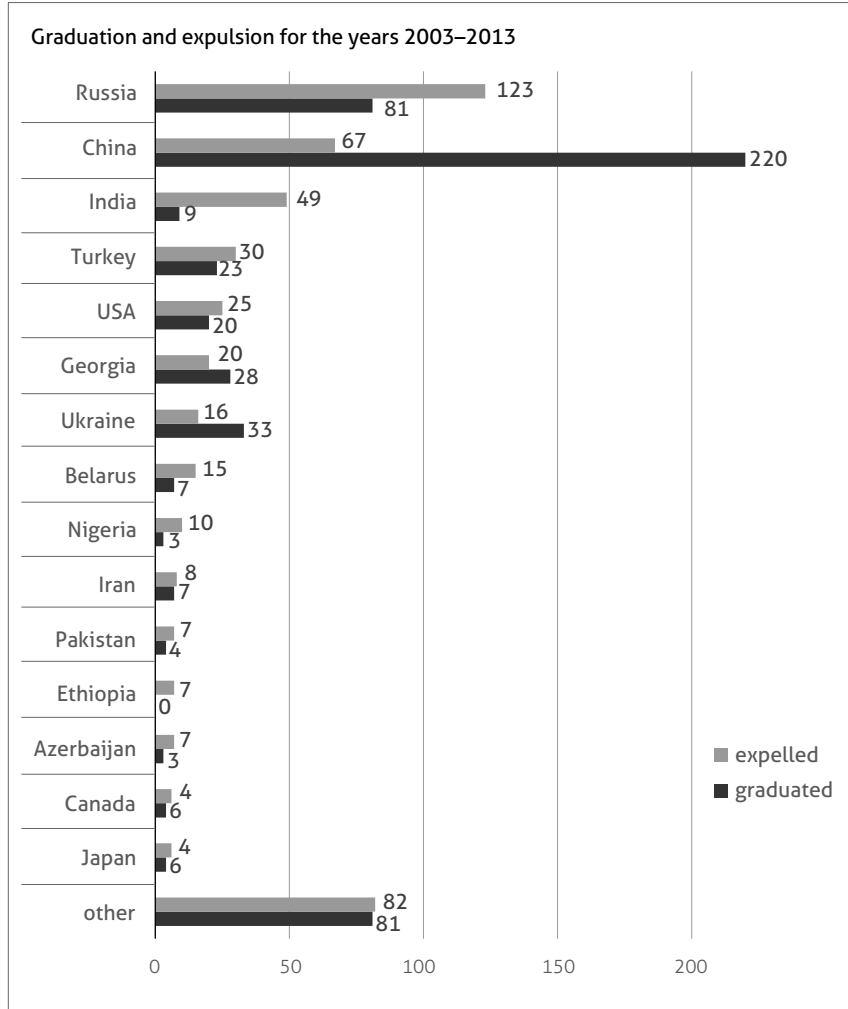


Student migration differs by citizenship from the overall immigration statistics in Estonia. When overall Estonian temporary residence permits are mainly issued to Russian, Ukrainian, Belarussian and USA citizens (Residence permits, 2014), for student migration the first five countries are Russia, China, Turkey and Ukraine. When comparing the gender percentage, it is apparent, that with immigration from countries where the dominating religion is Islam (Turkey, Nigeria, Iran, Bangladesh, and Pakistan) men prevail, except for Iran where the level of men and women are in balance.

During the years 2003-2013, 1723 foreign students from third countries arrived to Estonia in order to obtain a higher education, out of them 540 graduated and 482 were expelled. Most of the foreign students obtained a Master's degree (299), next is Bachelor's degree (190) and then PhD (19). Students from universities of applied science have not obtained a degree; they have obtained an applied higher education (32). In the 2013/2014 academic year 701 foreign students studied in Estonian higher education institutions. Altogether 482 students were expelled. When analysing the dismissals it was interesting how graduating and expulsion divided between citizenships (Figure 3) and institutions (Figure 4). It appeared that out of foreign students Chinese (220) and Russians (81) obtained degrees the most and graduation from other countries is between 9 to 33 students. China stands out with its graduations and expulsions, most of the graduations are from the Estonian Business School (102), Tallinn University of Technology (57), Music and Theatre Academy (45). Students from Russia have graduated mostly from Tartu University (35) and Tallinn University of Technology (11) and the rest are divided between other institutions. The most expelled students come from Tartu University (48) and the next is Tallinn Business Administration College (14). The large amount of Indians expelled from the Estonian Business School is related to the incident in 2003, when 28 Indian students came to study but disappeared shortly after arriving. All students from Ethiopia have been expelled, no one graduated. Figure 5 shows that Russian students quit their studies the most – 123 cases. The number of expelled students exceeds graduation in the following countries of origin- Russia, India, Turkey, USA, Belarus, Nigeria, Iran, Pakistan, Azerbaijan, Canada, Japan and Ethiopia.

FIGURE 3. Graduation and expulsion for the years 2003–2013 by citizenship

Source: EHS 12.02.2014, composed by A. Ratassepp 2014

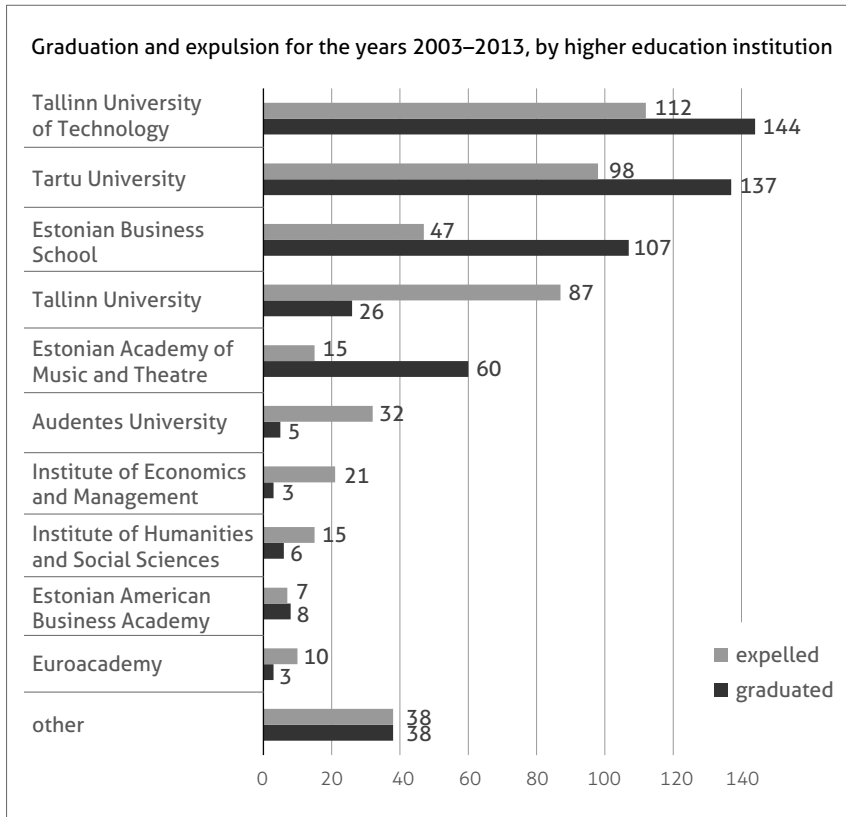


When analysing expulsions by institution (Figure 4) it appears that most expulsions were made by Tallinn University of Technology and mostly in 2009 (26), 2012 (21) and 2013 (31). Mostly expelled are students from China, Turkey, Georgia, Russia, Nigeria, India and Pakistan. In 2009, 19 Chinese students were expelled. In Tallinn University most expulsions were been made in 2009 (20), 2011 (30) and 2012 (20) and mostly the students were from Russia, USA, Ethiopia, Uganda, Iran, Indonesia, Nigeria

and the Philippines. Most expulsions from Tartu University were in 2010 (13), 2011 (15), 2012 (16) and 2013(30) and the students were from Russia (30), USA, Georgia, China and Canada.

FIGURE 4. Graduation and expulsion for the years 2003-2013 by higher education institution

Source: EHIS 12.02.2014, composed by A. Ratassepp 2014

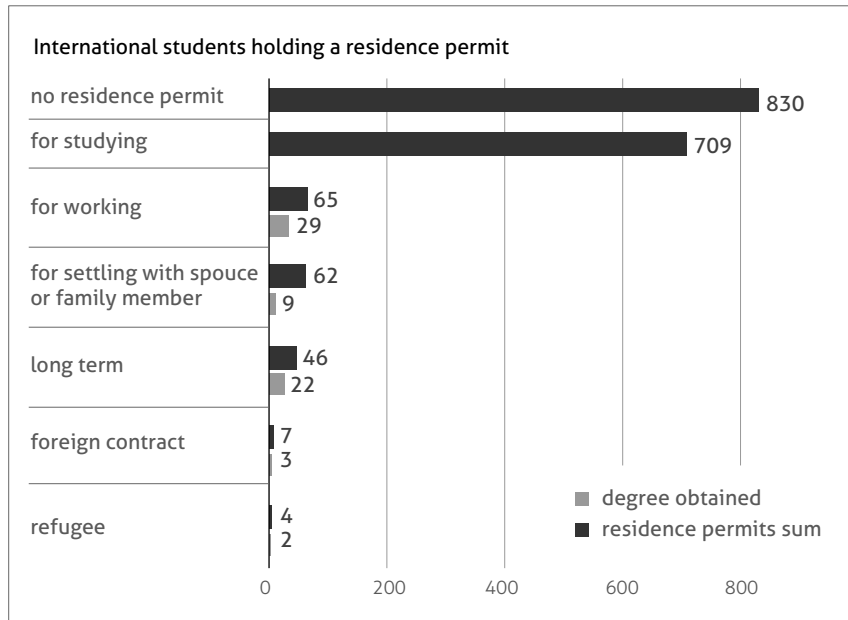


It appeared from earlier theoretical standpoints that migration could be the solution for a declining population and supporting immigration of international students from third countries could help provide a qualified workforce to the country. The centre of interest in the research was also facts about foreign students who have stayed in Estonia after their studies. Figure 5 shows that during the years 2003-2013 out of the 1723 students 185 have stayed in Estonia and applied for a residence permit on

other grounds (employment, settling with spouse or family, long term residents permit, based on foreign contract) or obtained international protection. As of the 17th of March 2014 709 foreign students held a valid Estonian residence permit to study.

FIGURE 5. International students holding a residence permit to study in Estonia

Source: Police and Boarder Guard Board Register of Residence and Work Permits 17.03.2014, composed by A. Ratassepp 2014)



Out of 709 foreign students holding a residence permit to study in Estonia, 52 have graduated by information on EHIS. When comparing EHIS and PPA data, it appears that 52 students have continued studying after receiving a degree. However, 27 students who have been expelled (without obtaining a degree) according to data on EHIS, still hold a valid residence permit according to information from PPA. These students were already expelled in 2012 and 2013. It is hard to conclude anything about these students, because of a lack of data. PPA will have to investigate whether institutions have fulfilled their notification obligation and informed PPA that their studies have ended. The Minister of Interior regulation from the 4th of December 2015 No 68 Rules on the obligation to inform in the Aliens Act § 3 section 1 stipulates that the educational institution must notify PPA about student's ending their studies within 2

weeks. When foreign a student ends their studies, PPA must annul their residence permit since the basis for issuing it has ceased to exist.

Statistical overview of the foreign students from third countries shows that a noteworthy amount of students do not come for formal study in Estonia, but participate in international student exchange programs and therefore stay for a short period, usually one semester. The aforementioned students are not likely to stay after their studies to either work or live in Estonia, since their studies are unfinished in another country. It appears from the first comparison and analysis of data from EHIS and the Register of Residence and Work Permits that the highest rates of expulsions were from Tallinn University of Technology, Tartu University and Tallinn University and from mostly Russian, Chinese and Indian citizens. Comparison of data also demonstrates that as a rule foreign students usually do not stay in Estonia after their studies.

THE MEANING OF HIGHER EDUCATION AND SECURITY THREATS

In addition to a statistical overview, the case study also focused on the representatives of higher education institutions and officials from authorities who deal with immigration of international students regarding their position about immigration of international students and security threats. During the period 13th of January - 9th of April 2014 interviews were carried out with the representatives of Tallinn University, Tartu University, Tallinn University of Technology, Estonian Business School and representatives from the Archimedes Foundation, Police and Boarder Guard Board, two from the Ministry of the Interior, Ministry of Foreign Affairs and Centre for Migration Studies in the Estonian Academy of Security Sciences. The outcome of the analysis of the interviews is presented in the article with the three research questions. General categories and specific codes emerged from the analysis under every research question.

Second research question:

How representatives of higher education institutions and authorities perceive immigration of international students from third countries?

TABLE 1. Analysis of the answers for the second question in expert interviews

Research question	Category	Code
How representatives of higher education institutions and authorities perceive immigration of international students from third countries?	Benefits and advantages of immigration of international students	Ageing population
		Diversifying and enriching the studying environment in Estonia
		Quality of higher education
	Problems with immigration of international students	Discontinuing studies and going to work
		Knowledge of English
		Attitude and readiness to study
		Strategy planning

The main advantages and problems related to the immigration of international students to Estonia were brought up in the interviews. The main advantage highlighted was a solution to the qualified workforce shortage, Estonia's population is ageing and there are not enough people of an employable age (SAA, SKA, TTU, TU, SM2). Immigration of international students helps to relieve this problem by foreign students and foreign teachers entering the labour market. Nevertheless, SKA and SM1 find that solutions for the ageing population must be sought within our own population before turning to increased migration flows. All of the interviewees stated that immigration of international students helps to diversify the studying environment and the higher education area. Internationalisation is in the interest of Estonian students as well, for them to stay studying in Estonia and for studying to be more interesting. Estonian students have the opportunity to internationalise in Estonia at their home university, without having to go abroad. Allowing immigration of international students helps to broaden the horizon of Estonian students, as they can communicate with their foreign counterparts.

“Allowing immigration of international students affects the quality of education in Estonia and offers diversification of education.” (PPA)

According to the observation from higher education institutions, the internationalisation of higher education is interesting and developing for the professors. When thinking about the academic successors, then immigration of international students promotes growth and diversity and avoids Estonian higher education becoming to Estonian centred. Opportunities to get to know different cultures are added which are necessary in a globalised education and labour market. Together with diversity, respondents pointed that internationalisation has a fulfilling effect for Estonian students.

“It is important, to have people in PhD studies and later in research, who have obtained one or another level of education from somewhere else, who’s views on the world is enriched and who’s knowledge is different. We cannot become a spotted bond.” (TU)

Higher education institutions consider that one of the benefits from immigration of international students is internationalisation in itself, which provides sustainability in education, science and the economy (TU, TTU, SAA). As to the quality of higher education, foreign students actually raise the quality of lecturers, but it may relate to students home school studying culture and habits. It was also indicated that in order to do qualified science it is necessary to allow foreign students migration. It appears from the responses to the interview that there is a connection to the theoretical sources, which consider the diversity and enrichment the benefits of immigration of international students (Wiesbrock, 2010, p. 276; Kondakci, 2011; Juknyte-Petrikienė & Pukelis, 2007). Theoretical approaches also mention the ageing population as a reason for immigration of international students (Gribble, 2008; Foreign students Migration to European Union 2012, p. 54). Internationalisation without leaving your home school is also covered in theoretical sources (Juknyte-Petrikienė & Pukelis, 2007; Eremina 2012). In the broader approach diversity is connected to migration and observing its benefits (Castles & Miller, 2003, p. 30; Kondakci, 2011).

The main problems brought out regarding immigration of international students was discontinuing studies and going to work. Foreign students, who have received a residence permit to study, discontinue their studies and use the residence permit for other reasons, by going to work and not succeeding in their studies (PPA, TTU, TU, SAA). Discontinuing

studies or more precisely expulsion from the institution appears in the statistical data. The range of discontinuation and graduation differs by country of origin. According to the statistical analysis, countries indicated in the higher education internationalisation strategies, the figure of expulsions is higher compared to the number of graduations (Russia, India, Turkey, but for China and Georgia the opposite is true). It should be noted that there are also countries, who 100% of their students have been expelled, such as Ethiopia, Thailand and Ghana. Regarding other Asian and African countries, it is also evident that there are more expulsions than graduations. Another problem indicated was the knowledge of English language. Some institutions replied that there have been incidents where according to the documentation the student has a sufficient level of English, but when arriving to Estonia it appears to be insufficient and hinders the studies (TTU, TU). According to earlier theoretical sources, development of language skills was foreseen as one of the positive effects of immigration of international students. (Juknytė-Petrikienė & Pukelis, 2007; Mercer, 2011). Study programs in English are one of the pull factors for foreign students according to the theoretical sources (Kondakci, 2011). The third problem indicated was the attitude and readiness to study. Dealing with the attitude of foreign students is a problem for higher education institutions, because of the demands compared to Estonian students, such as repeated effort in explaining and sharing information (TU, TLU). EBS brought out the issue that if there are many students from one country, they stick together and do not socialise with other students and participate in the Estonian life even less. To avoid this, EBS is making an effort to bring foreign students in to Estonian life, for example by organising excursions. According to four answerers (SA, SKA, SM1, TTU), the strategic planning concerning immigration of international students' needs to be reviewed, especially the interaction between different types of migration (labour migration, family migration etc.).

Third research question:

What possible security threats accompany immigration of international students from third countries and how to prevent them?

TABLE 2. Analysis of the answers for the third question in expert interviews

Research question	Category	Code
What possible security threats accompany immigration of international students from third countries and how to prevent them?	International student as a potential source of threat	Discontinuing studies and misuse of residence permit
		Attitude towards international students in Estonia
		Industrial espionage
	Threat prevention	Cooperation and info
		Controlling
		No threat

The main threat according to the authorities and higher education institutions is when foreign students fails to participate in the studies (TTU, TLU, TU, SAA, PPA) and misuses the residence permit (PPA, SM1). Higher education institutions associate this with success in studies and learning progress (TTU, TU). Foreign students not participating in the studies also influences the reliability of the institution as a recipient (PPA, SM1). All interviewees agreed that the aim of all foreign students from third countries arriving in Estonia might not be to obtain a higher education. The institutions and PPA brought examples of how some have attempted to use Estonia as a gateway to Europe, European Union and Schengen area (TTU, TU, SAA, PPA, VM, EBS and SM2). Nevertheless, there are not many examples of the misuse according to the institutions and also PPA and SM2, but still all interviewees agree that the actual intentions of the foreign students and their ability to get by in Estonia needs to be considered.

“Student migration cannot be called a misuse altogether, but these people can fail in two ways. One is when it wasn’t their intention to study in the first place, but it was their goal, it was a channel for migration and their real intention was to move on to other countries. The other group are who come and at the beginning intend to study, but are unable to adapt to the different social, cultural and religious environment. The person adapts poorly.” (SM1)

Though statistics do not show that abolition of boarder control when Estonia joined the Schengen area on the 21st of December 2007 had any effect on the immigration of international students, the interviewees relaying on their previous experience still see that the real intention of some foreign students is to enter the Schengen area. Uncontrolled migration changes the ethnic composition of the receiving countries because newcomers bring their own culture with them and the existing culture might be at risk or make people feel rejected, which in return causes extremism and radicalisation. Immigration of international students as a threat to security is brought out by the representative of PPA who states that this is the most misused migration type. PPA points out that the risk begins from the regulation for immigration of international students being simplified, for this reason there are fewer conditions for the foreigner to fulfil and less documentation necessary to apply for a permit and therefore making it seemingly easy to meet all the criteria.

An earlier study regarding immigration of international students to Estonia also confirmed that the main threats were non participation and lack of success in studies. However, the position on the misuse of residence permits differs, PPA assures that most of the misuse cases are with student migration, but the study does not show any cases of misuse (Immigration of International Students to European Union, 2012). The institutions, SAA and SM1 indicate that the attitude towards foreigners in Estonia is one of the threats, and this might cause security risks from the inside, due to the positions in Estonia. Although higher education institutions have noticed some relief in the attitudes, but still all the interviewees agree that Estonia as a whole is still on guard about immigrants.

“I’ll bring an example from a Facebook post from one Chinese student who said that when Estonian students meet him, they ask two questions: firstly – why did you come here and then – when are you going to leave?” (SAA)

“The tolerance in Estonians is growing very slowly.” (EBS)

The negative attitude towards foreigners in the society has also been brought out by higher education institutions in the study (New Immigrants..., 2014, pg. 59), differing from business sector employers

and representatives of the public sector, to whom hate speech² is not a topical issue nor a real threat. A connection between foreign students and migrant's uncertainty has been made in the theoretical literature as well (Marginson, 2011; Wiesbrock, 2010, pg. 717; Hansen, 2011, pp. 17-18). Two interviewees pointed out that immigration of international students might also entail the threat of industrial espionage (SAA, SM2) and foreign students might be used to get information about businesses and universities (SM2).

“Students are used all over the world, even in Masters and PhD studies, for industrial espionage, intelligence, this is certainly one aspect that needs to be considered.” (SM2)

“There are some employers who are not interested in employing Chinese students; the topic of industrial espionage has just reached our higher education institutions.” (SAA)

All the interviewees consider the best way to mitigate risk is by cooperating with each other, the exchange of information and explaining to each other ones work methods. All the higher education institutions and VM claim that they rely on their previous experience when examining the materials presented from a foreign student who is applying to be accepted and their possible reasons for coming to Estonia. However, higher education institutions point out that their duty is not to evaluate the security threats and they lack competence in this field and every institution and authority needs to play their part in the process, information exchange and cooperation helps to raise awareness of threats (TLU, TTU, TU, EBS).

“(...) we rely on our gut feeling, for example we notify about problems that seem suspicious to us, we do really act on our gut feeling, from previous practice.” (TU)

PPA is unsure whether higher education institutions have competence in recruiting foreign students, that there is no special method used and no specific conditions set.

² Hate speech is a verbal assault, behaviour or gesture towards a human related to his skin-color, nationality, gender, religious beliefs or sexual orientation. (New Immigrants... 2014, pg. 58)

Theoretical sources confirm that in cooperation between different parties, threats can be prevented (Petersen, 2008). PPA finds it important to control higher education institutions in regards to immigration of international students. Surveillance helps to mitigate some of the threats of immigration of international students and it gives an overview about the situation in the institution, and disciplines institutions to be more diligent with regard to the legal stay of foreign students. According to PPA the migration surveillance officers check whether foreign students actually participate in the studies. SM2 feel that immigration of international students needs to be controlled, but not hindered.

“But people have migrated for tens of thousands of years and will continue to migrate in the future. In today’s world we must control migration, but there is no point in hindering it.” (SM2)

Although most interviewees find that immigration of international students poses a security risk to Estonia, SM2 finds that there is currently no threat from immigration of international students to Estonia.

DISCUSSION AND CONCLUSIONS

Immigration of international students to Estonia from third countries has increased and will keep increasing due to the strategy to attract talent, the needs of the labour market and to ensure the quality of higher education and globalisation in general. For immigration of international students not to pose a threat to Estonian internal security it is necessary to fixate the current situation with immigration of international students to Estonia, how different parties who deal with it foresee immigration of international students and what threats this can pose

It is apparent from the statistics that immigration of international students has not fulfilled one of its goals, which is to meet the needs of the labour market, since data analysis shows that staying in Estonia after graduation is an exception. Data comparison also reveals that the percentage of discontinuing studies and expulsion from the institutions is considerably high, which gives reason to conclude that programs and strategies targeted to the acceptance of foreign students and their staying

in Estonia, need to be planned better, from what countries and to what speciality to invite students. It can be concluded from expert interviews, strategies, and from earlier theoretical standpoints that the countries of origin of foreign students are not random, through different strategies and programs special countries are selected from where students are enrolled.

It can be concluded from the interviews that the benefits from immigration of international students are through internationalisation, enriching the studying environment and from the aspect of research and education quality. Immigration of international students is also connected to the quality of higher education in Estonia. Institutions see problems with discontinuing studies, not succeeding in studies, the lack of English language knowledge, also they are worried about the foreign students' readiness to study in Estonia, considering the difficulties in attending. Emphasis should be paid to strategic planning in immigration of international students and in the higher education field generally.

The research showed that cooperation between different authorities responsible for dealing with immigration of international students and the institutions is considered good. There is however discontent that not all cooperation potential is used and that there is a lack of feedback regarding the fate of foreign students after studies. Cooperation is considered in everyday practice and on a state strategical level. As an example of a good experience, the cooperation between Police and Boarder Guard Board and higher education institutions was brought up, expertise regarding the application and processing of residence permits, the cooperation platform Study in Estonia, cooperation between higher education institutions. From the point of security, exchange of information is considered the most important factor, and through vocational training and seminars, the awareness of security threats from immigration of international students from third countries is raised.

In conclusion it can be determined that the interviewees are aware of the security threats from student migration. Higher education institutions brought out the risks that students would discontinue their studies and that immigration of international students is a gateway to Europe. However, Police and Boarder Guard clearly indicate that immigration of international students is a treat to Estonia, mainly due to misuse of

the residence permit. Representatives of the authorities foresee a threat from student migration if migration is not controlled. The negative attitude towards foreign students that prevails in Estonia is considered as a security threat by the institutions. In order to prevent the threats representatives of higher education institutions and authorities are willing to cooperate more. The Police and Boarder Guard Board find it necessary to carry out disciplinary surveillance regarding the use of residence permits and according to the experience so far, it helps to mitigate threats from immigration of international students. Representatives of the authorities also mentioned that with all the migration, also criminal migration follows and with a large enough community in the receiving country, immigration of international students can also entail criminals entering the state.

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