

FIRST YEAR PHYSICS STUDENTS' PERCEPTIONS OF STUDYING  
FOREIGN LANGUAGES

Master's Thesis

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<p>Tiivistelmä – Abstract</p> <p>Työelämän kansainvälistyessä työnantajat odottavat työntekijöiltään hyvää kielitaitoa. Vaikka korkeakouluopiskelijat olettavat tarvitsevansa joitakin vieraita kieliä tulevassa työssään, heillä saattaa olla väärä kuva työpaikkojen todellisista kielivaatimuksista. Väärät oletukset työelämästä voivat haitata opiskelijoiden motivaatiota opiskella viestintää ja kieliä. Korkeakoulujen kielten opettajat opettavat yhä kirjavampia opiskelijaryhmiä, eivätkä he voi aina vastata opiskelijoiden tarpeisiin. Jyväskylän yliopiston kielikeskus tarttui tähän haasteeseen ja toteutti uusimuotoisten viestintä- ja kieliopintojen ensimmäisen pilottijakson ensimmäisen vuoden fysiikan opiskelijoiden kanssa lukuvuonna 2014-2015. Tämä monikielinen jakso yhdistettiin fysiikan peruskursseihin tarkoituksena luoda siitä kiinteä, luonnollinen osa opiskelijoiden yliopisto-opintopolkua.</p> <p>Tässä tutkielmassa esitellään ja arvioidaan aiempia tutkimuksia liittyen käsityksiin kielistä, kielten oppimisesta sekä korkeakoulujen kieltenopetuksesta. Aiempaan kirjallisuuteen pohjaten toteutettiin haastattelututkimus, johon osallistui yhdeksän pilottihankkeessa mukana ollutta fysiikan opiskelijaa. Haastattelujen tarkoituksena oli selvittää, millaisia käsityksiä opiskelijoilla on vieraista kielistä ja niiden opiskelusta yleisellä tasolla sekä yliopistossa. Haastattelujen perusteella näyttää siltä, että ensimmäisen vuoden opiskelijoiden käsitykset kielistä pohjautuvat vahvasti heidän aiempiin kokemuksiinsa sekä siihen, mitä he ovat kuulleet arvostamiltaan henkilöiltä kuten laitoksensa henkilökunnalta. Koska opiskelijoilla ei ollut juurikaan kansainvälistä kokemusta, he eivät osanneet arvioida mikä merkitys muilla kielillä kuin englannilla voisi olla heidän elämässään, eivätkä täten olleet kovin kiinnostuneita opiskelemaan valinnaisia kieliä. Opiskelijat eivät myöskään pitäneet pilottihankkeen kursseja osana fysiikan opintojaan, vaan erillisenä kokonaisuutena. Tutkielmassa ehdotetaan, että laitokset harkitsisivat tarkoin millaisen viestin he haluavat välittää opiskelijoilleen vieraiden kielten opiskelun suhteen. Jatkotutkimukset voisivat seurata tämän tutkielman osallistujien ajatusten kehittymistä heidän opintojensa aikana sekä ottaa selvää millaisia käsityksiä fysiikan laitoksen henkilökunnalla on kielten opiskelusta.</p>	
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## 1 INTRODUCTION

As the workplace is increasingly internationalised, employees encounter new communicational challenges. In Finland, employers assume that workers have sufficient skills in both domestic languages and in English, and they also see great advantages in further language skills (e.g. Karjalainen and Lehtonen 2005, Martin et al. 2013). However, university students do not always know what is expected of them in working life (e.g. Palviainen 2011, Fiilin 2013), which may affect their motivation to study languages in university (e.g. Lantolf and Pavlenko 2001). Furthermore, different perceptions of language skills and language learning can have an impact on students' motivation to study languages (e.g. Csizér and Kormos 2009, Mantle-Bromley 1995). This poses a challenge for university language teachers who are faced with the requirements of both employers and the Government Decree on University Degrees (794/2004, 1039/2013) which states that university graduates should have “good” communication and language skills for working in their field and in international settings.

Language courses in university are not always available for the students at an optimal time and they might not provide enough support for the increasingly heterogeneous groups of students (Jalkanen and Taalas 2015: 65). According to the University of Jyväskylä Language Policy (University of Jyväskylä Board 2012), students should develop their language skills, and discipline-specific language teaching should provide the students help with this. Previous studies indicate that students in higher education have been particularly happy with language studies focused on working life communication (e.g. Lappalainen 2010, Komarova and Tiainen 2007). Yet, Jalkanen and Taalas (2015: 74) argue that communication and language courses at present are not “an integral part” of the students' discipline-specific studies although this is stated in the University Language Policy. Instead, all languages are taught separately from each other and from the students' subject courses.

In an attempt to face these challenges, the University of Jyväskylä Language Centre started developing a new way of teaching communication and languages. The first phase of the development process focused on interaction and group work skills,

study skills and multilingualism (Jalkanen and Taalas 2015, Räsänen and Taalas 2010). The courses were piloted on first year physics students in academic year 2014-2015. The empirical part of the present study was conducted in late spring 2015 to examine the students' perceptions of their first year communication and language studies and of languages and language learning in general. Nine physics students that had taken part in the pilot were interviewed individually. A phenomenographic approach was chosen and Aro's (2009) model on the relationship between content, voice and agency was used as a tool in the data analysis. The objective of the present study is to provide higher education language teachers information on the variety of perceptions students might have on language learning, and in particular on physics students' perceptions of the Language Centre pilot programme. Furthermore, it aims to work as a starting point for further studies on university students' perceptions of languages, language learning and discipline-specific language studies.

The following chapters will first discuss previous literature on perceptions of languages and language learning and then describe the empirical part of the present study. Chapters two and three will introduce previous studies on perceptions of languages in general, in university and in working life. Chapter four will discuss two concepts used in the analysis of the interview data, and the background of the Language Centre pilot programme will be described in chapter five. The empirical part of the present study will be outlined in chapter six and the findings discussed in chapter seven. Finally, chapter eight will draw conclusions on the whole study.

## **2 PERCEPTIONS OF LANGUAGES**

The empirical part of the present study will examine physics students' perceptions of languages. It is important to study students' perceptions of languages since teachers can cater for the students' needs more competently if they are aware of those perceptions. For example, Mantle-Bromley (1995: 381) argues that if students have unrealistic expectations of language classes or language learning, they may become frustrated and therefore less motivated to study the language. Basing their argument on Carlson (1965), Csizér and Kormos (2009: 108) claim

that university students' perceptions of themselves as language learners are rather stable but can still be moulded. It is vital for university language teachers to remember that they can influence students' perceptions. This chapter will describe the concept *perceptions* as well as previous studies on perceptions of language.

## 2.1 Defining *perceptions*

Learners' views of languages and language learning have been conceptualised in various ways by different researchers. As Aro (2009: 12) notes, *learner beliefs* is a common term, but also others such as *learner representations*, *learning culture*, *metacognitive knowledge* and *everyday knowledge of language* have been used in these studies. Despite its "less-than-definite nature of the concept" (ibid.), learner beliefs have been discussed, defined and studied differently by many researchers. For example, Horwitz (1988) developed the BALLI (The Beliefs About Language Learning Inventory) survey in which students have to agree or disagree with statements related to language learning. This way of studying beliefs is a restricted one as it is expected that a student has a view which he or she can express on a Likert-scale. In comparison, Dufva, Lähteenmäki and Isoherranen (1996: 44-46) claim that in an interview situation a student may give a manifold answer. Dufva, Lähteenmäki and Isoherranen (1996) in their study use the term *everyday knowledge of language*, referring to all types of views, attitudes and opinions on languages and language learning. They believe that everyday knowledge of language represents the heteroglossia in our cultural and lingual environment. The writers use Finland as an example, claiming that not all Finnish people speak the same Finnish since variables such as age, gender, place of residence, educational background, hobbies and personality all influence an individual's language. (Dufva, Lähteenmäki and Isoherranen 1996: 47.) Wenden (2001: 45-46), in turn, discusses metacognitive knowledge in second language acquisition, arguing that learner beliefs are a part of metacognitive knowledge which is a wider concept including person, task and strategic knowledge. According to Aro (2009: 20), "knowledge of and opinions about learning strategies can be considered a part of learner beliefs about languages and language learning". It is evident from these studies that views on language learning are studied in a multitude of ways and that terminology is chosen depending on the purpose of the study.

As described above, there are various approaches to choose from when studying learners' views, opinions, attitudes or understanding of languages and language learning. Researchers such as Brown (2009) and Hunt (2011) have used the term *perceptions* when the purpose of the study has been to describe students' views on topics related to language learning. The focus has been on the students' responses rather than on constructing a framework or defining a concept. *Perceptions* suits well for the present study which makes observations on students' views on languages, language learning and the role of languages in their lives, and discusses possible reasons behind these views. The word perception can be defined as "awareness or consciousness", "view" or "a belief or opinion, often held by many people and based on how things seem" (Collins English Dictionary 2015, Cambridge English Dictionary 2015). It is, therefore, a suitable umbrella term for the present study which takes into account learner beliefs, metacognitive knowledge and everyday knowledge of language. The term perceptions has also been used in phenomenographic studies from which the empirical part of the present study draws (Marton 1994).

Numerous studies have examined different people's perceptions of language. These studies have used various methods and frameworks, and some can be more generalised than others. The following sections will describe and discuss studies that are of relevance for the empirical part of the present study because of the participants (university students) or the results which can serve as a starting point in the analysis of the interview data.

## **2.2 Students' perceptions of language learning**

Dufva, Lähteenmäki and Isoherranen (1996) studied ten Finnish students' everyday knowledge of language at the University of Jyväskylä. The participants first completed a questionnaire and were then interviewed twice, first in a group and then individually. Dufva, Lähteenmäki and Isoherranen (ibid.) list different types of perceptions that are present in their data. There are true facts (Fin. *tosiasiafakta*) that are pieces of knowledge acquired at school, from other people, from literature or our own experiences. Apart from true facts, the participants used phrases that showed their attitudes, values, opinions or stereotypes of knowledge, such as "I don't like the sound of Swedish". Furthermore, there were so-called ready-made opinions (Dufva, Lähteenmäki and Isoherranen 1996: 44)

which were explicit in nature. These types of responses are also shown in Jalkanen and Taalas' (2012) data: a typical example of a ready-made opinion related to language learning could be "it is important to learn languages in this globalising world". According to Dufva, Lähteenmäki and Isoherranen (1996: 44), ready-made opinions can be based on our own experiences but tend to be merely "mechanical" repetitions of an opinion we have often heard.

Dufva, Lähteenmäki and Isoherranen (1996: 61-65) detected from their data four theories of how students view language learning. According to the first theory, language learning occurs strictly in formal teaching: we learn when we are being taught. The second theory, "learning by doing", was also common in Dufva, Lähteenmäki and Isoherranen's (ibid.) data. Many participants stated that the best way to learn languages is through authentic interaction in an authentic environment. The third theory focuses on active visual observations and listening. This type of perception could be "I've learned English by listening to it". According to the fourth theory, language learning is "mostly a subconscious process" (Dufva, Lähteenmäki and Isoherranen 1996: 63). We could, for instance, state that "some people just learn languages" or "you learn English automatically by watching television".

In Dufva, Lähteenmäki and Isoherranen's (1996: 48) data the three main contexts that had moulded the participants' perceptions of languages were their personal history, the Finnish lingual and cultural community and the Finnish education and language teaching. Personal history includes our experiences. For example, many participants remembered their first experience of a foreign language or learning it. They also clearly remembered successes and failures in language learning and teaching; other strong memories related to moments that had felt funny or obscure. It is important to note that experiences from language classes are not the only experiences that can shape our perceptions of languages, as Csizér and Kormos (2009) argue in their study which is described next.

Csizér and Kormos (2009) used a Likert-scale questionnaire to examine Hungarian secondary school (n=202) college (n=124) and university (n=106) students' motivation to study foreign languages. They examined the students' second language (L2) learning experiences, their perceptions of the usefulness of English,

their views of English as a world language and their perceptions of themselves as language learners. The researchers noticed that the students' perceptions of themselves as language learners were more important in motivating them than motivational forces from outside (Csizér and Kormos 2009: 106). The researchers also argue that in Hungary, the students' perceptions of English as an important world language do not come from outside but work as "internalised motives"; the students have noted the usefulness of English for obtaining information about "the world around them via --- globalised mass media" (Csizér and Kormos 2009: 107). According to Csizér and Kormos (*ibid.*), the fact that Hungarian is only spoken in Hungary and that children are surrounded by international popular culture, children from a young age are aware of the importance of English – the same way as Finnish children in Finland. They do not, therefore, need a motivational force from outside (*ibid.*). In section 4.2.2, it will be noted that experiences from language classes are not the only driving force in language learning: if a learner finds a purpose for language learning, previous negative learning experiences do not necessarily matter (Flowerdew and Miller 2008, Lantolf and Pavlenko 2001).

Although experiences from school do not necessarily have a permanent impact on learner's perception of languages, they can have a strong influence on the learner. Dufva, Lähteenmäki and Isoherranen (1996: 50-51) say that the participants in their study were critical of the language teaching that they had received. According to the writers, education has a significant impact on our everyday knowledge of language since a teacher tends to be seen as an authority. Dufva, Lähteenmäki and Isoherranen (*ibid.*) suggest that school often has a negative influence on our language learning. A child is usually interested and excited to learn languages but during our school years our motivation may sink (see e.g. Zhang and Kim 2013). The participants of Dufva, Lähteenmäki and Isoherranen's (1996) study felt that language teaching had concentrated on perfect, grammatically flawless language and many mentioned matriculation examinations as the main source for their motivation to study. Furthermore, there had not been enough oral communication and the focus of the teaching had often been grammar. Some of the participants believed that grammar is the basis of language skills but also the factor that prevented them from speaking. (Dufva, Lähteenmäki and Isoherranen 1996: 53-54.) However, Csizér and Kormos (2009: 108-109) argue that secondary school students are more influenced by language learning experiences than university

students. They suggest that this is because university students may have more knowledge or experiences of where a language could be used, whereas for secondary school students language is something that mostly exists in language class (see also section 4.2.2 for Flowerdew's and Miller's (2008) study).

### 2.3 Perceptions of language skills

Our perception of our language skills can shape our overall views on languages (see e.g. Fiilin 2013). In Dufva's, Lähteenmäki's and Isoherranen's (1996: 64) data the participants did not believe that having good language skills meant that one should speak a in a native-like way. Instead, they thought that to be able to understand and be understood was most important. The writers' comments on this show the age of the report since they say that "until recent years" it has been accepted in language teaching that good language skills means to be able to communicate as fluently as a native-speaker. This perception has changed in language teaching since Dufva's, Lähteenmäki's and Isoherranen's report (LOPS 2003, POPS 2004). However, despite the shift in focus in language teaching, it seems that language learners are hesitant to claim that they are able to speak a foreign language. For example, in Karjalainen's and Lehtolainen's (2005) study, not all university graduates reported that they could speak English or the second domestic language. This was despite the fact that they were young adults that had studied these languages at school for several years, and most of them had also had compulsory language studies in university. Other studies that similarly show our reluctance to acknowledge our language skills are described next.

If we look at the whole population rather than Finnish university students or graduates, we find that surprisingly few claim to have Swedish language skills. Of 18-64-year-old Finnish-speakers, 65 per cent reported an ability to speak Swedish in 2006 (Tilastokeskus 2006). As a foreign example, Ireland, like Finland, is an officially bilingual country with two national languages that are compulsory subjects at school. In 2006, only around 40 per cent of Irish people claimed that they could speak Irish (Central Statistics Office 2007) despite the fact that they had studied it since primary school. In Wales, which is also officially bilingual and where Welsh is a compulsory subject at school, only 19 per cent of the population claims to speak Welsh (Office for National Statistics 2012). Interestingly, Irish and Welsh are more visible in Ireland and Wales than Swedish is in the Finnish-

speaking areas of Finland. Perhaps Finnish people are more likely to note that they have some abilities in a foreign language than Irish and Welsh people, who seldom have the need to use their foreign language skills outside the classroom because of the lingua franca status of English. Furthermore, there is no need for knowing Irish or Welsh outside Ireland and Wales whereas Swedish is a helpful language across Scandinavia, and perhaps Finnish people have some experience of understanding Swedish in Finland or elsewhere in the Nordic countries.

Yet, from a language teacher's perspective at least, it seems confusing that 35 per cent of Finnish-speakers claimed that they could speak no Swedish at all in the Tilastokeskus (2006) report. Because Swedish was not a compulsory school subject before the 1960s, the report shows that older generations had less Swedish skills than those who had had to study Swedish at school. However, what is alarming from the point of view of Swedish teachers is that only 40 per cent of under 25-year-olds stated that they were able to say more than just basic phrases in Swedish. Naturally the lack of practice can make us unsure of ourselves, but perhaps language teachers have not highlighted the importance of even imperfect language skills. According to Palviainen (2011: 77) and Fiilin (2013: 143), those with good Swedish grades are more prepared and motivated to use the language. Fiilin (*ibid.*) also suggests that students are so highly competent at English that they compare their skills in other languages with their good command of English and thus might not appreciate their more modest skills in other languages. Similarly, in Dufva, Lähteenmäki and Isoherranen's (1996: 57) study many of the participants seemed to diminish their language skills, which the writers saw as a cultural characteristic. However, comparing the statistics is very problematic as the exact form of the question can result in various types of answers. "Do you speak" and "do you know" [a language] (or in Finnish "osaatko") mean different things. Even "knowing" a language can be understood in different ways, which is discussed further in section 7.1.

Jauhojärvi-Koskelo and Palviainen (2011) analysed 490 university students' level and perceptions of Swedish. The data was collected at the beginning of compulsory Academic Swedish courses taught by the University of Jyväskylä Language Centre. The students were asked to write a short essay which was analysed to determine their level of Swedish. In addition, they filled out a Likert-scale questionnaire about

their views on Swedish. The researchers discovered that only 16 per cent of the students thought that their Swedish skills were good, and just 15 per cent agreed with the statement “I am happy with my Swedish skills”. The researchers found no correlation between the students’ faculty and these two questions. Not surprisingly, students with better level of Swedish were happier with their skills than those with a lower level (Jauhojärvi-Koskelo and Palviainen 2011: 88). Martin et al. (2013) found that there was a large variety in the University of Vaasa students’ perceptions of their own Swedish skills. In fact, 11 per cent of technology students did not feel they could speak any Swedish. Unfortunately, in the study by Jauhojärvi-Koskelo and Palviainen (2011), the students were not able to pick the option “I do not know any Swedish” and therefore we cannot compare the results with Martin’s et al. (2013). As the Jauhojärvi-Koskelo and Palviainen (2011: 89) state, perceptions are highly subjective and contextual: a student may be happy with his or her low level of language whereas another one can be very unhappy with his or her higher language skills. Students can also have very different perceptions of what is meant with “good” language skills. Section 7.3.1 will address this question as the physics students are asked what they mean by language skills and good language skills.

## **2.4 Perceptions of the statuses of languages**

History has a significant effect in language attitudes in Finland and abroad (for an Irish example, see Ó Riagáin and Ó Gliasáin 1994). According to Dufva, Lähteenmäki and Isoherranen (1996), Finnish cultural identity is still influenced by the nationalist movement from over a hundred years ago. They give an example of a participant in their study who, laughing, said that it is in his genes to detest Swedish. Dufva, Lähteenmäki and Isoherranen (1996: 48) claim that languages such as English do not have political charge and are therefore described through what benefits one can get from learning them, and that is not the same to learn English and Russian. However, it must be noted that these arguments were written almost twenty years ago and it can be argued that we are presently living in an even more globalised world. Although the participants in Dufva, Lähteenmäki and Isoherranen’s (1996) study highly valued languages and language learning, chapter 7 will argue that university students today have quite a different perception of foreign languages.

It is worth briefly describing the status of English in the minds of Finnish people. English is a global language and its usefulness is easy to note outside the English-speaking countries (Csizér and Kormos 2009, Josephson 2014). Josephson (2014) claims that in Sweden, English has such a dominant role that in certain domains Swedish is hardly spoken. He gives an example from university students of science who cannot speak about their field of study in Swedish. Josephson (2014: 134) calls this “self-colonisation”, claiming that Swedes have voluntarily let English take over in sciences, for instance. According to the study by Leppänen et al. (2009) which is presented below, Finnish people are not worried about Finland being anglicised despite the fact that Finland, like Sweden, is indeed increasingly affected by the English language.

Leppänen et al. (2009) surveyed Finnish people’s (n=1,495) attitudes towards and perceptions of the English language in Finland and in their lives in 2007. The study was extensive regarding the number of people involved. However, Leppänen et al. (2009) note that not all age groups responded to the posted survey equally actively, and only about 50 per cent of the planned sample sent it back. Similarly to Karjalainen and Lehtonen’s (2005) study (see section 3.2), it is possible that those more interested in languages were more likely to answer the survey. Those not caring about languages, therefore, could be underrepresented in Leppänen’s et al. (2009) study. Furthermore, the study is eight years old and although that is not a very long time, Finland is internationalising at a growing pace, which may affect the results. Despite these limitations, Leppänen’s et al. (2009) report can give us some indication of Finnish people’s stand on the English language.

Leppänen et al. (2009) discovered that Finnish people study many foreign languages and use them at work and in their free time. English is perceived as more important than Swedish. It is seen as an important language in working life but not a threat to domestic languages and Finnish culture (cf. Josephson 2014). Finns value English the most in terms of internationalisation, but also think it is important to know other languages. They perceive their level of English as rather good but want to learn more. Finns have also noticed that language requirements vary a great deal depending on the situation, for example in working life (see chapter 3 for more discussion on languages in Finnish working life). Finnish people use English in their free time and also at work, but young people use English the

most. Using English in Finland is not often active: rather than speaking or writing, Finns listen, watch and read English. (Leppänen et al. 2009.)

Chapter 2 has defined the term perceptions and then presented previous studies on perceptions of languages and language learning. The following chapter will move on to describe perceptions of the role of languages in university and in Finnish working life.

### **3 PERCEIVED LANGUAGE REQUIREMENTS IN UNIVERSITY AND IN WORKING LIFE**

In Finland, universities have legal requirements concerning their operating language, communication and language studies and graduates' language skills. Universities also have their own language policies and strategies. Language requirements for universities and university graduates are described in the Government Decree on University Degrees (794/2004, 1039/2013). It states that university graduates must have "proficiency in Finnish and Swedish which is required of civil servants in bilingual public agencies and organisations --- and which is necessary for their field" and "skills in at least one foreign language needed to follow developments in the field and to operate in an international environment" (6 §). As is stated in the Decree, university students must take part in communication and language studies as a part of their Bachelor's degree (10 §). The Government Decree on University Degrees sets requirements not only for university graduates but also universities. It states that a university must help students achieve "adequate" communication and language skills for working in their field and in international settings at Bachelor's level (1039/2013, 7 §) and "good" skills at Master's level (12 §). Universities are also to provide a graduate with a degree certificate that shows the graduate's language skills (26 §).

The present study is conducted in the context of the University of Jyväskylä, which is why the general language policies of this university are presented next. According to the University of Jyväskylä Language Policy (2012: 6), "knowledge, competence and expertise are built through language". The staff and the students are "encouraged to enhance their multilingual and multicultural competence" which is achieved by fostering the Finnish language and culture as well as further

developing the university community's communication and cultural skills in both Swedish and foreign languages. The Language Policy says that employees today are required to have excellent Finnish skills and fluent English, and that other fluent or partial language skills are of an advantage in the labour market. This is why all students are offered opportunities to develop diverse language and intercultural skills in their studies. Students also have a responsibility to develop their skills for working in multilingual and multicultural environments and the university is required to offer the students help with discipline-specific communication. As a result, the University of Jyväskylä graduates will have diverse, high-quality language and cultural skills as well as competence to work in multilingual and multicultural environments. The Language Policy further states that a multilingual and multicultural working environment is "the starting point and resource" for teaching. Students are encouraged to participate in an international exchange programme. Furthermore, the multicultural and multilingual home campus must be recognised and developed as it is an important learning environment for languages and cultures. (University of Jyväskylä Language Policy 2012: 6-8.)

As stated earlier, the empirical part of the present study focuses on first year physics students in the University of Jyväskylä. The language policies of the whole university naturally apply in the Department of Physics. All students study both domestic languages and at least one foreign language, but requirements vary from faculty to faculty. The Faculty of Mathematics and Science (2015), which the Department of Physics is a part of, requires two ECTS credits of oral or written communication, two ECTS credits of English and two credits of the second domestic language. As most Finnish universities principally operate in Finnish (University Law 558/2009, University of Jyväskylä Language Policy 2012: 1), in practice the oral or written communication is Finnish and the second domestic for most students is Swedish.

The Language Act (423/2003, 1§, 2§) states that Finland is a bilingual country and that Finnish-speakers and Swedish-speakers have equal opportunities to use their first languages. To guarantee public services in both of the national languages, public sector workers must have adequate Finnish and Swedish skills. Bilingual authorities must always provide services in Finnish and in Swedish and show the public that they are using both languages (23 §). Furthermore, public enterprises

must provide services and information in both languages (24 §). If a private operator has been assigned to a public administrative task, the same language legislation applies to it as to the public sector. In other cases, the Language Act does not apply to the private sector (25 §), in which many physics graduates will probably work. All officials do not necessarily have to be able to provide all services in Finnish and Swedish as long as the same services are available in both languages (Ministry of Justice 2009b). An authority can also provide better services than the law requires by accepting documents in foreign languages, for instance (2 §, Ministry of Justice 2009a). The Act on the Knowledge of Languages Required of Personnel in Public Bodies (2003/424), which is also known as the language skills act, states that an authority must ensure that its personnel have adequate language skills to provide services stated in the Language Act.

As described above, the Government Decree on University Degrees and the University of Jyväskylä Language policy have set language requirements for university students. Language teachers in higher education have been active in researching students' perceptions of language studies, and some of these findings are presented in section 3.1. The legal language requirements for those working in the public sector were also described above. However, different workplaces may have very different language policies and needs, and language laws do not apply in the private sector. This chapter describes university graduates' (section 3.2) and their employers' (section 3.3) perceptions of language requirements in the workplace in order to sketch possible scenarios which the interviewees of the present study may face in their future working life. Section 3.4, in turn, reports previous studies on third level students' perceptions of foreign languages in relation to their future work and will show that there is a variety of needs and expectations that language teachers can face.

### **3.1 Perceptions of language studies in higher education**

The present study is conducted in the context of a discipline-specific language course in university and therefore it is worth discussing previous research on students' perceptions of language studies in higher education. The Helsinki University of Technology (TKK) Language Centre surveyed engineer students' (n=77) perceptions of different aspects of English teaching in 2008-2009. The students were asked to rate 15 different themes of English education, such as

grammar, pronunciation, technical writing and environmental awareness, on a scale from 1 to 10. The results of the study show that the students, regardless of how many years they had been studying, ranked language skills needed in “meetings and negotiations” and “leadership and managerial communications” highest of all the 15 aspects they could choose from (Lappalainen 2010: 396). Lappalainen (2010: 396-397) notes that both meetings and managerial communication have to do with persuasive and mobilising interaction, and concludes that the engineer students appear to be conscious of what is expected of them in the workplace. She claims that Finnish engineering students already have a high enough level of English to work in their field, so the TKK Language Centre should concentrate on teaching them communication skills and field-specific English needed in the workplace. According to Josephson (2014), we may overestimate our English skills, thinking that we manage in everyday situations, but academic professionals must often have advanced language skills. It is therefore important to offer these field-specific English courses even if the students have fluent everyday English.

According to Brown (2009: 47), recent studies have indicated that students’ perceptions of second language (L2) learning and teaching might be relevant to efficient L2 learning and should not be disregarded as unimportant, non-scientific or naïve. In his quantitative study, Brown compared students’ (n=83) and teachers’ (n=49) perceptions of effective second language teaching at the University of Arizona with the help of a Likert-scale questionnaire. The results of his study suggest that there is a mismatch between teachers’ and students’ views. Teachers preferred a communicative approach with grammar embedded into different types of tasks whereas the students preferred explicit grammar tasks and error correcting. First and second year students’ perceptions differed from each other. According to Brown, this is due to the second year students’ more advanced language skills. The first year students were more in favour of specific grammar teaching and error correction than the second year students. (Brown 2009: 55.) It must be noted that the students in Brown’s study had only been studying the L2 in question for one or two years and therefore their perceptions of language learning might be very different from those of Finnish university students who have usually been studying English since the age of nine. However, the study is a good reminder that there is a possibility that students and teachers can have a very different

understanding of language teaching or learning, which could hinder effective learning. Brown (2009: 55) suggests that teachers should make their teaching methods transparent to the students in order to help them understand the importance of input, output and negotiation of meaning.

Komarova and Tiainen (2007) studied business students' experiences of language studies in the North Karelia University of Applied Sciences using a survey with open-ended questions. They found that the students were mostly satisfied with their language studies and were particularly happy with the work-oriented approach and the focus on oral communication. However, this study was limited with only 32 respondents. 20 of the respondents were mature students whose prior experiences of language studies could have differed from those of the younger respondents. Komarova and Tiainen focused on Russian studies, which the students had only started at the university of applied sciences. Therefore, parts of this study are comparable with Brown's (2009). In the case of both of these studies, it is important to consider the students' background since the students most likely reflect their current studies with their previous experiences in language learning. It is impossible to answer solely based on the information from the two papers why Komarova's and Tiainen's (2007) respondents were happier with their language studies than those of Brown (2009). The students in the Finnish university of applied sciences were all business students whereas the respondents in Brown's study were students from different fields of study. For some students of both groups the language studies were optional and for others they were compulsory. Komarova and Tiainen (2007: 38) suggest that the respondents in their study were more internationally-oriented than students of some other fields. Brown's (2009) study does not reveal whether the University of Arizona's language courses focus on working life the same way as do the ones in Finnish higher education, and whether that could affect the results.

As stated previously, students' experiences may affect their perceptions of language learning in many ways. Martin et al. (2013) found that students at the University of Vaasa had varied views on how languages should be taught in university. (The study is described in more detail in section 3.2.) Some students wanted to practise oral communication whereas others preferred similar teaching to upper secondary school. According to the students, university language studies

focused too much on grammar and writing. Some students found the timing of the language courses challenging. Others wished that they had got into the course already at the beginning of their studies as they would have needed the skills taught in the course when reading field-specific literature in foreign languages, for instance. (Martin et al. 2013: 56-57.) Good experiences from upper secondary school resulted in the perception that this type of teaching was the best way of learning languages. On the contrary, some students had perhaps noticed that they learned languages or became more confident by speaking them and therefore preferred teaching that emphasised oral communication. Consequently, the students' perceptions were influenced by their previous experiences in language learning during different stages in their education. As we can see from the studies by Martin et al. (2013), Komarova and Tiainen (2007) and Brown (2009), students' perceptions of language studies in higher education can vary a great deal depending on their experiences in language learning at school and in higher education and it is therefore impossible to create a formula that will work for all.

### **3.2 University graduates' perceptions of foreign languages in the workplace**

The present study concerns first year physics students' perceptions of language requirements in their future work. This section describes university graduates' experiences of language use in working life, as this information will be used in the analysis of the interview data in order to discuss how similar or different to reality the students' perceptions are.

In the Helsinki University Language Centre report by Karjalainen and Lehtonen (2005), the University of Helsinki graduates of 1999 (n=1,190) were asked about their language skills and language uses and needs in their work. Just under a third of the respondents believed that their language skills had had an effect on their employment. The most positive responses came from those working in the private sector, where 47 per cent of the respondents felt that their language skills had helped them to get their current job. (Karjalainen and Lehtonen 2005: 23.) However, over half of the graduates claimed that they needed foreign languages in their work and they were happy to use them. A fifth felt that they needed and were able to use foreign languages in their work but they did not particularly enjoy using them. 16 per cent would have liked to use foreign languages in their work

but did not need to. Only 3 per cent felt that their inadequate language skills caused stress in their work (Karjalainen and Lehtonen 2005: 30).

Karjalainen's and Lehtonen's (2005) report shows that only 7 per cent of the respondents that could speak English never needed it in their work, while 71 per cent used it regularly. Other languages were clearly needed in some workplaces, according to both of this report and Martin et al. (2013). The percentages of those University of Helsinki graduates who could speak other languages and needed them regularly in their work were 16 for German, 20 for French, 15 for Spanish, 14 for Russian and 28 for Italian. Swedish was most often needed by those who worked for the state, at private companies or at foundations or organisations, and almost everyone working at a university needed English. Almost all Swedish-speaking respondents needed Finnish regularly, whereas only one third of the Finnish-speakers needed Swedish regularly and another third never needed Swedish in their work. (Karjalainen and Lehtonen 2005: 25-27.) The participants were graduates of the University of Helsinki, and it is possible that a large portion of them had stayed in southern Finland where there are more Swedish-speakers than in many other parts of the country. That is, had the participants graduated from one of the more northern universities, the percentage of those needing Swedish in their work could potentially have been lower.

Martin et al. (2013) sent a questionnaire to graduates (n=58) of the University of Vaasa to examine their perceptions of foreign languages in the workplace. The graduates thought that they should have studied more English, Swedish, Russian and German, which were the most needed languages in their work. The majority of the graduates stated that it would have been beneficial to study more English in university, or go on exchange. Apart from those working in the bilingual west coast of Finland, also some of those working elsewhere perceived Swedish as important in working life. 44 per cent of the graduates also reported that it would have been good to study Russian in university. Martin et al. (2013: 62) quote a graduate who states that they "had to" study German at school but actually Russian is much more important in working life.

As the empirical part of the present study concerns physics students, it is worth taking a closer look at the Faculty of Mathematics and Science graduates. In

Karjalainen and Lehtonen's (2005) report, the percentages of respondents believing their language skills had been of use in getting their current job were very similar among the graduates from the Faculty of Mathematics and Science. Although a third thought that language skills had been a help, only 15 per cent reported that their skills had been tested in any way during the employment process. A fifth of the graduates used Swedish regularly but almost half never did. Almost all the respondents needed English in their work. Those who needed Swedish regularly mostly used it for reading and writing short messages such as emails or letters. Half of the respondents also used Swedish in communicating with customers or in official meetings. English was widely used in various different work situations. Reading, writing, listening and speaking skills were all very useful for those who used English in their work. 64 per cent of the respondents reported that their work includes international tasks. (Karjalainen and Lehtonen 2005: 88-94.) It is important to notice that the report is ten years old and as Finland is becoming more internationalised, the percentages could look somewhat different in 2015. Unfortunately the University of Vaasa does not have a Faculty of Mathematics and Science and therefore these two universities' graduates cannot be compared in this regard.

### **3.3 Employers' perceptions of foreign languages in the workplace**

Section 3.2 presented university graduates' experiences of foreign languages in the workplace. This section will illustrate the employers' perspective, which will be beneficial for the analysis of the interview data similarly to the previous section.

Based on the results of the Helsinki University Language Centre questionnaire (Karjalainen and Lehtonen 2005, see also section 3.2) the researchers conducted interviews on employers representing the graduates' fields. The employers did not raise any surprising topics: many of them said that foreign languages are needed in the workplace. According to the employers, everyone needs English, and Swedish is useful in workplaces that cooperate with other Nordic countries or operate in Swedish-speaking regions of Finland. The employers also said that mastering field-specific vocabulary is beneficial. (Karjalainen and Lehtonen 2005: 127-162.) The employers highlighted that communication and intercultural skills are more important than being able to use grammatically correct language (Karjalainen and Lehtonen 2005: 160), which was also shown in Martin's et al. (2013) study. Based

on this evidence, there is a need for a broader understanding of what language learning should be like (Räsänen and Taalas 2010, see section 5.2).

Martin et al. (2013) mapped language requirements of the largest employers in the Vaasa region and discussed the needs in language teaching at the University of Vaasa based on their interviews with the employers (n=19). The employers viewed English as a world language and English skills a part of an employee's expertise. Instead of basic English skills, an increasing amount of employees are required to have advanced English communication skills in their field (Martin et al. 2013: 23). As the Vaasa region is bilingual, Swedish is needed in the public sector. However, in Martin's et al. (ibid.) study employers from the private sector did not highlight the importance of knowing both domestic languages but instead it was often enough to know Finnish and English, *or* Swedish and English. Apart from the notion that not both Finnish and Swedish were a necessity, we can see that English was always required. In fact, Leppänen et al. (2009) call English the "third domestic" language. The employers in Martin's et al. (2013) study generally reported that other languages were also used in business communication, but that for the most part English was used as the common language. According to the employers, particularly in Russia and Latin America the local languages were sometimes needed as the locals did not necessarily have strong enough vocabulary to work together with their Finnish business partners. The writers note, however, that the employers in the study were large companies and that small companies may have different language needs and that they also internationalise. (Martin et al. 2013: 25-26.)

Central trade organisations agree with the employers in Karjalainen's and Lehtonen's (2005) and Martin's et al. (2013) studies. Finnish Chambers of Commerce (Kauppakamari 2012) clearly states in its report that language skills will be highly important in future companies. Confederation of Finnish industries (Elinkeinoelämän keskusliitto 2014) similarly in its report highlights the importance of language and communication skills, intercultural skills, international experience and knowledge of other languages than English and Swedish. Communication skills have also been highlighted in studies in other countries. In the United Kingdom, International Employer Barometer surveyed employers (n=233) representing large multinationals and small companies and found that the

employers rated communication skills as the most important skill when employing graduates. The report also notes that whilst subject knowledge was appreciated by the employers, among the highest-rated skills and capabilities were, apart from communication skills, team-working skills, confidence and organisational skills. (Archer and Davidson 2008.) Based on the reports, it can be argued that there is a need for teaching working life skills in university, as Räsänen and Taalas (2010) suggest. Physicists must be able to communicate in the globalising world, too. According to the job description of a physicist (TE-palvelut 2015), a physicist should have good cooperation and communication skills. In addition, good language skills are of use for a physicist since the work often includes reading about current research on the field and working with international colleagues (ibid.).

An interesting, opposing result is shown in Vold's and Doetjes' (2012) study. They surveyed online job advertisements in Norway in 2010 and 2011 and noticed that very few mentioned foreign languages as a requirement or a benefit for the employee. Perhaps Vold and Doetjes (2012) would have got different results if they had interviewed employers as it is possible that employers value languages but do not see them so important that they should specifically be mentioned in the job advertisement. According to the researchers, the few mentions of foreign languages in the advertisements may be because many employers believe that they will not find an employee with both subject expertise and language skills. This may lead to a vicious circle where students do not pick optional languages at school because they notice that they are not required by employers, who in turn will not get work force with appropriate language skills.

### **3.4 Students' perceptions of language requirements in the workplace**

This section describes previous studies on students' perceptions of language requirements in the workplace, to which the findings of the present study can be tied.

Murtonen et al. (2008) argue that false perceptions of future work requirements "may be harmful for students in many ways". These perceptions may affect the students' motivation and attitudes towards certain courses, and as a result they do

not gain the expertise from their studies that is needed in their work. Murtonen et al. (ibid.) used a questionnaire to study Finnish (n=46) and American (n=122) university students' perceptions of the need of research skills in their future work and found that about 50 per cent of the students in both countries were unsure whether they would need those skills in working life. Although Murtonen's et al. was not related to language learning, it is relevant to the present study as it shows that university students do not necessarily have a very good understanding of what is required of them in their future work. Like Brown (2009: 55), Murtonen et al. (2008: 610) emphasise the importance of the transparency in class: the teacher should find out about the students' perceptions and use approaches "linking teaching to real working life tasks".

Jalkanen and Taalas (2013) conducted a survey in 2012 which shows that students at the University of Jyväskylä (n=609) believed language skills were important both in their studies and in their future work. Students were interested in foreign languages and thought it is important to be familiar with different cultures. However, only a fifth of the respondents had been on exchange during their studies, which is why Jalkanen and Taalas suggest that university studies at home have a significant role in acquainting students with multicultural and multilingual settings. Although the majority of the respondents had not been on student exchange, more than half of them believed that they would be working in an international or multilingual environment. The participants in Jalkanen and Taalas' (2013) study had voluntarily answered the online questionnaire, which may affect the results. Furthermore, some students were more active in participation than others. For example, the Faculty of Mathematics and Science, which is of particular interest for the purposes of the present study, was underrepresented in Jalkanen and Taalas' study. Kankkunen and Voutilainen's (2007: 76) survey similarly shows that even though business students (n=23) at the North Karelia University of Applied Sciences believed that they would need English in their future work, they still felt that their lack of motivation hindered their language learning and as a consequence many of them did not enrol in optional English courses. Based on these two studies it seems that students believe foreign language skills are important in their future but are nevertheless not necessarily willing to invest in language learning. This topic will be further discussed in relation to the interview data of the present study in section 7.3.3.

The need for Swedish skills is often discussed in the officially bilingual Finland. According to Fiilin's (2013: 141-142) survey, the University of Helsinki students (n=400) believed that they would not need much Swedish in their studies but only 12 per cent thought that they would not need Swedish at all at work. However, the results varied significantly depending on the faculty. Only seven per cent of students in the Faculty of Mathematics and Science (n=90) believed that they would need "quite a lot of" Swedish in their future work, whereas 28 per cent thought that they would never need it, which was much higher than in the other faculties. Palviainen (2011) notes that only a fifth of the students in the Faculty of Mathematics and Science at the University of Jyväskylä would have taken part in the (now compulsory) Swedish course at the Language Centre had it been optional. According to Jauhojärvi-Koskelo and Palviainen (2011), only 47.1 per cent of the students in the Faculty of Mathematics and Science (n=70) wanted to learn Swedish because it is required by many employers. The writers suggest that the employers' language requirements were not a motivator for these students or that the students believed that they would not need Swedish in their field. Section 7.2.2 will discuss the likelihood of these options in light of the physics students' interviews.

In Luoma's (2007) study business students (n=90) in two universities of applied sciences were asked in a questionnaire with open-ended questions whether they thought the Swedish language was useful to them and whether they believed that they would need Swedish in the future. Luoma also wanted to know in which situations the students needed Swedish at present and in which situations they thought they would need Swedish in their future. The results of the study show that the students did not need much Swedish at present. However, the students from the institution located in the west coast of Finland, a partly Swedish-speaking area, used slightly more Swedish than the students from the institution in Eastern Finland. Regardless of the institution, the majority of the students believed that they would need Swedish in their future work, or at least that it might be useful (Luoma 2007: 12). Luoma (2007: 13) concludes that students should be made more aware of concrete situations in which they might need to know Swedish in working life. It must be noted that those two thirds of the respondents who had been in upper secondary school had graduated prior to the time that Swedish was made optional in matriculation examinations. The students who knew that they

would have to pass the examination could have put more effort into their Swedish studies than those who might have decided not to do the examination before even starting upper secondary school. More effort in studies might result in better grades, which again might affect motivation to use it (Palviainen 2011: 77; Fiilin 2013: 143). Palviainen (2011: 78) further notes that university students' positive perceptions of the possible usefulness of Swedish decreased significantly from 2006/2007 to 2009/2010, which she suggests could be an effect of Swedish becoming an optional subject in matriculation examinations in 2005.

According to Martin et al. (2013: 49-50), students in the University of Vaasa viewed English as the most important foreign language to know. English was thought of as a lingua franca, a necessity in today's working life. The students felt that they were "fairly good" at English but wanted to achieve excellent skills by the end of their studies. Four fifths of the students in Martin's et al. (2013: 50-51) study believed that Swedish could be beneficial in their future working life. However, some students claimed that Swedish is talked about too much in the Vaasa region and that it is actually not needed as much as is claimed. The students spoke very positively of other languages and believed that especially German would be useful in working life. As stated previously, there is no Faculty of Mathematics and Science in the University of Vaasa and therefore the results are not comparable with the empirical part of the present study. Furthermore, students majoring in languages were overrepresented in Martin's et al. (2013) study, which may affect the results as it can be assumed that they are more positive towards languages than an average student.

#### **4 VOICE AND AGENCY IN STUDENTS' PERCEPTIONS OF LANGUAGES**

As stated previously, the purpose of the present study is to describe physics students' perceptions of languages. The term *voice* proved to work as a tool for describing and interpreting the students' utterances. It is not possible to understand the whole complexity behind the students' perceptions of languages. However, by examining the students' voices we can discuss the origins of their utterances and consider who has authority and expertise (Aro 2009) in the

students' minds. Although Aro (ibid.) focused on primary school pupils, the concept of voice is applicable to any groups of people. Section 4.1 describes the concept of voice and presents previous studies on it.

Apart from voice, *agency* is another term that is useful in interpreting physics students' perceptions of languages. Where voice is used to describe the form of the utterances, agency can be detected from the content. We can discuss who the active agent is and whose expertise is relied on (Aro 2009: 63). The concept agency is relevant when studying the students' perceptions of language as we can examine how the students place themselves in the world of languages and language learning. We can discuss whether the students perceive themselves as active learners or users of language, or whether they perhaps shift agency away from themselves, portraying themselves as passive when concerning foreign languages. Section 4.2 defines agency and presents previous studies on agency and language learning.

## 4.1 Voice

### 4.1.1 Defining *voice*

Aro (2009: 30-31) describes Mikhail Bakhtin's classic concept of voice. According to Aro, one of Bakhtin's main ideas is that a word is always used in a specific context and is affected by that context. Speech does not therefore consist of "objective listings of words – like words in a dictionary" (Aro 2009: 30). Speakers take into account the situation in which they are talking, who they are talking to, and convey their feelings towards the topic. Consequently, speakers position themselves depending on the content and the listener. Aro (ibid.) illustrates this by stating that even if we cannot see the listener, we can detect from the voice whether the speaker is talking to a friend or a teacher, for instance. Bakhtin's words (1981: 348, 1986: 91-93) are summarised in a clear manner by Aro (2009: 31-32):

"When producing utterances, we engage in a process of *appropriation* (emphasis original) – we use words from the mouths of others to serve our own intentions. At the same time, we position ourselves with regard to those words: we agree or disagree, praise or condemn, and so on. Through the process of appropriation, we constantly develop and redefine our personal interpretive perspective or voice, which is a consolidation of many perspectives and voices or genres we have known."

When researching language, voice refers to both the form and the content language use. We examine what a participant in a study decides to talk about and what utterances he or she uses. An individual's voice is at the same time unique and social, as we all see the world from our own perspective but construct our knowledge in a social environment. (Dufva and Pöyhönen 1999: 147-148.) Hence, it is possible to detect both the speaker's own and others' voices in his or her speech because we speak of our own experiences using others' utterances as a tool to structure our thoughts. Utterances are, therefore, polyphonic (Dufva, Lähteenmäki and Isoherranen 1996: 66-67, Dufva and Pöyhönen 1999: 148).

Chapter 7 will detect different types of voices from the physics students' utterances in order to describe how they perceive languages. Bakhtin (1981: 342-345) writes about authoritative and internally persuasive discourses. Authoritative discourses include "authority as such, or the authoritativeness of tradition, of generally acknowledged truths, of the official line and other similar authorities" (Bakhtin 1981: 344). They demand "our unconditional allegiance" (Bakhtin 1981: 343), by which Bakhtin means that we either take them into our speech exactly how they are or we discard them completely. We cannot decide to accept one part of them but not others. On the contrary, if we are able to use our own words to express what someone else has said, the words by this other person become internally persuasive (Aro 2009: 32). Internally persuasive discourse has a strong influence on the development of our consciousness. It is partly ours and partly of someone else. It does not stay solitary but instead we can alter it, use it in new contexts and add our own interpretation to it. (Bakhtin 1981: 345-346.) We can therefore add our own voice to internally persuasive words (Aro 2009: 32). Aro (ibid.) explains Bakhtin's (1981) theory further and states that through appropriation, internally persuasive words can grow into our own words – so that the only voice left is our own and the words do not "have the dynamic, creative dialogue with other voices" any more. Furthermore, some words do not matter to us and hence we are not interested in adding our voice to them. Some words we would like to make our own but are not able to because they are "so full of other people's meanings" and do not sound like our own (Aro 2009: 32). Dufva and Pöyhönen (1999) note that a researcher is not objective and he or she brings his or her own voice to the text, too. Accordingly, the present study describes voices of the students with the voice of the writer.

#### 4.1.2 Previous studies on voice

Voice has seldom been studied in relation to learner beliefs. However, it appears in some studies about expressing identity. Dufva and Pöyhönen (1999) assessed polyphony in Finnish and Russian language teachers' biographical essays, highlighting the uniqueness of an individual's experiences. Ivanič and Camps (2001) examined texts written by six Mexican graduate students at British universities to see how the students represented themselves in their writing. The researchers detected from the students' writing how they positioned themselves in their texts. For instance, using hedging does not convey such a strong meaning as using the present tense. Ivanič and Camps (2001) argue that texts are often polyphonic as we take "heterogeneous" positions, sometimes stating facts and taking ownership of our words, and sometimes borrowing from others. Ivanič and Camps (ibid.) also agree with Aro (2009) suggesting that our voices can change over time. Even if we write or speak about the same topic, our positioning to it changes and therefore our voice is different.

For the purposes of the present study, Aro's (2009) dissertation is particularly relevant as she examined primary school pupils' agency, beliefs about English and the change of polyphony in their speech in primary 1, 3 and 5. Kolehmainen (2011) used the same semi-structured interview data to analyse third-graders' (n=22) voices in their beliefs about the ease and difficulty of foreign languages. Already in primary 1 the children knew of what they perceived as the right answers to questions such as "Is it important to know foreign languages?" (Aro 2009: 121-122). According to Aro (ibid.), some of the children added their own voice to the answers whereas others were simply "ventriloquating": the words did not sound like their own. Consequently, the children used voices of authority such as voice of society. In primary 3, the children in Aro's (2009) study were more aware of the purpose of school and learning, but were uncomfortable in the role of a language learner. Because of this they often used others' words and told the interviewer what other people such as their parents had said, as "surely, from a child's point of view, what a parent says constitutes a good answer" (Aro 2009: 123). The belief that an authority "knows better than you" was also present in Dufva's, Lähteenmäki's and Isoherranen's (1996) data, which shows that this type of belief is not only that of a child. Furthermore, as they were quoting an authority, the

children did not take responsibility of the words but seemed to feel that they could shift this responsibility to the authority that they referred to (Aro 2009: 123).

In primary 3 the pupils also used “borrowed voices” (Aro 2009: 124-125), using words of others when they had none of their own, but these words did not sound like their own but rather seemed like ready-made opinions. This kind of opinion was presented by a pupil “when the interviewer kept pressing her”, perhaps thinking that it was a good answer. Kolehmainen (2011: 42) suggests that at times it felt as if the interviewer and the pupil together formed the belief of the pupil. Ready-made opinions were also present in Dufva, Lähteenmäki and Isoherranen’s (1996) and Jalkanen and Taalas’ (2012) data. Apart from quotations and borrowed voices, the pupils in primary 3 started showing their own opinions by using phrases such as “I think” or “in my opinion” (Aro 2009: 127-128, Kolehmainen 2011: 35-42). Aro (2009: 127) interprets this as pupils’ confidence in themselves as language learners. Ivanič and Camps (2001) similarly note that the form of the utterances changes as students become more confident. Furthermore, the pupils used “schooled voices” by voicing the institutional authority of the school (Aro 2009: 128-129). They used school-related vocabulary and told the interviewer what is expected of them, “using the voice of the obedient learner”. However, they hesitated when they had to think of what use English would be to them, feeling that “the voice of the active language user was a thing of the future” (Aro 2009: 130).

In primary 5, Aro (2009) again observed changes in the pupils’ voices as they had more reasons for why they thought English is important. For example, they had learned concrete examples of instances where English might be needed. Their answers showed “appropriated authoritative voices” as they presented society’s ready-made opinions as their own (Aro 2009: 132). However, yet again their answers reflected voices of society (see also Jalkanen and Taalas 2012, Dufva, Lähteenmäki and Isoherranen 1996). When asked why English might be useful to them personally, the pupils gave answers such as “if I move abroad”. They were not accepting their everyday use of English, of which they also gave examples when asked, equally valuable. In almost all cases the pupils only claimed that they had used English if they had spoken it with a foreigner (Aro 2009: 139). As Aro (2009: 132) phrases it, these everyday uses of English “were not important enough

for such big words as useful and need – to *need* and *use* English, one needed to be far more official, international and adult”. Section 7.2.1 will show that physics students, too, forgot to mention their everyday uses of English, emphasising its importance regarding work and travelling abroad.

Apart from appropriated authoritative voices, Aro (2009: 133-135) detected voices of experience in the fifth-graders’ answers. They were able to give concrete examples of instances where they had come across English. Aro (*ibid.*) claims that these statements could also include “ventriloquating the slogan” but the pupils added details such as those from experience. They also started to voice themselves as language users, telling the interviewer about what they already knew. They started to see and voice themselves as children who, apart from learning English, knew and could use the language (Aro 2009: 136). However, Aro (2009: 143) notes that the pupils often presented ventriloquated voices with confidence but were unsure of their own experiences. In Dufva’s, Lähteenmäki’s and Isoherranen’s (1996) data the participants also seemed to value perceptions they had gained from other people as higher than their perceptions based on their own experiences. For instance, a teacher’s word can be accepted as the truth, as a teacher is an authoritative figure.

Aro (2009: 125-126) makes an observation about how the interviewees in her study understood a question depending on its form. When they were asked “why do people learn English?” they could give a general, ready-made opinion. However, when they were asked why they themselves were learning English, not all of them were able to reply. Some of them used “slogans of society” also for the latter question, but some admitted that they had not yet understood why they were learning English. Accordingly, the reasons for learning English had not become internally persuasive to them. Even if they could “find the ‘correct answer’” for the former question, they did not know what relevance it had to them. (Aro 2009: 126-127.) This issue will also be discussed in section 7.2 which argues that the physics students were similarly unsure of the relevance of the topic in their own lives.

Voices and perceptions are intertwined, which is why the present study will use students’ voices to examine their perceptions similarly to Dufva, Lähteenmäki and Isoherranen (1996), Dufva and Pöyhönen (1999) and Aro (2009). Dufva (2012: 18-

19) describes the holistic view of a language learner, emphasising that every learner is an individual with unique experiences but is also a member of society with history, culture and language. Together these factors affect the individual's own voice. Similarly to voice, perceptions are formed in the cultural context in which one lives in and is shaped through interaction during which a person "observes her physical environment as well as social context" (Dufva, Lähteenmäki and Isoherranen 1996: 47).

Aro (2009) saw voice and agency as intertwined, and this is how they are also understood in the present study. Section 4.1 has described the first of the two concepts and section 4.2 will discuss the latter one.

## 4.2 Agency

### 4.2.1 Defining *agency*

Ahearn (2001) and Hunter and Cooke (2007) define agency as the capability to act with initiative in a socially constructed world. It is, according to Hunter and Cooke (2007: 76) "a relationship of interaction with the social world that learners might develop, and one that teachers and programmes might foster in their learners". Hunter and Cooke make a distinction between autonomy and agency as agency involves the agent's dependency of others. Consequently, an agent acts in relation to his or her environment as the community, language, resources, education and even power relations play a part in the context an agent can operate in. Agency is affected by the language environment, language teaching and the learner's past and present perceptions of language learning. (Hunter and Cooke 2007: 74, 78-79, Ahearn 2001: 114).

Agency is related to significance. People are not indifferent of what happens to them and that is why their actions have a purpose. Motives for learning a language are linked with the significance languages or language learning has for the learners as individuals. Learner agency is therefore about creating "terms and conditions" for one's own learning. (Lantolf and Pavlenko 2001: 146.) Lantolf and Pavlenko (2001: 147) believe that even if learners have bad language learning experiences, they can be motivated to learn – to operate as active agents – if the language *matters* to them. Perhaps this argument could also be turned around: if a language does not matter to a learner, his or her agency is hindered even if he or she does

not have bad experiences of it. The following section will present previous studies on agency and will clarify the term further.

#### 4.2.2 Previous studies on agency

Of the many studies conducted on learner agency, Aro's (2009) dissertation is particularly relevant to the present study as she examined agency through voices. Although her methodology can be used as a starting point for the present study, the participants in her study were primary school children whose agency regarding language learning was probably rather different to that of university students. However, in ways the first year physics students and pupils in primary 3 in particular share the experience of being at a new stage in their lives in terms of language learning. Primary 3 pupils have just started learning a foreign language and first year university students are beginning to study foreign languages in an academic context. Aro (2009) found that the participants' agency developed during the five-year period that they were followed. In primary 1 they had not started their language studies yet and mostly spoke of other people's language learning experiences that they had seen or heard of. They therefore placed agency to other people, to those who they perceived had expertise. Over the years the pupils' learner agency emerged. In primary 3 they often talked about their learning together with someone with more expertise – a teacher or another pupil. In primary 5 they more often described themselves as active participants in the learning process. According to Aro (*ibid.*), agency could be manifested in the pupils' voice as well as in their descriptions of themselves as learners and users of English, and this will be taken into account in the analysis of the interview data in chapter 7.

It is also worth briefly presenting studies related to university students' agency in language learning in order to describe what we already know about the agency of people similar to the participants of the empirical part of the present study. Kalaja et al. (2011) used a survey with open-ended questions to study English (n=116) and Swedish (n=83) students' experiences of language learning and how the students had utilised different learning opportunities. The writers (Kalaja et al. 2011: 73) list factors that can affect learner agency. These include learners' perceptions of languages and their language skills, perceptions of where and how they can learn languages, and their understanding of what kinds of resources they

are leaning on. Kalaja et al. (2011) suggest that students majoring in English respective Swedish had different perceptions of the factors listed above, which was shown in their learner agency. The English students were both “consumers” and active “users” on English whereas the Swedish students were often passive consumers of the language (Kalaja et al. 2011: 70). The writers do not have an answer to why there were such differences in these perceptions, although they have some speculations, which are discussed next.

It can be argued that students majoring in languages can be more interested in different opportunities to learn languages in their free time than the average young person. Indeed, Jauhojärvi-Koskelo and Palviainen (2011) found that just 6.5 per cent of university students (n=490) claimed that they tried to look for opportunities to practise Swedish in their free time. However, Kalaja’s et al. (2011) study shows that even students majoring in Swedish had not been very active in making use of the opportunities that Finnish society offers. Kalaja et al. (2011: 72) claim that in principle very similar learning opportunities were available for both the English and Swedish students and yet the English students had utilised these opportunities more than the Swedish students. The authors’ statement can be considered inaccurate since the Anglo-American popular culture offers a much wider range of learning opportunities which are also more accessible for Finns than the smaller amount of Nordic youth culture. For example, the report by Ministry of Transport and Communications (Liikenne- ja viestintäministeriö 2014) shows that in 2013, 76 per cent of films and 54 per cent of reality television shown on the regular Finnish television channels were North-American. Of foreign fiction just two per cent came from other Nordic countries. Together Finland and other Nordic countries had a 36 per cent share of all the material shown on regular television channels (ibid.) and the majority of Finnish television programmes are in the Finnish language. Furthermore, young people watch television programmes and films on the internet on websites which mostly show programmes in English. Although there is some media content in Swedish available, it can be argued that Swedish and English do not have the same status in Finnish media.

Despite its debatable conclusions, Kalaja’s et al. (2011) study serves as an important reminder for those Swedish teachers who are interested in making their students interested in the language. It seems that even students majoring in

Swedish are not able to find enough learning opportunities or they are not motivated to look for them. If students studying the language in university are this indifferent about Swedish, it is likely that average young people are even less interested. This is not to say that one should be interested in learning Swedish, but as long as the subject is compulsory for Finnish people, sufficient motivation may help in completing the courses without pain.

According to Bergroth-Koskinen and Seppälä (2012: 104), university students are often performance-focused. For example, they take part in an optional English academic writing course because they are required to have a certain amount of ECTS credits from languages in their degree. This may impede the students' ownership of their language learning. Bergroth-Koskinen and Seppälä (2012: 104-105) also observe that as students (n=26) were asked to write their personal goals for an English course, many of them repeated parts of the course learning outcomes that had been introduced to them prior to this writing task. The writers discuss whether the students wanted "to build a picture of an ideal learner" rather than showing ownership of their own learning, which is similar to Aro's (2009) observation that her participants' produced utterances that they perceived as "correct". At the end of the course the students in Bergroth-Koskinen and Seppälä's (2012) study were asked to reflect on their experiences of the course. The students noted how they had gained experience from the aspects of academic writing that they set as their goals. Still, many of them did not specify what exactly they had learned and what significance it had. As the writers interviewed some of these students at the end of the course, they nevertheless noticed that even if the students had registered for the course only because of their departments' requirements, their learner agency had evolved (Bergroth-Koskinen and Seppälä 2012: 105-106). This was shown in the students' descriptions of their experiences, as regardless of their initial reason for attending the course they had written and then pursued their learning-related goals.

Flowerdew and Miller (2008) studied Hong Kongese engineering graduates' agency regarding the English language. The researchers examined life histories of 17 engineering students and then chose seven of those students for further data analysis. In their ethnographic approach the researchers collected data not only from the life histories but also from interviews, the students' journals and

observations of lectures. Three years after the students graduated, they were further contacted by telephone and email to update their life histories. In their article Flowerdew and Miller (2008) discuss the three of the graduates' life histories. According to the researchers, the graduates gave English instrumental value and were prepared to invest in their language learning.

The graduates in Flowerdew and Miller's (2008) study wanted to put effort into their English learning for different reasons. Their article suggests that negative experiences in language learning may not necessarily hinder learners' willingness to study the language even though learners' perceptions, affected by experiences, are of relevance in L2 learning (see e.g. Brown 2009, Csizér and Kormos 2009, Mantle-Bromley 1995). For instance, one of the students in Flowerdew and Miller's (2008) study had not had good experiences of language learning at school but because of his interest in sports he wanted to study English in his free time. Another student had similarly had negative experiences of language learning at school but followed the example of his older siblings that had done well in English. Furthermore, when working in an international department store, he understood the value of learning English for work purposes. In contrast, the third student wanted to invest in English because of his good experiences and results in English classes. This shows that there can be a variety of reasons behind learners' willingness to study and invest in their language learning.

Despite their experiences in language learning at school, the students in Flowerdew and Miller's (2008) study demonstrated agency in their English learning for various reasons in various ways. They actively made use of different learning opportunities such as English newspapers, foreign teachers and American summer camps. The study shows that the students were keen on working on their English and did not simply wait formal teaching to cater for their needs (see e.g. Dufva, Lähteenmäki and Isoherranen 1996: 61), but took responsibility of their own learning. Flowerdew and Miller's (2008) study was conducted in Hong Kong where, according to the researchers, English is not accessible to everyone in the same way as in Finland. According to Flowerdew and Miller (*ibid.*), English is highly appreciated in Hong Kong and the students in their study believed that knowing English would lead to better work opportunities. The situation is different in Finland, where the present study is conducted, as here English is taken for

granted. For example, Confederation of Finnish Industries (2014) states that also other languages than English and Swedish are of value in working life. The view that knowing English is a given is therefore embedded in this statement. Although Flowerdew and Miller's (2008) article described only three case studies and the results cannot be generalised, it gives indication of the large spectrum of possible reasons behind language learner agency. The article shows that there is not always a clear-cut reason for why learners are or are not interested in investing in their language learning. We cannot assume that experience A is always followed by perception B.

## **5 CONTEXT OF THE PRESENT STUDY: UNIVERSITY OF JYVÄSKYLÄ LANGUAGE CENTRE PILOT PROGRAMME**

The purpose of language studies in university is to help students acquire language and communication skills needed in their field of study and in their future work. Jalkanen and Taalas (2015: 65, 74) argue that university students are increasingly diverse in educational background, nationality, languages, cultures, goals and learning competences, but they do not get support for their language and communication challenges at the right time. Furthermore, the language and communication studies fail to make up an "integral part" of students' "pathway through discipline-specific studies" as is stated in the University Language Policy (University of Jyväskylä Board 2012). Jalkanen and Taalas (ibid.) note that even though multilingualism and multiculturalism are principles in the university strategy, all languages including Finnish are taught separately from the other languages and subject studies. Fiilin (2013: 147) and Kankkunen and Voutilainen (2007: 76) suggest that language courses come too early in the studies as students do not have enough knowledge on their field of study and have not yet learned academic study skills and therefore they do not get a full benefit of the courses. Based on these studies, language centre teachers should focus not only on teaching discipline-specific communication but also academic study skills.

In order to face the above-named challenges, the Language Centre at the University of Jyväskylä is currently developing its communication and language teaching. The present study was conducted in the context of the pilot programme of this

development work. Section 5.1 briefly explains what the Language Centre does at the university. Section 5.2 outlines the development of the Language Centre pilot programme to the extent that is relevant for the purposes of the present study.

## **5.1 The Language Centre**

The principal aim of the Language Centre is to teach language and learning skills as well as research and workplace communication skills to all university students and staff members in order for them to become academic professionals who can communicate convincingly (Jalkanen and Taalas 2013: 82, Räsänen 2007: 48-49). The Language Centre “promotes and supports the internationalisation of the University and the implementation of its language policy” (University of Jyväskylä Regulations 2013: 16).

The University of Jyväskylä Language Centre offers contact teaching to students and staff in 14 different languages. It teaches academic communication in English and Finnish to post-graduate students, offers a course in teaching in a foreign language to staff members, and provides students with multimodal materials for self-study purposes in further 20 languages. The Language Centre takes part in various research projects and co-operates with universities abroad. It also offers other language services such as proof reading. (University of Jyväskylä Language Centre 2015.) The Strategy of the University of Jyväskylä 2015-2020 (2014: 2) states that the university will prepare the students to work in multicultural settings. Operational Agenda 2015-2016 for the Strategy of the University of Jyväskylä 2015-2020 (2015: 3) names the Language Centre embedded communication and language studies as a way of implementing this strategy.

## **5.2 The pilot programme at the University of Jyväskylä Language Centre**

The University of Jyväskylä Language Centre started the first embedded communication and language studies pilot programme in autumn 2014 with first year physics students. The pilot programme was the first step in the reformation of all the compulsory communication and language studies in the University of Jyväskylä. The goal was to meet the demands of the students as learners of physics and as future academic professionals working in the increasingly multilingual and multicultural world. The teachers of the pilot programme cooperated with the

Department of Physics to familiarise themselves with the text types that first year physics students face in their studies (Jalkanen and Taalas 2015: 75). They discovered that in first year the greatest challenges regarding communication and language are reading the physics text books which are in English, and writing a laboratory report. The teachers then designed the first year communication and language courses around these challenges, intertwining them with group work and other study and working life skills. The English, Swedish, written and speech communication teachers co-taught the courses, supporting each other with their own expertise. The teachers tried to include English and Swedish in the tasks without always necessarily drawing attention to the fact that they were in different languages. For example, the students analysed the formality of different types of texts that were written in English, Swedish and Finnish.

The new Government Decree on University Degrees (1039/2013) highlights graduates' ability to work in international environments and also their life-long learning skills. The Language Centre aimed to teach these skills in the pilot programme. Many students struggle with motivation or time, which is why the communication and language studies were embedded into the students' subject studies in the pilot programme. The goal was to make the communication and language studies a natural part of the studies rather than something "extra"; the courses would be a genuine part of learning to become an academic professional with appropriate communication skills. To achieve this, an important aspect of the pilot programme was also the cooperation between the language centre and the department (Niemelä and Jauni 2014).

It must be noted that the present study was conducted after the very first pilot courses which were still seeking their form, according to both the developers and the participants of the study. However, the incompleteness of the project will allow the results of the present study to be of use for the development of the courses as it discusses the wide spectrum of language perceptions and needs of different students.

## 6 EMPIRICAL PART: INTERVIEWS WITH PHYSICS STUDENTS

The empirical part of the present study is qualitative, and is largely modelled on the phenomenographic approach (Limberg 2008, Marton 1994). The objective of the study is to describe first year physics students' perceptions of foreign languages and language learning based on their responses to a semi-structured interview. A qualitative approach is used as the aim is to gain understanding of the range of perceptions and the reasons behind them. Findings of a qualitative study can be used as a starting point for further studies. For instance, the results of the present study could be of use in formulating questions in a further qualitative or quantitative study. Tuomi and Sarajärvi (2011: 17, 165) note that defining a qualitative study is problematic. They argue that it should be understood as an umbrella term which encompasses different traditions in qualitative research. Tuomi and Sarajärvi (ibid.) describe these different traditions highlighting their diversity, but admitting that research in general seems to be increasingly in favour of combining different approaches. They emphasise subjectivity in all qualitative research. According to them, a qualitative study is never objective as there is no objective knowledge. Findings of a study are dependent on the research methods and the researcher who chooses the study composition. (Tuomi and Sarajärvi 2011: 20.)

Since the empirical part of the present study concerns the spectrum of perceptions and experiences that the physics students have on languages and language learning, the phenomenographic research approach is for the most part suited for the present study. The approach stems from educational research at the University of Gothenburg in the 1970s, and has since been used in studies on perceptions of learning, among many other areas. Phenomenography is about studying how different people experience different situations; the focus is on describing variation in experiences of a phenomenon. This description of variation is the strength of the approach as it offers us "more elaborate insights into phenomena" and hence provides us with a "holistic view of the studied phenomena". (Limberg 2008: 612-613.) Consequently, phenomenography allows the researcher to describe the complexity of a phenomenon through people's individual perceptions of it.

This chapter describes the empirical part of the present study. Section 6.1 presents the research questions and section 6.2 describes the data collection. Finally, section 6.3 discusses the method of analysis of the present study.

## 6.1 Research questions

As is evident from previous studies, Finnish employees are expected to have good English skills but also knowledge of other languages (Karjalainen and Lehtonen 2005, Martin et al. 2013, Finnish Chambers of Commerce 2013, Confederation of Finnish industries 2014). However, students may have misconceptions of what is required of them in working life (Murtonen et al. 2008, Palviainen 2011, Fiilin 2013) and may therefore not be motivated to study languages in university (Lantolf and Pavlenko 2001, Vold and Doetjes 2012). Students may also have very different perceptions of language skills and language learning, which may affect their motivation to study languages (Csizér and Kormos 2009, Mantle-Bromley 1995, Dufva, Lähteenmäki and Isoherranen 1996, Flowerdew and Miller 2008). Attempting to meet the requirements of future working life, the University of Jyväskylä Language Centre piloted a new way of teaching communication and language to physics students, focusing on interaction and group work skills, study skills and multilingualism (Jalkanen and Taalas 2015, Räsänen and Taalas 2010). Based on the studies presented in the previous chapters, the following questions emerged:

- What kinds of perceptions do first year physics students have of foreign languages and language learning?
- How do the students perceive the role of foreign languages in their future studies, work and free time?
- What kinds of perceptions do the students have of language studies in university after participating in the Language Centre pilot programme?

The first two questions aim to examine the physics students' perceptions of foreign languages and language learning in general to gain insight into what role languages have in their lives. The purpose of the questions is also to serve as background information for the third question which is specifically related to the Language Centre pilot programme. With the help of all these questions, the purpose of the

empirical part of the present study is to describe what perceptions students can have of languages and language learning in the early stages of their physics studies, and what implications these perceptions can have on communication and language teaching in university.

## 6.2 Data collection

The data collection method was an interview since the aim was to collect qualitative data from the students. The interviews were semi-structured. According to Hirsjärvi and Hurme (2008: 47), one clear definition for a semi-structured interview does not exist. Some define it as an interview in which the questions are the same for all interviewees but their order can vary. According to others, the form of the questions can change. Furthermore, some think of it as an interview in which the interviewer has decided on some viewpoint that is used with all participants, but otherwise the interview can take very different forms.

The interview structure can be found in the appendix. Despite the fact that the interview questions had been planned beforehand, each interview was unique since some interviewees needed more supporting or defining questions than others. In fact, using Dufva, Lähteenmäki and Isoherranen's (1996: 42-43) reasoning, it can be argued that the semi-structured interview had elements of what they call a dialogical interview, meaning that the interviewer is a part of the discussion rather than an objective outsider, and has influence on what themes emerge in the data. Furthermore, the researcher subjectively studies the data and has "the last word" when analysing the results (Dufva, Lähteenmäki and Isoherranen 1996: 43). Even though the role of the interviewer was rather active, the aim was to stay as neutral as possible with the questions so that they would not be loaded and hence guide the interviewees to a certain direction.

Apart from the interviewer and the interviewee being a dialogue, in a way an interviewee can be in dialogue with him/herself. Dufva, Lähteenmäki and Isoherranen (1996) suggest that processing perceptions can be complex: interviewees might weigh a question by looking at it from different angles ("on the one hand... but on the other hand...") which shows that what first appears to be a contradiction can in fact be careful analysis of the question. Therefore, according to the writers, researchers easily formulate their questions so that they are as easy as

possible to answer, but this may not lead to any valuable results as the interviewee might not be given enough room to think (Dufva, Lähteenmäki and Isoherranen 1996: 46). The purpose of a phenomenographic interview is to avoid these easy questions. On the contrary, the interviewee can discuss and reflect on his or her perceptions of a situation (Limberg 2008: 613). Dufva, Lähteenmäki and Isoherranen (1996: 37-38) suggest, however, that just an interview may not give enough information: when participants are first presented with questions related to – in this case – languages, they might not have thought about the theme much before. It may also be that they cannot convey their thoughts into words in the time of the interview. This limitation is acknowledged in the present study. It is possible that the results would have been different if the participants' thoughts on languages had been stimulated before the interviews, or that they had been interviewed again later.

### 6.2.1 Data collection process

Before they started their communication and language studies in the pilot programme in autumn 2014, the first year physics students (n=64) were asked to fill in a questionnaire with open-ended questions about their previous experiences in language learning and their perceptions of languages and language studies. Based on the answers nine students were invited to an interview. The interviewees were picked according to their answers to the following questions: a) "For what purpose do you need languages? Which languages?" and b) "Are you planning on studying any other languages in university [apart from the compulsory courses]?" These questions were chosen since they describe the students' perceptions of languages at the beginning of their studies and are based on their previous experiences. Drawing from Jalkanen and Taalas (2012), the students' responses to the first question fall into three main categories: a) the student has experienced the usefulness of languages, b) the student perceives languages as important to his or her studies or future work, c) the student offers general or abstract statements about the importance of languages. Three students from each category were chosen and they were divided into further two categories depending on whether they were planning on studying other languages in university. This choice was made in order to have as many different types of language learners as possible represented in the study since the objective was to describe the range of

experiences and perceptions language teachers might face when teaching students in university (Limberg 2008). The pre-course questionnaire was only used as a starting point for the present study and will only be briefly mentioned in the discussion of the interview data. Only the nine interviewees' responses to the questionnaire will be discussed, not all of the 64 students'.

The interviews took place after the students' first year communication and language studies in April-May 2015. The interviews were conducted in Finnish as it was the first language of both the interviewees and the interviewer. Furthermore, there was no need to use an L2 as the purpose of the interviews was to find out the students' perceptions of languages, not to evaluate their skills in those languages. Each student was interviewed individually and the length of each interview was around 30 minutes. The interview situations were made as similar as possible. All the interviewees got the same instructions, they had enough time to think before answering, and the same topics were covered in each interview. The questions were made as neutral as possible so that the interviewer would not lead the conversation or influence the students' answers (Kolehmainen 2011: 42). The interviews were recorded and transcribed. The interviewer told the participants that she was an English teacher at the Language Centre but that she was not involved in the pilot programme. The present study was conducted in the University of Jyväskylä Language Centre which provided a little incentive for the participating students in the form of free lunch coupons.

### 6.2.2 Participants

The interviewees are briefly presented in this section. In order to guarantee their anonymity, their names have been changed and their dialects erased from the Finnish transcriptions. Table 1 introduces the students, their ages and previous language studies as well as their plans on future language studies. English and Swedish studies are not mentioned in this section since all of the participants had studied them at school. The other optional languages are presented because they may shed some light to their attitudes towards language studies. It must also be noted that the second criterion for choosing the interviewees was that about half of them were planning on studying optional languages university and the other half was not, but by the time of the interviews some of the students had changed their minds and therefore in the table below the majority is "possibly" going to

study optional languages. However, the reasons behind their language choices will be discussed in more detail in chapter 7.

<b>Pseudonym</b>	<b>Abbreviation in chapter 7</b>	<b>Age</b>	<b>Optional language studies in school</b>	<b>Optional language studies in university</b>
<b>Aapo</b>	Aa	21	French from primary school onwards	Possibly French
<b>Amanda</b>	Am	19	German in secondary school but had no time for it in upper secondary school	Possibly German
<b>Arttu</b>	Ar	20	-	If he goes on exchange and needs a language for that
<b>Ella</b>	El	19	French in secondary school but did not study it in upper secondary school	Possibly French
<b>Kalle</b>	Ka	21	German in primary school but quit it after two years	-
<b>Markus</b>	Ma	22	German from secondary school onwards	Possibly German and Arabic
<b>Niilo</b>	Ni	20	German from primary school onwards	Possibly German
<b>Paavo</b>	Pa	20	Started German but quit it almost immediately	Possibly German
<b>Valtteri</b>	Va	22	-	-

TABLE 1 Participants

### 6.3 Method of analysis

According to Tuomi and Sarajärvi (2011: 165), it is increasingly common to draw from different research approaches rather than strictly using a specific one. The empirical part of the present study is qualitative, and is largely inspired by the phenomenographic approach (Limberg 2008, Marton 1994). The present study uses data oriented content analysis (Tuomi and Sarajärvi 2011) in which the data is not tied to a framework of any kind, but instead it is simplified, clustered, and finally abstracted with the help of previous literature (Tuomi and Sarajärvi 2011: 108-113, Limberg 2008: 613). In this type of analysis previous theory and the researcher's own conclusions and theories are always tied together. The researcher connects theoretical concepts to the empirical data and creates a new model or presents the central themes in the data (Tuomi and Sarajärvi 2011: 112-113). Compared to pure phenomenography the interviews were a little more structured and because of the various topics covered, the outcomes are not as hierarchical as in a normal phenomenographic study (Marton 1994). However, the objective of the study is the same: to describe the students' perceptions of the interview topics.

In phenomenography all the interviewees' responses together make up the data – "the borders between the individuals are temporarily abandoned" (Marton 1994: 4428). This was done in the early stages of the examination of the data when the focus were the emerging themes rather than individual responses. After the transcription process, the interviewees' utterances were roughly divided into three categories depending on which of three research questions they related to. Each category was then examined in more detail. As a result, clear themes emerged and the utterances were further divided according to those themes. It became clear that chapter 7 should be arranged on the basis of the central themes that emerged from the data rather than discussing each research question individually.

After careful examination of the data it became evident that Aro's (2009) model (figure 1) would be a suitable tool in the analysis process. Aro (ibid.) examined primary school children's utterances from the perspectives of content, voice and agency. In contrast to her study, however, the terms voice and agency are not the centre of attention in the present study. Instead, they work as tools in describing and conceptualising the data.

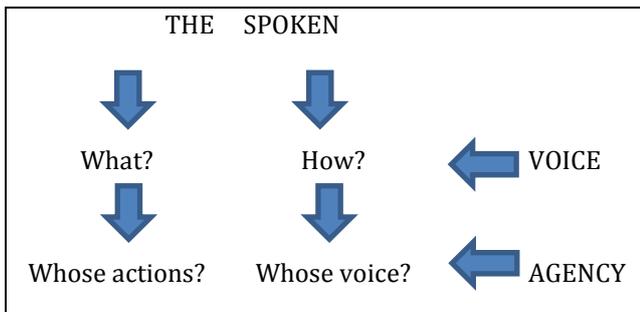


FIGURE 1 Aro's model of analysis (2009: 63)

Similarly to Aro's (ibid.) model, content, voice and agency are all thought of as connected in the data analysis of the present study. The content of an interviewee's utterance communicates what is said and its formulation expresses how this is said. The content and the formulation together show the voice of the speaker, and the analyses of voice and the content are connected with agency. Detecting voice and agency in the participants' utterances in the present study is largely inspired by Aro's (ibid.) research. Voice and agency are not, however, presented in their own, dedicated sections in the analysis, but the terms appear when they are of use in describing the content of the interviewees' utterances.

There is no one way of defining voice, and similarly to Aro (2009: 61), it was not possible in the present study to discover what exactly the participants' parents, teachers and friends had said over the years to detect exactly the sources of the voices that the participants expressed. Aro (ibid.) conducted a longitudinal study and was therefore able to describe changes in her interviewees' voices as language learners. That was not possible in the present study, either, and therefore one can argue that the analysis is rather speculative in nature. One can, however, try to look for hints of others' voices in the interviewees' utterances and argue, for example, that an utterance sounds like a ready-made opinion. Naturally this type of argumentation and analysis can never be guaranteed as correct, but the nature of a qualitative study is that the researcher can draw his or her own conclusions when attempting to describe a phenomenon at a deeper level than what a quantitative study can reach.

As mentioned above, qualitative research has its problems if we want to aim at subjectivity. According to Tuomi and Sarajärvi (2011: 96), qualitative content analysis is even more problematic because there are no objective observations but the researcher is driven by previously defined concepts and methods, analysing

the data from his or her own, subjective, point of view. A qualitative approach is always chosen for a reason. Already by deciding on an approach the researcher shows his or her subjectivity, and a qualitative study should be read with this in mind. Because the researcher always examines data from his or her own point of view, it can be argued that since the analysis is not written by someone affiliated to the Language Centre pilot programme or the physics students participating in the study, it is more objective in examining the pilot than if it was written by a developer of the programme. However, concerning the topics related to languages and language learning in general, the data was studied from a language student's and teacher's perspective, which is bound to have an effect on the analysis. Drawing from Dufva and Pöllinen (1999), the present study describes students' voices with a voice of a language student and teacher. The present study does not claim to be objective: data oriented content analysis is purely qualitative. However, lack of objectivity does not mean that research could not be trustworthy. In the analysis of the present study all the data was concerned. As Alasuutari (2011: 42) states, if one interviewee says something else than all the others, it must be taken into account even though it does not "fit" with the rest of the data. The beauty of a phenomenographic study is that the variation can be shown; there is no need to discover one single truth.

Finally, the obvious must be stated: the results of the present study cannot be generalised due to the limited amount of participants and the subjective nature of the analysis. In fact, Marton (1994: 4429) argues that "the analysis is --- not a measurement but a discovery procedure. Finding out different ways in which a phenomenon can be experienced is as much a discovery as the finding of some new plants on a distant island." The present study does not claim to make huge discoveries but it aims to conceptualise something that has not previously been studied. Furthermore, it can serve as a starting point for further research.

## **7 PHYSICS STUDENTS' PERCEPTIONS OF FOREIGN LANGUAGES**

The purpose of the empirical part of the present study was to examine first year physics students' perceptions of foreign languages and their role in the students' lives as well as their perceptions of language learning in general and in university.

Chapter 7 describes and discusses the findings from the nine conducted interviews. The analysis is divided into thematic sections. Section 7.1 describes what kinds of perceptions the students have of language learning. Section 7.2 takes a more detailed look at the different languages mentioned by the students. Section 7.3 discusses the students' perceptions of language studies in university based on their first year communication and language studies.

Tuomi and Sarajärvi (2011: 22) argue that using extracts from the interview data in a research report cannot be done in order to make the report more reliable and that their place in the report should be carefully considered. The present study uses extracts from the data in the following chapter as illustration of certain themes. The extracts are chosen to exemplify the students' perceptions; the reader can get a glimpse of the interview data and see how the analysis is constructed. The interviews were conducted in Finnish and the interviewees' words are shown in their original form apart from dialectal features which have been erased in order to guarantee the students' anonymity. Every extract is translated into English, and the translation is always written in italics under the original Finnish quote.

## **7.1 Physics students' perceptions of language learning: "The teacher teaches languages; life teaches English"**

This section describes the physics students' previous language studies (section 7.1.1), perceptions of language learning (7.1.2) and language skills (7.3.1). Section 7.1.4 argues that the students' perceptions have been moulded by formal language teaching.

### **7.1.1 Physics students' previous language studies**

In order to gain some background information on their previous language learning experiences, the students were asked about their optional language studies at school. It became evident that the students had started and ended their optional language studies for different reasons.

Regarding language studies at school it seems that the active agent had been someone else than the students themselves: it could have been the parent, teacher or friends that had encouraged or perhaps discouraged language learning. Out of the nine students only Arttu and Valtteri had never studied an optional language.

Markus had studied German since primary school. Aapo had studied French and Kalle had started German in primary school but Aapo continued his French studies whereas Kalle had quit German after two years. When asked whether they remembered why they had picked an optional language when they had been young, they both were of the opinion that already then they had known that studying languages is “good”. One can only speculate whether or not this had actually been the case or had their parents decided for them, but regardless both Kalle and Aapo in their answers speak with the previously mentioned ready-made opinions (Dufva, Lähteenmäki and Isoherranen 1996: 44). Niilo had also started German in primary school and said that he had been told by his parents that he had an ear for languages. Markus’s German studies started from the study counsellor’s request to join the group so that there would be enough pupils to form the group. Amanda went to German class along with her friends.

Although most of the students had studied optional languages at school, many had also ended their language studies before upper secondary or even secondary school. Kalle claimed that he had not had enough motivation to study German and Paavo said his German studies “just didn’t work out”. Lack of time was the reason for Ella and Amanda to quit optional languages before upper secondary school and Valtteri said he had always been more interested in other subjects. It is clear from these answers that for at least these particular physics students, languages may be interesting but not as important as other subjects and they are the ones to be dropped if there is not enough time for everything. Although the active agent in starting optional language studies was often someone else such as a teacher, a parent, a friend, the continuing or discontinuing of language classes was decided by the student, who had or had not taken ownership of the studies.

Based on what the students said about optional language learning at school, we can see that they had started language studies often because of someone’s influence, but that their perceptions of the meaningfulness of the studies affected their decision to continue or quit. Language teachers have a role in moulding these perceptions, as is argued in the following sections.

### 7.1.2 Perceptions of language learning

The physics students were asked about their perceptions of language learning, about what it entails and whether they thought they were good at it. Five of the nine students thought that they were good or at least “okay” language learners. Their answers to the question “What is a good language learner like?” were varied. Niilo said that he was quite good because of his interest in languages. Ella thought that languages are logical, a bit like physics, and that is why she was good at learning especially grammar. Both Aapo and Amanda brought up the importance of words. Aapo thought he was a good language learner because he remembered words and Amanda for the opposite reason did not believe she was a good language learner. In relation to Amanda, it seems that she had had troubles remembering words and believed that an extensive vocabulary was the key in language learning. During the interview she mentioned learning words in many instances, not only regarding the question of what a good language learner is like. This example is illustrative of the impact of personal experience in one’s perceptions of language learning (see e.g. Flowerdew and Miller 2008, Dufva, Lähteenmäki and Isoherranen 1996).

Their perception of themselves as language learners did not correlate much with their grades. For example, Kalle and Markus both had got top results in English matriculation examinations but still neither of them thought they were good language learners. The following example illustrates not only Markus’s perception of himself as a language learner but also what a good language learner should be and why he is of that opinion.

(1)

I<sup>1</sup>: Oletko mielestäsi hyvä kielenoppija?

Ma: Nyt täytyy kyllä myöntää että en ole, mä oon just (epäselvää) että miten ei pitäisi opiskella mitään kieliä tai ylipäänsä mitään muutakaan mutta -

I: Osaatko perustella että miksi et ole hyvä kielenoppija?

Ma: No ainakin mitä mulle on koulussa toivotettu lukiossa että miten kieliä pitäisi opiskella eli jotenki kerrata ja käyttää kieltä aktiivisesti, olla pelkäämättä virheitä, mutta mä sitten oon semmonen ulkoapänttääjä, en käytä sitten kieltä muualla kun suljetussa tilassa tai sitten kun ei oo tuttuja ympäristössä, että sinänsä se ei ehkä sillä tavalla aktivoi sitä kielenkäyttöä semmonen opiskelu

I: *Do you think you are a good language learner?*

Ma: *Now I have to admit that I’m not, I’m just (unclear) that how you shouldn’t study any languages or anything else either but -*

I: *Can you explain why you’re not a good language learner?*

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<sup>1</sup> Interviewer

*Ma: Well at least what I've been repeatedly told in upper secondary school how you should study languages, that you should somehow revise and use language actively, you shouldn't be afraid of mistakes, but I'm one of those who learns things off by heart, I don't use language in places other than a closed space or when there's no-one I know around, so as such that kind of studying doesn't probably activate language use*

In the example above Markus, who had got excellent grades and matriculation examination results in all languages, explains that he is not a good language learner. Using a schooled voice (Aro 2009: 128-129) he describes what the correct way to learn languages is and since his way is different, he feels it is wrong (see e.g. Dufva, Lähteenmäki and Isoherranen 1996: 66-67). It could be argued that luckily he had not let this affect his language studying since he had succeeded very well in his language studies despite his perception of himself as not a good language learner. This example illustrates the school's influence on our perceptions of languages similarly to Csizér and Kormos (2009: 108-109) and Dufva, Lähteenmäki and Isoherranen (1996: 51-52).

Aapo said that for a good language learner “the language comes naturally” (Fin. *tulee luonnostaan*) and Amanda spoke about “the ear for languages” (Fin. *kielipää*). They placed agency away from themselves, claiming that some people “just learn” languages. According to four students, another reason for why someone is a good language learner was that they actively use their language skills (see also section 2.3 and Dufva, Lähteenmäki and Isoherranen 1996: 61-65). As mentioned above, Kalle and Markus both thought that they were not good language learners. They thought that the reason for this was that they did not actively use languages. The same reason was also given by Valtteri. Both Arttu and Valtteri also said that one must “work hard” for languages. Arttu thought that despite his lack of working hard he could see from his grades that he is a good language learner, whereas Valtteri did not work hard and therefore did not feel he was a good language learner. Sufficient motivation was also something five students brought up. Often, however, the students had not given much thought for why they did or did not learn languages well, as is shown in the following extract.

(2)

I: Oletko mielestäsi hyvä kielenoppija?

Ar: Joo

I: Minkä takia oot hyvä kielenoppija?

Ar: --- mitenhän sen nyt sanois, numerot kyllä sen kertoo (naurahtaa), vaikea sitä on sanoo, tai --- en oo ikinä tehny hirveesti töitä niinku kieliopintojen eteen ja kuitenkin aina hyvin pärjänny niissä että

*I: Do you think you're a good language learner?*

Ar: *Yep*

*I: Why are you a good language learner?*

Ar: --- *how would I say it, well my grades show it (laughs), it's difficult to say or --- I've never done a lot of work for like language studies and I've done well anyway so*

Extract 2, like extract 3, shows that Arttu and Paavo hesitate with their answers regarding their perceptions of themselves as good language learners. Arttu concludes that his grades are good and that is why he is a good language learner. Paavo compares his English learning to his unsuccessful learning of Swedish and German:

(3)

*I: Oletko mielestäsi hyvä kielenoppija?*

Pa: *Hmm (naurahtaa) vaikea sanoa, kun --- toisaalta ku englantia opiskelen nii opin, mutta sitte ruotsin opiskelu taas ei onnistunu, eikä saksakaan, niin sitä on vähän vaikee sanoa*

*I: Osaatko sanoa että minkähän takia se enkku mahtoi onnistua mut ne muut kielet ei?*

Pa: *No, englantia tulee luonnostaan niin paljo enemmän, kun nuo kirjat mitä pitää lukea niin ne on englanniksi, niin sieltä tulee sitä englantia*

*I: Do you think you're a good language learner?*

Pa: *Ehh (laughs) difficult to say because --- on the one hand when I study English, I learn, but then Swedish didn't work out, nor did German, so it's a bit difficult to say*

*I: Do you have any idea why English worked out but the other languages didn't?*

Pa: *Well, there's so much more English around anyway, because those books that we need to read they are in English, so you get<sup>2</sup> English from there*

In extract 3 Paavo wonders why he learns English despite the fact that Swedish and German “didn’t work out” and comes to the conclusion that the reason is the omnipresence of English. Paavo thinks, even though he cannot phrase it in linguistic terms, that he acquires English from his surroundings.

Judging by the interviews as a whole, all participants were of the opinion that English was an absolute necessity in their lives (see also Csizér and Kormos 2009, Josephson 2014) and although many of them hesitated to see themselves as good language learners, not one student complained about having to know English or that English would have been difficult for them. Regarding other languages the students brought up the importance of a reason to study an additional language,

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<sup>2</sup> This verb was impossible to translate so that it would convey the original meaning completely: When Paavo says that “englantia tulee luonnostaan” or “sieltä tulee sitä englantia” he implies that English just “comes” to him naturally, probably meaning that he acquires language by reading it.

and some also highlighted that they were not good language learners. It was as if being or not being a good language learner did not apply to English. The following extract from Kalle's interview illustrates the students' perception that they acquired English because they heard, saw and used it. Kalle had previously stated that he is not a good language learner, and in the following extract he is in the middle of explaining what a good language learner is like. While he is explaining it, he makes an interjection, saying that he is able to use English because he has to use it, implying that he does not have to use other languages and therefore does not learn them well.

(4)

Ka: --- en ole muutenkaan hyvä kielenkäyttäjä niin, ja --- se kielen oppiminen vaatii kielen käyttämistä ja, tietysti, esimerkiks --- englantia kyllä osaan koska sitä tulee jonkun verran käytettyä mutta ---

*Ka: --- I'm not a good language learner anyway so, and --- language learning requires language use and, obviously, for example --- English I do know because I use it a bit but ---*

This example like many others shows that the participants in the present study took English as a given and thought that they were able to use it well despite the fact that they were not good language learners or did not speak other languages well. In fact, at times it seemed as if the students, when thinking of language learning, did not even think of English but rather of all the other languages they had studied in their lives. In further studies one could try what would happen if one had separate questions for English and other languages. Section 7.2.1 discusses the physics students' perceptions of the English language in more detail.

### 7.1.3 Perceptions of language skills

The interview included questions on the students' perceptions of what it means to know<sup>3</sup> languages and whether they knew some. All students said that they knew languages although Ella and Kalle wanted to specify that they knew *a* language. Ella's answers showed perhaps a typical Finnish modest answer: although she did admit that she knew English very well, she thought that her Swedish was not worth mentioning calling it "lukioruotsi" ("upper secondary school Swedish"),

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<sup>3</sup> In Finnish this question was: "Osaatko vieraita kieliä?" The question cannot be directly translated in this context as it can mean a wide variety of "language abilities" – understanding and being able to use language. The whole idea of the question is to find out how the students perceive the verb "osata" (roughly: to know, to be able to use, to understand) and whether they perceive their language skills sufficient enough to be able to state that they "have abilities" in languages.

which she had, according to the pre-course questionnaire, succeeded in with top grades. Ella had previously said that she had studied French in secondary school but she did not even mention the language as she was discussing if she knew languages and what it meant to know them. It seems, therefore, that she perceived her French skills too limited to claim that she knew the language at all. Kalle also said he only knew English:

(5)

Ka: Osaan vierasta kieltä – osaan englantia – en osaa ruotsia niin että kehtaisin sanoa että osaan ruotsia

*Ka: I know a foreign language – I know English – I don't know Swedish enough to have the nerve to say that I know Swedish*

The previous extract shows that Kalle had a perception that to “know” a language means to be at a certain level in it. Since he had studied Swedish for six years at school and a little bit in university, it is unlikely that he would not have been able to say anything in the language, but according to him, his level was too low. Modesty was shown in the others’ answers, too. Claiming to know a language felt like a very strong statement. Perhaps the students did what Fiilin (2013: 143) suggests: compared their English skills with their skills in other languages, and concluded that they should be at as high a level with their other languages in order to take ownership of them (see also section 2.3).

The students had varied answers regarding which languages they felt they knew. Most of them said that they “of course” knew English but then added that “maybe” they could say that they knew Swedish, German or French. The following extracts illustrate Aapo’s and Niilo’s perceptions of their language skills.

(6)

Aa: No kyllä mä sanon että englantia, ruotsia ja ranskaa mutta, en mä ranskaa ja ruotsia niinku kovin hyvin puhu että, varsinkin ku on ollu taukoo niistä sen verran että aika kangertelemaa se kyllä on

*Aa: Well I will say that English, Swedish and French but, I don't speak French and Swedish like very well so, especially now that there's been a break from them so I do stumble with them*

(7)

Ni: No englantia mä nyt osaan --- suht hyvin, mut nää ruotsi ja saksa on vähä hiipunu tosta lukioajoista ku kotona nyt ei puhuta mitään vieraita kieliä ja --- en oo nytte netissäkään pyöriny ruotsin ja saksan kielen sivustoillakaan nii ei oo sieltäkään tullu opittua sitte ni, nii se on vähä päässy ruostumaan tässä

*Ni: Well I do know English --- quite well, but these Swedish and German have faded a bit since upper secondary school because at home we don't speak any foreign*

*languages and --- I haven't been surfing on Swedish and German websites either so I haven't learned from those so, so it's become a bit rusty now*

Aapo and Niilo seemed to think that claiming to know a language is a strong statement and therefore they felt that they had to elaborate their answers, noting that they are not *good* at the other languages. Valtteri made a difference between knowing and understanding, stating that he *knew* English and *understood* Swedish, implying that to know means not only to understand but also to produce (see also section 2.3).

Although the students gave different types of answers to the questions related to themselves and their language abilities, their answers to the question “What does it mean to “know” a language?” were all very alike. For the most part they said that to know a language means that one is able to communicate in “basic situations” or that one is able to make oneself understood abroad. Aapo, Markus and Valtteri also emphasised that knowing a language does not mean that one has to have perfect language skills or that one must speak grammatically correctly. Maybe the students had had experiences of using imperfect language and had still been understood, or they could have spoken with their language teachers’ voice (Aro 2009: 121-122). After all, language teaching in Finland has been moving towards a communicative approach (LOPS 2003, POPS 2004). Regarding the difference between the questions at personal and general level, a resemblance can be noted between the physics students and the participants in Aro’s (2009) study despite the age difference. In both studies the interviewees had an answer to a general question but did not see their answer applicable in their own lives.

Although Finnish modesty was speculated earlier and also by Dufva, Lähteenmäki and Isoherranen (1996: 57), in the present study all of the students apart from Valtteri said that they had good English skills. According to primary school teacher Ritola (personal communication 10 December 2014), during the past two decades pupils’ self-confidence has grown and it could be that the participants in the present study were of a new, more confident generation than the interviewees in Dufva’s, Lähteenmäki’s and Isoherranen’s (1996) study. The physics students were rather happy to admit that they were good at English. Although Valtteri did not believe he could say that he was good at languages, he said that he frequently spoke English with his foreign friends and regularly read novels and watched

television and films in English with no subtitles. In the following extract a school's voice can be detected from Valtteri's reply.

(8)

I: Ja mitäs se tarkoittaa sitte että osaa hyvin?

Va: No se tarkoittaa sitte varmaan sitä että --- tai ainakin mun näkökulma on että osaa sitte paremmin ja monipuolisemmin ja --- se että tulee varsiki se puhumispuoli ja se tekstintuottaminen paremmin että mä omasta mielestäni osaan hyvin ymmärtää esimerkiksi, mä katton elokuviakin usein sillee että niissä ei oo --- tekstityksiä elikkä että mä vaan kuuntelen, mä ymmärrän sitä hyvin mutta sit jos mun pitäs esimerkiks sitte omin sanoin --- taas kertoa että mitä siinä elokuvassa tapahtu ni se on huomattavasti vaikeampaa

*I: And what does it mean that you know [languages] well?*

*Va: Well that probably means that --- at least my view is that you're better and more versatile and --- especially the speaking side comes here and writing, that in my own opinion I understand well, for example, I watch films often so that there are no subtitles so I just listen, I understand it well but then if I had to for example retell what happened in the film in my own words, then that would be significantly more difficult*

Valtteri seems to borrow the school's voice based on the example of a situation in which he claims he would struggle with English. During the interview he did not even hint that he would have encountered any kinds of problems when interacting with foreign people, reading books or understanding the television series he followed. Yet, in the previous extract he says it would be difficult to retell a plot of a film in his own words, which is in fact a very common task at school (Bakhtin 1981: 341).

The most common answer to the question "What does it mean to know languages well?" was that one is able to communicate at a more advanced level than when one simply knows a language. The following extracts illustrate this:

(9)

I: Ja mitä tarkoittaa sitte että osaa hyvin?

Ar: No ymmärtää jo vähä semmosta vaikeaselkosempaa tekstiä ja puhetta ja, pystyy kommunikoimaan jostaki muustaki ko arkipäivän asioista ni

*I: And what does it mean to know [languages] well?*

*Ar: Well you understand already a bit more difficult texts and speech and, you are able to communicate more than just everyday things so*

(10)

I: Ja mitä sitte tarkoittaa se osata hyvin?

Ma: Pystyy sitte keskustelemaan jo vähä tämmösistä syvällisemmistä asioista, ja, ei oo ihan perusfraasit pelkästään että missä täällä on juna-asema

*I: And what does it mean that you know [languages] well?*

*Ma: You can discuss already a bit more deeper things, and, you don't only have the basic phrases like where is the train station*

In extracts 9 and 10 Arttu and Markus have very similar thoughts on what it means to know a language well. One observation that can be made from these examples is that knowing a language well did not mean having perfect grammar skills, but instead the communicative competence was highly respected. Another observation we can make from Markus' answer is that the school's voice can be heard again. Foreign language books are always very concerned of language learners' train travels and classically teach nine-year-olds how to buy a return ticket and ask for directions to the train station. Markus, therefore, saw these train station phrases as a part of basic language skills.

Grammar, which was often brought up in Dufva, Lähteenmäki and Isoherranen (1996: 53-54), was rarely mentioned by the students in the present study. Only Kalle said that knowing a language means that one has good command of grammar as well as communicative competence. Based on Dufva, Lähteenmäki and Isoherranen (1996) and Brown (2009) one could have expected more talk about grammar from the interviewees in the present study, but it is also possible that the interview questions themselves did not trigger thoughts related to grammar. The questions were often broad to allow the students to answer freely so that it would be possible to detect the range of perceptions they had on the topics and, it could be argued, they would mention things that mattered to them or that they found significant. From that point of view it appears that the physics students mostly perceived languages as a tool for effective communication rather than a set of rules that were taught at school. In contrast, the current curriculum values all types of communication instead of the old-fashioned and stereotypical grammar-translation method. We can therefore only speculate whether we can detect a school's voice in the students' answers regarding focus on grammar. The students came from all over the country and their previous language teachers could have varied from very old-fashioned to very progressive. The following section will take a closer look at the role of the teacher.

#### 7.1.4 Perceptions of a teacher's authority

As concluded in the previous section, we cannot know how exactly the physics students had been taught languages at school. However, the interview included a question about a good language teacher, to which the students seemed to answer with a strong voice of experience (Aro 2009: 133-135). These utterances reveal

their perception of the language teaching they received. Voices of experience very much dominated these answers; schooled voices (Aro 2009: 128-129) were merely present in the vocabulary, such as in extract 11.

(11)

I: Minkälainen on hyvä kielenopettaja?

El: No sellanen --- kenen ne opetusmetodit on sillee monipuolisia ja kuka niinku osaa niinku innostaa oppimaan siihe että ei vaan käy niinku sitä kirjaa järjestyksessä tälle vaan se tuo aina jotain lisää siihe

*I: What is a good language teacher like?*

*El: Well the kind [of teacher] whose teaching methods are like versatile and who can like encourage [students] to learn so that you don't only like go through the book in order like this but they always bring something more to it*

Ella's answer shows what a traditional language class is stereotypically like: the teacher heavily relies on the book. Other students also mentioned the variety of teaching methods as a sign of a good teacher, and that relying on the book was not. Many said that encouraging and motivating the students was important. Agency was placed on the teacher who had an active role in getting students interested in language studies.

The students' perceptions of language studies shone through particularly well in some of the answers. Valtteri, who did not see himself as a good language learner and who had always been more interested in other school subjects, emphasised that a relaxed atmosphere in class was important. Markus, who was afraid of speaking foreign languages in front of people he knew, said that it is important that a teacher encourages students to speak even if they do not get the forms perfectly. Valtteri and Kalle, reminiscing about their language classes at school, had found it useful when their teachers had challenged them to speak English.

Overall, the students' descriptions of a good language teacher were quite alike although their own personalities and challenges with language could be heard in their voices. Perhaps a good follow-up question could have been whether they had had bad experiences about language teachers. However, it is very possible that had they had exceptionally bad experiences, they would have mentioned them in their answers. According to Dufva, Lähteenmäki and Isoherranen (1996), memorable experiences shape our perceptions of language learning. We could, therefore, suggest that the physics students had rather neutral memories of language studies at school. On the other hand, negative experiences are not necessarily in a key role

if we can find a purpose for language learning (Flowerdew and Miller 2008, Lantolf and Pavlenko 2001). In the case of English, the interview data suggests that all the students valued it highly and were used to using it in their free time. Hence, it is possible that not all the students in the present study had had positive experiences of English teachers, but yet none of them even hinted that they were not happy with the role of English in their lives or that they would avoid it in some way.

Finally, it is clear that teachers have strong authority in the students' minds. Markus spoke of a good language learner, claiming that he was not one because he had clearly learned from teachers what a good language learner is like. He also mentioned understanding directions to the train station as basic knowledge of language. Valtteri, similarly, stated that he would not be good at explaining a plot of a film in his own words and was therefore hesitant to say he was good at English. These examples encompass a strong voice of their previous language teachers. Although the students actively used English in their everyday lives and had noticed that they were quite good at it, discussing language learning in the interview took them back to a language class at school. Even if they understood that they were able to use English, their perceptions of language learning were strongly related to formal teaching.

Section 7.1 has described the physics students' perceptions of language learning. It seems that the students were often reluctant to take ownership of their language learning, placing agency on an authority. Optional languages were chosen from the initiative of a teacher, parent or a friend. The students perceived language learning as something that happens in class, and their perceptions of a good language learner seemed to stem from what they had heard at school. The teacher had authority: the students often based their perceptions on what they had learned from their teacher. In contrast to previous studies, the students thought that knowing a language does not entail perfect grammar. Despite this, they hesitated to claim that they knew other languages than English, which seemed to have a special status in the students' world of languages. This issue is discussed further in the following section.

## 7.2 Physics students' perceptions of different languages: "English is a given, other languages would be good"

The physics students had different perceptions of different languages. Possibly because almost everyone studies English and Swedish in Finnish education, the students mentioned them the most. English had a unique status among all the languages and that is why section 7.2.1 focuses solely on it. The second-most talked about language in the interviews was the second domestic language Swedish, which is discussed in section 7.2.2. Finally, section 7.2.3 describes the students' perceptions of other foreign languages than English.

### 7.2.1 Perceptions of the English language

It is evident from the data that the students had very different perceptions of English and other languages. English is our lingua franca (Csizér and Kormos 2009, Josephson 2014) and this showed clearly in the interviews.

All students agreed that they need English in their studies because their books as well as some lectures or courses are in English. Aapo and Ella pointed out that some terms in their field have no Finnish translations or the lecturer might not know them (see also Josephson 2014). Therefore some lectures might also be partly in English, of which at least Ella had experience. Amanda had already attended a course that was held completely in English, so she was also speaking from experience. Markus and Paavo had heard that they might have lectures in English some time during their studies. Valtteri and Kalle said that they need English because the university and their field of study are "international". According to Arttu and Niilo, it is possible get "better information" in English. Arttu noted in his interview there is often more material on almost any topic available in English than in Finnish. When Niilo was asked why he thinks texts written in foreign languages are better than those written in Finnish, he said:

(12)

Ni: "--- asiat välittyy parhaiten sillä alkuperäiskielellä millä ne tehty – et ku rupee kääntämään nii siinä se --- ei tunnu enää samalta."

Ni: "*---things are conveyed better in the original language that they are written in -- that when you start translating then it --- it doesn't feel the same anymore.*"

This sounds like something he has heard from a teacher or possibly experienced himself perhaps through reading literature in English. However, it seems that Niilo

in extract 12 is talking about fiction rather than his field of study, but perhaps he thinks that the same principle applies in science and in prose.

The students agreed that they will need English in their future. Many of them believed that they will need it in their work. Some students generally stated that English is needed everywhere. As Ella put it,

(13)

El: "no totta kai --- ku englantia on kuitenkin niin universaali kieli jo että kyl mä uskon että oli työ mikä tahansa --- niin kyllä kaikki tarvii englantia aina"

*El: "Well of course --- because English is already such a universal language, so I believe that whatever work you do --- everyone always needs English"*

and Kalle said:

(14)

Ka: "Englantia ehdottomasti --- aivan varmasti joka tilanteessa se käy, työssä että opiskeltaessa että vapaa-ajalla"

*Ka: "English absolutely --- definitely in every situation, at work, during studies and free time"*

Extracts 13 and 14 illustrate the students' perception that they would definitely need English in their lives. Quite strikingly most students did not mention any of their current past-time activities that required English when they were asked why they might need languages in their future. For example, none of them commented that they would need English for following the media in the future. However, most of them had said that they used English in various situations in their free time when they had been asked about it in a different part of the interview. This happened also in the pre-course questionnaire in which there was a question "For what purpose do you need languages? Which languages?" Only four of these students had mentioned their past-time activities, such as watching television, films or surfing on the internet, in their answers to the questionnaire. It seems as if the students were so used to seeing and hearing English everywhere that they barely noticed it, or then they did not appreciate it much. As early as in primary school (Aro 2009), pupils seemed to believe that the importance of English is reserved for travelling and other special events. It can be discussed whether this is because of what we have been taught by an authority, or whether the problem simply lays in the format of the interviewers' questions in the present study as well as in Aro's dissertation. As suggested in section 7.1, formal teaching has authority in Finland and sometimes the students did not recognise that language learning

and using languages happens also in other situations than those that our language textbooks teach us.

Another explanation for the absence of their everyday English use in the physics students' answers could be that when asked in which situations they needed languages, they often seemed to think about speaking skills. Many of the students said both in the questionnaire and in this interview that they needed or would need English when communicating with foreign people at work or when travelling. It was almost as if the students did not respect their everyday English reading and hearing skills or did not understand how much they used them. For example, Paavo responded to the questionnaire that he needs English abroad and in Finland Finnish is enough. However, when he was asked in the interview if he somehow maintained or tried to improve his language skills in his free time, he said that he did not actively have to do anything about his English because he could hear and read it everywhere all the time. Similarly, Arttu said both in the questionnaire and in the interview that English is everywhere, but only mentioned work as a situation in which he would need English in his future.

All the students were sure that they would need foreign languages in their future work apart from Valtteri who was thinking of becoming a teacher. Aapo had heard that physics is an international field and that is why he concluded that a physicist should have very good command of English. He also thought that other languages are "a plus" since research groups are so international. Amanda had noticed that the Department of Physics has a lot of international staff and therefore was sure that a physicist needs English, as it is "a language that everyone knows". Ella, Kalle and Valtteri observed that publications are usually written in English in the field of physics. They had probably noticed this themselves and possibly heard from someone at the department. Kalle was sure that English is the language a physicist uses at work:

(15)

I: Pitääkö fyysikon osata vieraita kieliä?

Ka: Kuten sanottu se materiaali on englanniksi --- ja kaikki alan julkasut tapahtuu suurimmaks osaks englanniks niin tota, mä sanosin että englanti on se suorastaan työkieli että, sitä jos suomeks keskustelee vähän suomenkielisten kanssa ja sitte työt tekee englanniks

*I: Does a physicist need foreign languages?*

*Ka: Like I said the materials are in English --- and all the publications of the field happen for the most part in English so I would say that English is really the work*

*language so, you might discuss a bit in Finnish with Finns and then do your work in English*

Markus said that English is “a must” and that one cannot work at university level in completely Finnish-speaking research groups. It is clear from the students’ answers that they had learned a great deal about the internationality of their field in their first year of physics studies. Borrowed and appropriated voices (Aro 2009: 31-32, 124-12) were present in their answers as they spoke of what they had heard from their teachers and at the same time analysed what this information could mean in practise. For example, in extract 15 Kalle has learned that materials are in English at work. He continues to discuss the situation, adding that perhaps this means that work is done in English and Finnish is spoken with Finnish colleagues. He does not merely repeat what he has heard at the university but adds his own perception of what it means in practice.

Formal teaching is only a part of language learning, which is why the students were asked whether they worked on their language skills outside of language class. This question was met with slight confusion regardless of its form as the students had not thought of practising their language skills in their free time. However, all of them said that they were affected by English in their everyday life whether or not they wanted it. English was often taken for granted and therefore only mentioned in passing. They did not seem to take ownership of their everyday language use although they mentioned that they watched television without subtitles, surfed on the internet, and as a side note that they “obviously” read books in English. Sometimes they were almost diminishing their language use, stating that they could perhaps have learned something by accident:

(16)

Am: En nyt ehkä mitenkään niinkun, sillai, nyt luen tästä vähän englantia tällai mut siis, kuitenkin katon sillai ohjelmia englanniks ja ihan niinku just englanninkielisillä tekstityksillä ja luen kirjallisuutta englanniks ni ehkä sieltä on vähäsen saattanu tulla mut en ihan sillai kunnon aktiivisesti [harjoitellut kieliä vapaa-ajallani]

*Am: I haven't in any way actively like, I'll read some English now, but like I do watch programmes in English and like with English subtitles and I read literature in English so maybe I've acquired some tiny thing from there but no I haven't like properly and actively [practised languages in my free time]*

In the extract above Amanda states that since she has not purposefully sat down and decided to learn English, she cannot say that she has tried to maintain her English skills in her free time. She mentions that she watches television in English

and reads books, but does not believe that she has learned much from them. Amanda, Markus and Paavo showed perceptions of language learning that were similar to those of some of the participants in Dufva's, Lähteenmäki's and Isoherranen's (1996) study, believing that language learning happens in language class. As Amanda, Markus and Paavo were asked whether they would in some way maintain or improve their language skills in the future, they all said that they were planning on taking part in Language Centre courses. Compulsory language studies were also the motivator for some of the students to try to improve their language skills in their free time.

During the course of the interviews it became very apparent that the students saw English as a natural part of their lives. Despite this, many felt that they did not have to actively do anything about their English skills in their free time because they watched television, read books and studied in English. Arttu said that he had probably learned more English in the past year than in all of upper secondary school due to the fact that his physics books in university were in English. Not all students in higher education have most of their materials in English and this poses a challenge for language centre teachers as some students need much more English in their studies than others. Similarly to Lappalainen's (2010) study, overall the physics students in the present study were happy with their English skills, or at least none of them claimed that it hindered them in their studies. Language centre teachers should therefore consider how much or what kind of English should be taught to students who do not feel that they need it. Another issue may be marketing the language courses. If students do not know what studying English is like in university, they may assume that it is similar to upper secondary school, which they feel that they do not need. In the present study, Paavo had been surprised that language studies in university had not been traditional L2 language classes.

As described earlier, the physics students did not actively try to maintain or improve their language skills. Often they needed English because something was not available in Finnish – a book had not been translated yet or there were no Finnish subtitles available. Valtteri was used to this:

(17)

Va: --- mä olin just kattomassa sen uusimman Avengersin tuolla elokuvateatterissa niin ne tekstitykset --- aivan häiritsi mua mä halusin ne pois siitä, mä oon tottunu kattomaan ilman mitää teksityksiä

*Va: --- I was just in the cinema to see the newest Avengers and the subtitles actually bothered me, I didn't want them there, I'm so used to watching stuff without them*

Extract 17 is an example of how familiar Finnish young people are with English-speaking media (see also Csizér and Kormos 2009, Leppänen et al. 2009). As watching television programmes and films on the internet is normal practice among them, even subtitles are no longer taken for granted. Amanda was asked about subtitles after she said that she was used to watching programmes without them:

(18)

I: Jos sää katot jotain vaikka englanninkielistä ohjelmaa niin teetsää ikinä sillee että no minäpä otan tekstitykset pois tai vaihdanpa tekstit englanniks tai

Am: Ei no jos suomenkieliset tekstit jostain löydän ni sillen mä katon ne niillä mutta kun tässä on hyvin paljon sitä että ku ei löydy suomenkielisiä tekstejä, niin sen takia kattoo sitte

*I: If you watch some programme say in English, do you ever decide to turn off the subtitles or change them into English or*

*Am: No, if I can find Finnish subtitles somewhere, then I use them but there are programmes that I can't find Finnish subtitles for, so that's why I watch them then*

From Amanda's example we can see that being able to use English was not a question of being particularly interested in it for all of the students. It simply had instrumental value. Unlike Valtteri, Amanda chose to use subtitles if there were some available. In contrast, Aapo showed some interest in maintaining his French and Swedish, saying that he had tried watching films in those languages without subtitles, although laughing at his unsuccessful attempts. From these examples we can see that Aapo had shown active agency, trying his wings with films in foreign languages. Valtteri could switch off the subtitles but seemed to do it out of habit rather than interest in active learning of English. Amanda showed no agency in language learning, utilising her English listening skills only if necessary. The students had different attitudes towards using English in their free time, but they all shared the thought that they needed it and they did not question it, either. The following section describes the students' perceptions of the Swedish language, which is the most frequently mentioned language in the data after English.

### 7.2.2 Perceptions of the Swedish language

In terms of Swedish, one could sense confusion among the students. Often they made no distinction between Swedish-speaking Finns and Swedish people, which may be due to the lack of contact with the Swedish-speaking Finland. Markus said that he was not planning on moving to Sweden and therefore would not need Swedish in his life. Arttu had lived close to the Swedish border but had never needed Swedish in his life and Valtteri came from an area close to the Swedish-speaking Finland, but the one of the only times he had needed Swedish had been once when speaking with a Russian customer. Amanda and Ella were both adamant that Swedish is the second national language and that is why Finnish people should be able to speak it. Overall, the students did not have strong opinions about Swedish and instead used ready-made opinions about its uses in Finland (see also Luoma 2007).

During the interviews, half of the students said that it would be good to be able to speak Swedish but at the same time they were not able to explain why and in which situations. Often they said that Swedish people tend to use English at work if they work in Finland. Many times the students mentioned the Civil Service Language Proficiency test that they must complete, but struggled to find other uses for the Swedish language in the Department of Physics. Valtteri and Amanda also said that Swedish might be needed for speaking with Swedish people, but Valtteri added that at least in university he thinks all Swedish people can also speak English. Markus had paid attention in the panel discussion that was a part of the pilot programme:

(19)

I: Mitenkäs jos sää pysyisit Suomessa täällä tutkijana niin luuletko että ruotsia tarvitset sun tulevaisuuden työssä?

Ma: Todennäköisesti en

I: Osaatko perustella?

Ma: No ainakin mitä nytte tuolla fysiikan laitoksella ollu pari ruotsinkielistä tutkijaa nii englannilla kuulemma toimivat koko ajan työyhteisössä nii

I: *What about if you stayed in Finland and worked as a researcher here, do you think you'd need Swedish in your future work?*

Ma: *Probably not*

I: *Can you explain that?*

Ma: *Well at least there have been a couple of Swedish-speaking researchers at the physics department and they apparently work in English all the time in the work community so*

In this extract Markus quotes an authority, staff members, who had said that they use English at work. Markus places agency on the authority, basing his perception on it. Many of the students were unsure whether a physicist needs other languages than English. Arttu was sure that Swedish physicists can speak English whereas Ella thought that it would be “nice” for Swedish colleagues if they were spoken Swedish to. She also thought that Swedish people expect Finns to speak Swedish to them. Amanda said that there will rarely be a situation where there are only Finnish and Swedish members in a work community, which seemed to be the only situation in which she thought physicists might need Swedish. The students’ answers suggest that they used ready-made opinions since as they tried to elaborate what they meant by “it would be good to know Swedish”, they could not think of an answer.

Ready-made opinions were audible in the students’ answers to the question “Will you try to maintain or improve your language skills in your free time in the future?” Aapo was sure that “you can’t get rid of English” but added that it surely would be good if he was able to maintain all his languages. Arttu also thought that English would automatically be a part of his life. Concerning Swedish, he used his voice of experience stating he had never needed it in his life, but added a ready-made opinion saying that it would probably be good to be able to speak a bit of Swedish anyway. The students rarely mentioned other languages than English in terms of maintaining their language skills in their free time. Ella made the observation that even though she did not look for English, it “came to her” and she naturally acquired it. However, Swedish was not omnipresent in the same way and therefore she did not learn it as she did not specifically try to find ways for doing it. This type of perception of the differences between finding English and Swedish media content is even common among students majoring in those languages in university (Kalaja et al. 2011) and it is therefore not a surprise that the physics students felt the same way.

Most of the physics students had not used Swedish in their free time. However, two students showed some agency: as mentioned in section 7.2.1, Aapo had tried to watch Swedish films without subtitles, which means that he had wanted to try out his language skills. Niilo said in passing that he sometimes read a Swedish tabloid paper on the internet, which also is an example of purposeful language learning. As

the students overall were so indifferent about the Swedish language, it is quite surprising that there are these small glimpses of agency in the data. Furthermore, Jauhojärvi-Koskelo and Palviainen (2011) found that only 6.5 percent of University of Jyväskylä students had tried to find opportunities to practise Swedish in their free time. Hence, Niilo and Paavo seem to be rare exceptions.

As discussed above, for the most part the students took no agency in Swedish learning. At times it felt as if the students gave certain answers only because they thought they were expected to. The following example shows the vast amount of conditionals used by the students when discussing what they could perhaps do.

(20)

I: No miten siihen ruotsiin sitten vois panostaa?

El: Niin vapaa-ajalla?

I: Nii

El: No varmaan just että rupeis seuraamaan sitä mediaa ruotsiks ja kattomaan ruotsinkielistä ihan vaikka että vaan kuuntelis jotain et jos siitä niinku sais kiinni tai tällee

*I: So what could you then do to improve your Swedish?*

*El: In my free time?*

*I: Yeah*

*El: Well maybe you could start following the media in Swedish and start watching something in Swedish, even if you just listened to it you could like get something out of it perhaps*

In this example Ella lists ways of learning Swedish. She is clearly aware that languages can be studied independently, which she might have learned at school. However, she also speaks from experience as she has earlier stated that she does indeed acquire English from following media. Extract 20 suggests that she does not do it in Swedish. The extract creates an impression that although Ella knows how she could improve her Swedish, she does not have a strong intention to do so.

Finally, it can be noted from the interviews as a whole that none of the students had stereotypical attitude problems towards Swedish unlike the participants in Dufva's, Lähteenmäki's and Isoherranen's (1996) study. The students came from different parts of Finland but whether they had lived close or far from the Swedish-speaking west coast or the Swedish border, they all shared the perception that it would be good to know Swedish, or at least that they did not object at all having to study it. That it "would be good" was uttered with a borrowed voice from school or some other authority, or perhaps it was a ready-made opinion. The students had few concrete examples of instances in which they had needed Swedish in their life

and few could think of situations in which they would need Swedish in their future, either. Still, the students remained to have a generally positive, although slightly confused, perception of Swedish. Similar themes were present in their utterances towards other foreign languages, which are discussed next.

### 7.2.3 Perceptions of other foreign<sup>4</sup> languages

As with Swedish, the students were quite unsure of which other foreign languages they would need in their studies and future work. The students gave varied answers to the question “Do you think you will need other languages apart from English in your studies?” Niilo had mentioned that original texts are better than translations (see section 7.2.1). According to Kalle, physics students might need French or German if they want to study certain original texts but he added that for important pieces of work there is always a translation available. Arttu had heard some older students say that German could be useful if one wanted to read Albert Einstein’s original texts, but he was sceptical of whether this was really the case. Markus also mentioned German but said that he had not needed it in this university, although it might be useful abroad. Amanda said that it is good to know many languages but that English is enough. Likewise, Kalle noted that “coffee table conversations” are easier with colleagues’ native language, but that as long as one stays in university, English is probably the only needed language. Both Paavo and Ella thought that German might be useful for a physicist because there is a lot of industry in Germany. Perhaps this was something that they had heard in their classes as both of them mentioned it. Overall, it seems that since they were only in first year in university during the time of the interviews, and since they did not have too much international experience, they struggled to come up with scenarios in which they would need other languages. Without concrete experiences or many statements from credible sources (see section 7.2.2 where Markus quotes the Swedish staff members about their language use at work) they did not have much to say about this topic.

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<sup>4</sup> Although Swedish is often taught as a foreign language in Finnish-speaking areas, it is counted as a domestic language and therefore “other foreign languages” here refers to other languages than Swedish and English.

Two students had more thoughts on the need for languages in their future work, one speaking with borrowed voices and the other with a voice of experience. Niilo was more certain than the others that a physicist needs more than just English:

(21)

I: Mitä varten se enkku ei susta riitä – monestihan puhutaan että no kyllähän meillä enkku riittää et miks me opiskellaan muita kieliä?

Ni: No enkku on kyllä ihan suht yleinen ja sillä ehkä suht pärjäis mut ehkä --- kuitenkin että jos --- oikeesti haluaa päästä johonkin asiaan sisälle ni se melkeen ois hyvä osata sitä vierasta kieltä kunnolla ja sit niinku pääsee vaikka sitte tutkimusryhmään että – ja sitte et --- vaikka se onki yleinen ni ei sitä ihan kaikkialla puhuta, jossain --- ihan tosi kaukasessa Aasiassa, Japanissa ni siellä ehkä englanti ei oo suht yleistä

*I: Why do you think English is not enough – often they say that surely English is enough so why do we study other languages?*

*Ni: Well English is indeed quite common and maybe you could get by okay but maybe --- anyway if --- you really want to deeply understand something, it would be good to be able to understand that foreign language properly and then you get into the research group for example --- and then --- even though it's common, it's not spoken everywhere --- somewhere in the far east of Asia, Japan, there English might not be so common*

It is of course impossible to know for certain where the interviewees' responses come from but this type of answer is very visible in both the interview data and the pre-course questionnaire. Since Niilo had not lived abroad and therefore did not speak from experience, in his response we can hear a voice from perhaps a teacher or a parent. In contrast, in the following example Valtteri speaks from experience:

(22)

I: Miten opettajana jos Suomessa toimit opettajana ni tarviiko opettaja sun mielestä vieraita kieliä?

Va: Kyllähän opettajalla on aina hyvä olla tietenki tällaset taidot mutta en mää ainakaan nähny mitä mää oon -- nähny eri opettajia et miten ne käyttää englantia, kyllä meillä joskus kansainvälisyyspäivänä meidän rakas fysiikan opettaja puhu siellä englanniks ja katottiin jotaki englanninkielistä dokumenttia sitte mutta ei oo oikei muute siinä itse opettamisessa että mää en sitte tiedä minkälaista se on ollu --- sen luokkahuoneen ulkopuolella --- mutta uskon silti että opettajankin on silti hyvä osata kieliä

*I: If you work as a teacher in Finland, do you think a teacher needs foreign languages?*

*Va: Well of course it's good for a teacher to have these skills but at least I haven't seen --- when I've seen different teachers use English, our dear physics teacher did speak English to us when we had an internationality day and we watched some documentary in English but other than that not really in the teaching itself although I don't know what it was --- outside the classroom --- but I still believe that it's good for a teacher too to know languages*

A few different observations can be made from the previous example. Firstly, as stated above, Valtteri uses his own experiences to decide whether a teacher needs

languages, and since his experience is from being a pupil and a student rather than a teacher, he can only say what has been visible to him. Secondly, at the end of his response he adds a ready-made opinion. He says he believes that it is good if a teacher knows languages but he does not explain why. This type of vagueness is present in a large part of the data. All our life we have been told that it is important to know languages but we might not necessarily have understood what this means to us personally (see also Aro 2009). The third observation from this extract will be discussed in section 7.3.3 where it is argued that the students are interested in internationalisation but not in new languages. Section 7.3.3 will ask what significance this “internationality day” can have had on Valtteri’s perceptions of foreign languages.

Similarly to the participants in Aro’s (2009: 119) study and as discussed in section 7.2.2, it seemed in more than one instance that the students mentioned other languages only because they were asked about them and they possibly felt that they ought to respond. Perhaps the students’ perception of the situation – a language teacher interviewing them about language studies – made them position themselves in the situation in a different way than if they had been talking to someone who had no connection to language studies or the university (Aro 2009: 30). This impression was often created by their lack of concrete examples for situations in which these languages might be useful. Travelling and living abroad were the most concrete answers. A couple of students said that perhaps additional languages could be useful if one read newspapers in those languages, but it did not sound as if those students had much experience of or intention to do so. Reading foreign newspapers could be seen as an example from school, as it is a traditional example of a situation in which one can practise languages. Apart from English, which the students agreed would be a natural part of their lives, and Swedish, which they thought “would be good to know” or which was needed for the Civil Service Language Proficiency test, the students did not mention many other languages that they would need in their future.

As stated above, the students were unsure of the role other foreign languages would have in their lives, although it must be emphasised that they were positive towards them and said it would be useful to know them. Niilo was an exception, defending the need of languages other than English and showing a little agency in

learning those languages. Throughout the interview Niilo seemed interested in other countries and stated that he wanted to go abroad and get to know physicists in different countries. He was liked languages and said it was because of his wish of going abroad. However, he was not very happy with the Language Centre studies saying he had not learned those interaction skills he would have wanted to learn. He also claimed that he did not have to maintain his language skills in his free time. Yet, he mentioned in a different point of the interview that he had been reading a Swedish tabloid paper on the internet, which was the only concrete example of independent language learning mentioned by any of the participants in this study apart from Aapo's unsuccessful attempt to watch French and Swedish films without subtitles. Niilo's interview overall is an interesting case since his answers are such a mixture of borrowed voices and his own voice as a young physicist genuinely interested in different cultures:

(23)

I: --- minkä takia --- sää haluat ylläpitää sitä kielitaitoa ruotsissa?

Ni: No mä koen et kielen osaaminen on hyvin tärkeä taito just jos halua kansainvälistyä mitä mää tosissaan ehkä haluaisin myöhemmin tehdä ni, mä haluaisin ylläpitää sitä hyvää kielitaitoa just sen takia

I: --- mitkä kielet siihen kansainvälistymiseen tärkeitä vai onks ne ne kaikki mitä sää osaat vai onks joku erityisesti?

Ni: No ei nyt tuu mitään erityis- ehkä jotain jos haluaa vaikka Eurooppaan niin vähä osata noita eurooppalaisia kieliä saksaa, ruot-, öö saksaa, ranskaa, ja mitä muita tärkeitä on...ehkä italiaa

I: --- *why do you think you want to maintain your Swedish language skills?*

Ni: *Well I feel that knowing a language is an important skill if you want to internationalise which I really might want to do later so, I would like to maintain good language skills because of that*

I: --- *which languages are important for internationalisation or are all those that you know [important] or is some language in particular [important]?*

Ni: *Well I can't think of anything in partic- maybe if you want to go to Europe so it would be good to know some of those European languages German, Swe-, emm German, French, and what other important languages are there...maybe Italian*

Niilo's first answer in extract 23 starts with a sentence that could be interpreted as borrowed or as a voice of experience. He says that he "feels", so he says he is giving his opinion, but then continues that languages are important for internationalisation, which sounds like a ready-made opinion. After this he again uses his own voice saying that he might be interested internationalisation in the future. In his second answer it is worth noting that he does not even mention English, which he perhaps takes for granted. The end of his second answer seems somewhat forced. Perhaps he feels that he should mention many languages

because he is asked, so he does not think for what purposes those languages might be needed. He stops himself in the middle of saying “Swedish”, deciding it is not an important language to know although earlier he had said that he wanted to be able to speak it. At the end adds “Italian” without explaining his choice. As a conclusion, it can be stated that Niilo had much more to say about the need for versatile language skills than the others, although at times he was similarly unsure of which languages he may need and for which purposes. This is understandable considering his young age and lack of international experience.

Section 7.2 has described the students’ perceptions of different languages. English is taken for granted, but it is evident from the physics students’ responses towards questions regarding Swedish and other foreign languages that there is confusion about what they might be needed for. From the studies by Karjalainen and Lehtonen (2005) and Martin et al. (2013) it can be noted that some Finnish-speaking university graduates reported that they needed Swedish in their work and that employers were in favour of knowing the language. In addition, the graduates often regretted that they had not studied optional languages in university, and the employers also found them beneficial in many situations. However, it is inevitable that Swedish and other languages are not needed in many jobs in Finland (Karjalainen and Lehtonen 2005, Martin et al. 2013) and it is not surprising that students did not know why they would need them. The perception that English is enough can become a problem if all university students start thinking in that way (see also Vold and Doetjes 2012). It is important to note that although many university graduates need only Finnish and English in their lives, there are various instances where additional languages are needed. Finland should not want to end up in a situation where there is no academic workforce with suitable language skills. The students themselves are not to be held responsible as they clearly appreciate what their teachers have told them and what they have heard from other authoritative figures. It is these authoritative figures who should consider what kind of messages they are sending to Finnish future workforce. University teachers can still influence students’ perceptions of language (Csizér and Kormos 2009: 108). Section 7.3 discusses the physics students’ perceptions of their first year communication and language studies.

### 7.3 Physics students' perceptions of language studies in university: confusion and individual differences

The present study was conducted after the physics students had participated in a Language Centre pilot programme, as one of the aims was to examine the students' perceptions of language studies in university. When the students were asked about the Language Centre communication and language studies they had all taken part in, they presented a wide range of perceptions, feelings and experiences. The first question, "What do you remember<sup>5</sup> from the communication and language studies you participated in this year?" was deliberately broad in order to discover what the students had found most memorable or what they had paid attention to. The students that had not had such good experiences appeared to be more likely to give an affective answer to this question, stating what they thought of the studies. In contrast, those who did not have strong feelings about the studies tended to talk about the actual course content. In the following extract, Kalle and Niilo express some of their negative feelings.

(24)

I: Mitä jäi mieleen tämän vuoden viestintä- ja kieliopinnoista?

Ka: Sisällöllisesti vai mielipiteen?

I: Saat vastata molemmat

Ka: No no ehkä jos sanotaan että koska sisällöistä jäi aika vähän mieleen niin voi vetää pointin että --- musta se ei ollu erityisen onnistunu

I: *What do you remember from this year's communication and language studies?*

Ka: *Content-wise or my opinion?*

I: *You can say both*

Ka: *Well well maybe since I can't remember much from the content we can come to the conclusion that they didn't work out too well*

(25)

I: Mitä jäi mieleen tämän vuoden viestintä- ja kieliopinnoista?

Ni: --- Vähän vois ehkä pientä hienovara --- parannusta toivoa ehkä niihin kyllä

---

Ni: Mä koin että sen kurssin tavoitteet ei ihan toteutunu mun osalta

I: *What do you remember from this year's communication and language studies?*

Ni: --- *A bit of fine-tuning --- you could wish for some improvement*

---

Ni: *I felt that I didn't achieve the learning outcomes*

Niilo went on to explain why he felt that he had not learned what he had wished to have learned, which will be discussed later in section 7.3.2. As is described in the following sections, the students presented a spectrum of perceptions of language

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<sup>5</sup> Again there is a slight problem with the translation. In Finnish the phrase was "mitä jäi mieleen" which literally means "what stayed in or stuck to your mind", in other words what was most memorable about the studies.

studies in university and the Language Centre pilot programme. Section 7.3.1 argues that the students did not yet understand the objective of the pilot programme. Section 7.3.2 describes individual differences in the students' perceptions. Finally, section 7.3.3 discusses the students' future language learning plans.

### 7.3.1 Perceptions of language studies in university

The data of the present study suggests that the physics students were not yet sure of the purpose of communication and language studies in university. Regarding the question of what they remembered from the studies, the most common content item was working on a laboratory report which was a task that the students had done together with the written communication teacher and a physics teacher. All the students were happy that their needs had been taken into account in this matter, and in general the most praise was given to the topics that had related to their physics studies. Studying academic texts and reading critically were also mentioned as useful topics, but overall the students did not have much to say apart from their satisfaction towards the help they had got with their laboratory reports. A voice of school was audible in their comments as some of them stated that they wanted a more theoretical approach, by which they meant that they wanted lectures on for example grammar, and many of them also wanted to study field-specific vocabulary. The answers illustrate the perception that languages are learnt in class and agency is placed on the teacher. Vocabulary is in some way given by the teacher to the students rather than something the students themselves should independently learn and take agency in. Apart from the two students that wanted to have lectures, suggesting that their first communication and language courses had not been "theoretical enough", the students did not comment on ways in which languages should be studied in university. This suggests that they did not have very strong perceptions of what a good study method or an effective way of teaching is, which is line with Fiilin's (2013) concern about first year students' lack of academic study skills. Furthermore, they had not perhaps quite understood the purpose of communication and language studies in university or what kinds of skills they might need in their studies or in their future work. There was a strong voice of experience in these answers. The students answered according to what they had experienced, what they thought had worked and what had not.

The developers of the pilot programme wanted to highlight multilingualism in the project, claiming that it is a future working life skill (Jalkanen and Taalas 2015). The students mentioned that they had studied English, Swedish and Finnish (or “mother tongue”) and that sometimes more than one of the languages had been used during a class. The word multilingualism was mentioned in only one interview, and it can be argued that it was uttered with a borrowed voice from the Language Centre teachers. When asked what he remembered from the studies, Paavo said that they had been different from language studies in upper secondary school because they were multilingual. When he was asked what he meant by that, he struggled to think of an answer and finally simply stated that the courses had included English, Swedish and Finnish studies. The students had indeed noticed that several languages could be used in a class but they did not have many thoughts about the significance of it other than that it was a nice change, as Valteri says in the following extract.

(26)

Va: se on just hyvä tuo että ne oli vähän niinku kaikki sillee yhdessä niin sitte se ehkä vähän enemmän toi sitte mielenkiintoa siihen että se ei ollu pelkästään se että aattelet että seuraavana päivänä just sitte bileiden jälkeen että huomenna on pelkästään ruotsia kaksi tuntia, ja sit se saattaa ehkä motivaatiomittari laskea sitte siitä mutta

Va: *that's good that [the different languages] were all like together so it maybe made it a bit more interesting so it wasn't only that after a party you're thinking that tomorrow I have two hours of just Swedish, and in that case the motivation meter might drop but*

As to what relevance multilingual teaching had to working life, the students did not seem to have understood yet. Valteri found the mixing of languages refreshing whereas Kalle was of the opinion that in this way he did not learn any language. Language Centre teachers should perhaps make their methods of teaching more transparent so that the students would at least be aware of their purposes even if they do not fully understand them (Brown 2009: 55, Murtonen et al. 2008: 610).

Voices of experience were also strong in the students' answers to the question regarding a good language teacher in university. Niilo and Valteri had clearly struggled with something in the Language Centre courses as both of them said that a good university language teacher is aware of the students' language skill level and does not start with too difficult tasks. Aapo believed that motivating the students would be important. Arttu agreed with this and added that motivating

students is particularly necessary with regard to Swedish. According to Amanda, a good language teacher has some knowledge of the students' field of study and gives proper lectures instead of "playing". Ella was more ready for independent work, stating that a good language teacher gives students tools for self-study. This voice is impossible to recognise without knowing what the teachers in the courses had said. It could be a borrowed voice from the language centre teachers or she could be purely speaking of experience. Nonetheless she did not actively study by herself although she was one of those students who seemed to have enjoyed the courses.

The English teacher that took part in the pilot programme said that she did not feel like an English teacher but more generally a teacher of communication. This was perhaps due to the cooperation between the English, Swedish, speech and written communication teachers. The teachers noticed that their subjects were more alike than they had thought and they felt that together they could provide the students with an understanding of the similarities between all languages and communication. Perhaps because of this, or the lack of traditional language teaching the students might have expected, both Kalle and Markus had interesting insights into what a good university language teacher is like:

(27)

I: Millainen on hyvä kielenopettaja yliopistossa?

Ma: Tähän nyt en kyllä vielä osaa sanoa mitään kun ei oo vielä kokemusta ollenkaan yliopiston kielenopettajista että

*I: What's a good language teacher like in university?*

*Ma: I can't say anything to this because I don't have any experience of university language teachers so*

(28)

I: Millainen on hyvä kielenopettaja yliopistossa?

Ka: Jaa-a, nyt en ole ollut yliopistossa kieltä oppimassa niin en osaa oikeen tota, en osaa sanoa mitä siihen kuuluu

*I: What's a good language teacher like in university?*

*Ka: Well, since I haven't studied languages in university, I can't really, I can't really say what it includes*

Neither Kalle nor Markus thought that they had attended any language classes in university despite the fact that they had been told they would be interviewed because they had taken part in the Language Centre courses, and despite the fact that they had been talking about their experiences of those courses for half an hour. Similarly to Amanda's wish for more theory on grammar, this suggests that

the students had a certain perception of what language classes are like. Since their first year communication and language classes were not the same as their perception of a language class, Amanda was disappointed, and Kalle and Markus did not even realise they had taken part in language classes. Räsänen and Taalas (2010) argue that often language skills are thought to include only language knowledge. The Language Centre had taken a broader perspective and taught the students study and working life skills. As a result, the students were confused because they had a more restricted perception of what language skills and language classes should be like. The following section will discuss the variation of perceptions that the students showed.

### 7.3.2 Individual differences in students' perceptions of language studies in university

The interview data suggests that university language teachers are challenged by a wide variety of students with different types of needs even if they have similar educational backgrounds and are of similar age. The participants of the present study were all first year physics students and had graduated from upper secondary school one to three years ago. Yet they had completely different perceptions of the communication and language studies they had taken part in. Some of the students were simply rather happy about the studies and felt that they had learned how to write a laboratory report. In contrast, a few students expressed their disappointment in the studies saying that they had hardly learned anything or that many topics were merely touched upon.

When they were asked what they had studied in the courses, the students' answers illustrated how differently we remember things. As they talked about which languages they had studied, they all mentioned all the three. However, three students were of the opinion that the classes had mostly been about Finnish, three remembered that the emphasis had been on Swedish, one student thought English had been the major language and two thought there had been an equal amount of each. Aapo in his interview made a comment that might partly explain this:

(29)

Aa: --- Muistaakseni ruotsia oli enemmän - vähän - tai sitten se tuntu vaan siltä ku sitä ei osannu niin hyvin ni, muutenkin oppikirjat englanniks ni, sitä ei välttämättä ees kiinnitä huomiota

*Aa: If I remember correctly there was more Swedish – a bit – or then it just felt like it because I wasn't as good at it so, our physics books are in English anyway so, you mightn't even notice it*

As Aapo discusses in the example, we might pay attention to what is difficult to us or in some other way significant or noticeable. Hence, since many of the students said their Swedish was “rusty”, they could have remembered the Swedish parts of the courses because they had to put more effort into them.

Interaction and group work skills were emphasised in the first year communication and language courses. However, interaction and group work skills came up relatively little in the data: the students had more recollections of the language learning such as reading, writing and speaking. Niilo had clearly wanted to learn interaction skills, perceiving himself as shy. As stated earlier, he did not feel that he had achieved the learning outcomes, saying that he did not have confidence in a group work situation, which he felt he ought to learn. On the contrary, Kalle stated that we have all been practising group work skills for twelve years at school, implying these types of exercises were of no use in university. Apart from Niilo, only Ella perceived group work skills as important in her studies, perhaps quoting her teachers as she stated that group work skills will be important in her future work. However, it is worth being critical regarding this topic. The students knew that the interviewer was a language teacher and most of the questions were directly related to languages. It is possible that if a speech communication teacher had interviewed them focusing on their interaction and group work skills, they could have spoken more about that (see also Aro 2009).

The students' answers to the question “Did you put effort into the studies?” shows the importance of the cooperation between the language centre and the department. Many of the students said that they would have put more effort into the communication and language studies if they had not been so busy with their physics studies to which they gave priority. Arttu and Amanda also claimed that they would have had more motivation for the studies at the time of the interview, which took place after most of their courses had ended in the spring. Based on the interviews, simply bad timing may have significant influence on students' participation and motivation.

Apart from bad timing, the course content was a key factor in motivating the students. Ella and Valtteri said that they had put effort into their studies and overall they were the happiest with the courses. According to Ella, these courses were a good start to their language studies. Valtteri stated that he always does his work properly and that although he had not experienced the previous “model” of the Language Centre courses, he thought this model was “quite nice”. Rather than showing active agency in language learning, his effort seemed to stem from a sense of responsibility similarly to the students in Bergroth-Koskinen and Seppälä’s (2012) study. In contrast, the others said that they had been busy with their other studies or they had not understood the “point” of the courses. Kalle, Markus and Amanda had got frustrated with the courses as they had not found them challenging enough, although Amanda had also been frustrated with Swedish as it had been too challenging for her. Often those students who had not been particularly happy with the courses stated that the main idea was good but that there had been too much of “liibalaaba” or “nakkihomma”, meaning useless tasks. This shows how differently students of similar educational backgrounds and interests can experience communication and language studies.

An additional aspect regarding motivation is mentioned by Kalle in the following extract:

(30)

*Ka: --- siinä ei ollu tenttiä niin sitä ei tarvinnu periaatteessa oppia ---*

*Ka: --- there was no exam so basically you didn't have to learn it ---*

This type of perception of language studies is a familiar one to at least those of us teaching courses in which students do not get a number grade. Although we would like to believe that our students want to study to learn, in reality often at least a part of their motivation consists of their interest in getting a good grade. This is worth discussing in language centres, as it seems that many students consider language courses as “something extra” to begin with. Accordingly, a lack of incentive for high achievement may hinder motivation. The following section will discuss the issue of motivation further as the students talk about their future language learning plans.

### 7.3.3 Perceptions of future language studies and studying abroad

Based on the interviews it can be argued that the physics students were interested in travelling and getting to know other countries, but preferred countries in which they would be able to use the languages they already had skills in.

Section 7.1.1 suggests that languages had not been a top priority for the students at school. The same was portrayed in the students' comments on studying additional languages in university:

(31)

I: Aiotko opiskella yliopistossa muita vieraita kieliä?

Ka: Eei ole tarkoitus – en oo ainakaan näin ajatellu

---

Ka: Se alkaa tuo aikataulu olemaan täynnä ihan pakollisistakin kursseista että – sinne väliin vähä hankala yrittää mitään saaha mahtumaan

*I: Are you planning on studying other languages in university?*

*Ka: No that's not my plan – at least I haven't thought*

---

*Ka: That schedule is beginning to be full of just compulsory courses so – it is a bit difficult to try to fit anything else in there*

(32)

I: Aiotko opiskella yliopistossa muita vieraita kieliä?

Pa: Oon mää ajatellu mutta en oo vielä ihan varma

---

Pa: No mää oon ajatellu että jos sitä saksaa yrittäis vielä uudestaa, mutta sitten pitää katkoa että miten nuo opinnot suhtautuu siihen ---

*I: Are you planning on studying other languages in university?*

*Pa: I have thought of it but I'm not sure yet*

---

*Pa: I've thought I could try that German again, but I must check whether it affects my studies ---*

None of the students had concrete plans for taking any optional language courses and many phrased their interest in studying optional languages in the form that suggested that they might not end up studying them after all. This is evident from the way they phrased their willingness or plans to take optional language courses. Often they said that “it would be nice” or “if I have time I might” [study languages]. Bergroth-Koskinen and Seppälä (2012) similarly noticed that university students often enrol in optional language courses because of official requirements rather than of interest in language learning. The physics students prioritised other studies and they seemed to need a purpose to study a language. This is in line with Lantolf and Pavlenko (2001: 147) who claim active agency stems from the fact that a

language matters to us. If the physics students saw no direct benefit from an optional language course, they were not very interested in it.

In general it can be stated that the students did not have much to say about other languages than English. Some thought that they could possibly need other languages if they travelled or moved abroad. The students tended to mention a possible need for languages that they have already studied. Only Kalle, who had not studied optional languages since primary school, said he suspected that he would have to study an additional language depending on where he would end up in his exchange or future work. The sense that the students were reluctant to believe that they might need other languages in their lives was put into words in Amanda's interview:

(33)

I: Mitä kieliä sää tarvitset?

Am: Englantia pääasiassa ja --- sit se riippuu missä sitä tulevaisuudessa ollaan että jos ollaan Suomessa niin sit se on se ruotsi tai venäjä --- **mutta venäjää kun en osaa ollenkaan ni (naurahtaa), se nyt varmaan lähtee pois** mutta Suomessa jos on niin ruotsi on varmaan aika kova sana, ja sitte jos taas lähtee tuonne Keski-Eurooppaan päin ni sit se saattaa olla se saksa mitä tulee tarviimaan

I: Which languages will you need?

Am: English for the most part and --- then it depends on where you are in the future, if you are in Finland then it would be Swedish or Russian --- **but since I don't know any Russian (laughs) then that will not be in my list** but in Finland if you are then Swedish is probably a good one, and if you go to the direction of Central Europe then it could be German that you'll need

Amanda's answer suggests that she felt she had already learned enough languages and wanted to avoid situations in which she would need additional ones. It is understandable that the students were hesitant: if they had not had experience of needing other languages, they could find it difficult to understand what relevance they could have in their lives (see also Aro 2009). However, from the point of view of a language teacher it is noteworthy that several Finnish studies show that many university graduates and their employers find foreign language skills beneficial in working life (Karjalainen and Lehtonen 2005, Martin et al. 2013, Finnish Chambers of Commerce 2013, Confederation of Finnish industries 2014). The challenge for the teachers is therefore to help the students understand concrete uses of different languages so that they would be more motivated to study them (see e.g. Luoma 2007).

As stated earlier, according to Jalkanen and Taalas (2013), only a fifth of the University of Jyväskylä students had been on exchange. In the pre-course questionnaire, there was a question “During your studies you have a possibility to go on international exchange or do an internship. Have you already planned where you would like to go?” Unfortunately the phrasing of the question makes it impossible to know how many of the students had thought of not going abroad during their studies, since the answer “no” only reveals that they have not thought about it yet. Consequently, these answers cannot be directly compared with the interview question “Are you planning on going on exchange” but it may be noteworthy that out of the nine students in the present study, only Valteri was quite certain that he would not go on exchange, reasoning his decision with lack of time. Many of the interviewees said that exchange programmes had been advertised in their studies. This may have affected their thoughts on it, since only Niilo and Ella in the pre-course questionnaire had said that they had already thought of where they would like to go. It seems again that the students wanted to go to a country where they would not have to learn a new language. Markus had thought of going to Germany and Niilo was interested in Germany or Sweden. Arttu and Ella vocalised their apprehension of studying an additional language more clearly:

(34)

I: Ja minnekkäs meinasit [mennä]?

El: En mä tiiä, mä haluaisin tosi kovasti johonkin Australiaan, tai mää oon aina halunnu käyä siellä mutta saa nyt nähä että minnekkä, mahollisimman kauas

I: Mahollisimman kauas pois (nauraa)!

El: En ehkä mihinkään Kiinaan tai Japaniin koska sinne pitää varmaan osata niinku niitä kieliä että

*I: And whereabouts were you planning [on going]?*

*El: I dunno, I'd really like to go to somewhere like Australia, I've always wanted to visit there but we'll see where – as far as possible*

*I: As far away as possible (laughs)!*

*El: I don't think I want to go to like China or Japan because you probably need to know those languages so*

(35)

I: Ootko aatellu minne sää haluaisit mennä?

Ar: En oo vielä miettiny mutta --- nii en oikestaan tiiä, johonki semmoseen varmaan kuitenkin jossa englannilla ainaki osittain pärjää, ettei ehkä mihinkään Japaniin kuitenkaan

*I: Have you thought of where you'd like to go yet?*

*Ar: I haven't thought yet but --- yeah I don't really know, probably somewhere anyway where you can manage at least partly in English, so not to like Japan anyway*

Time will tell how many of the students actually fulfil their intentions. None of the interviewees had concrete plans yet, but during the time of the interview they were only in first year and usually students go on exchange in third or fourth year. The interviewees spoke quite differently about their study abroad plans. Kalle said he cannot decide where he wants to go before he knows what he will specialise in. Ella was interested in knowing how physics is studied in a foreign university. Amanda thought that she would “get more out of” working abroad rather than going on exchange. It could be argued that the students were interested in getting to know other countries, but seemed to find additional languages an obstacle and therefore preferred countries in which they would get by with the languages they already knew.

Based on both the interviews and the literature presented at the beginning of the present study, it can be argued that teachers in school and in higher education can affect students’ perceptions of languages and language learning. In extract 22 in section 7.2.3, Valtteri discusses whether a physics teacher needs to know foreign languages. Valtteri’s school had had an “internationality day” during which his physics teacher had spoken English and they had watched a documentary in English. Valtteri concludes that this is the only instance where he can think a teacher may need languages. In terms of internationality education in our school system, the fact that Valtteri’s school had had internationality education can be seen as a positive. However, it can be questioned whether education been left for special theme days to take care of, rather than bringing it up constantly in class. Understanding other cultures, countries and languages does not of course mean that we should be interested in studying languages, but it may be noteworthy that Valtteri had not studied languages at school and did not feel it was in any way important for him to learn any in the future, either. This poses an important question to us language teachers in terms of what the aim of our teaching is. Are we happy with the students’ growing interest in internationality, which is present in the current section of the present study, or do we want them to become multilingual? Are we happy with their high level of English or do we want them to know more?

Finally, it is not only language teachers that affect students’ perceptions of foreign languages. In fact, it seemed that language teachers at school and the Department

of Physics had had much more impact on the students' perceptions than the Language Centre. The physics students had heard from Swedish-speaking staff members that they use English at work, and some had noted that international staff also communicated in English. From this they gathered that it is English that physicists need but not necessarily other languages. Otherwise they said that they had not heard their teachers speak of language learning, apart from Kalle who remembered that they had been told that they definitely needed English in their studies. The students saw their teachers as authoritative figures and listened to their advice. Hence, if the aim is to "enhance [students'] multilingual and multicultural competence" (University of Jyväskylä Language Policy 2012: 6), it is important to note that all staff members, not only the language teachers, have a vital role.

Section 7.3 has described the physics students' perceptions of language studies in university based on their experiences of their first year communication and language studies. The students' responses to the interview questions suggest that the students were not yet aware of what communication and language skills would be required from them in their future work, although they knew and had already experienced the need for advanced English skills in their studies. The students had individual needs and experiences despite similar ages and educational backgrounds. They did not find optional language studies important although most of them wanted to try living abroad. Their utterances also imply that they placed agency on teachers both in school and in university, which teachers of languages and other subjects should take into account when discussing what communication and language skills they want future academic professionals to master.

## 8 CONCLUSION

The present study has examined previous studies on students' perceptions of foreign languages, language learning and language studies in university and in working life. It has discussed the terms voice and agency which were used as tools for the analysis of the interview data, and described the University of Jyväskylä Language Centre multilingual pilot programme, the context in which the present study was conducted. It has also described and discussed an empirical interview study that examined first year physics students' perceptions of languages.

Previous studies indicate that people are often hesitant to acknowledge their modest language skills (see e.g. Fiilin 2013). Similarly, the physics students were unsure of whether they could claim they had skills in languages other than English at which they felt competent. Despite this, the students did not believe that "knowing" a language means speaking in a grammatically correct manner. Instead, they felt that to know a language is to be able to understand others and be understood. The students' perceptions of languages and language learning had connections with formal language teaching, which was audible in their voices. Since the students' perceptions were strongly influenced by their teachers, it is possible that their teachers had emphasised the importance of imperfect language skills. In contrast, since the students did not feel comfortable acknowledging their skills in languages other than English, it could be that they "knew the right answer" at a general level but were not able to apply it to their own lives (Aro 2009).

The difference between their answers at a general and personal level was also apparent in the physics students' discussions concerning the role of Swedish and other foreign languages in their lives. The students often used ready-made opinions stating that knowing many languages is beneficial, but when they spoke of their own future they were unsure of the uses of other languages than English. The students also appeared disinterested in learning new languages although eight out of nine expressed an intention to go abroad for student exchange or work. The role of English was self-evident in their lives. The students had been in contact with the language, knew how to use it and knew in which situations it was needed. The reluctance to acknowledge the need for other languages is important to note by teaching professionals at all levels. Many of the physics students had quit optional language studies at school, which implies that their teachers had failed in

their attempt to motivate the students enough. The interview data suggests that the students only understood the value of a language if they had found concrete uses for it. Language teachers should therefore work on facilitating experiences of authentic language use in class. The interviewees in the present study (see also Kalaja et al. 2011, Leppänen et al. 2009) used a great deal of English when consuming popular culture but did not feel they needed other languages in their free time. This is why teachers of other languages should find examples of popular culture that their students could possibly become interested in. Teachers have responsibility in this as Finnish society does not offer equal opportunities to use English and other languages (Liikenne- ja viestintäministeriö 2014). Another way of creating situations for authentic language use would be integrating languages with other subjects not only in university but also in basic and second level education. As is suggested by the interview data, language teaching and internationality education is often left solely for the language teachers, which creates an impression that a language is “just another subject at school” (Csizér and Kormos 2009: 108).

Aiming to help university students to grow into multilingual academic professionals during the course of their studies, the University of Jyväskylä Language Centre started developing new embedded communication and language courses which were piloted at the Department of Physics. After the first phase of the pilot, the students were happy with the physics-centred approach to language learning but had otherwise not understood the underlying philosophy of the language studies. The multilingual classes were thought of either as scattered or as a fun change. However, the students did not know what relevance this type of teaching might have to working life, which was natural considering that the students did not have experience of an international working environment. It is therefore important for a teacher to explain to students why certain study methods are used. The need for a purpose or a motivator was evident when the physics students discussed the communication and language studies. If they had not understood the objective of a task, they were frustrated or confused. Many of the students were clearly high achievers and wanted to be challenged. In contrast, some had struggled with the studies stating that a language teacher in university should be aware of the students’ level of language skills. The students were used to brisk-pace lectures and at times seemed confused of the communication and

language classes because they were of a different form. They wanted to learn academic English, placing agency on their teachers who should teach them field-specific vocabulary for which they saw concrete use.

The physics students' perceptions of languages in general and in university indicated that languages are not first on their list. Some had quit optional language studies in school because other subjects had been more important, and many said that they would study optional languages in university depending on their other studies. The students had noticed or heard that the common language was English regardless of which country the staff members came from. All this suggests that experience and authorities had shaped the students' perceptions of languages, which is important to note by the whole university staff. Since students often only experience the usefulness of other languages on student exchange or in working life (see e.g. Martin et al. 2013), the teachers' influence is in a crucial position in motivating students from first year onwards. Cooperation between the department and the language teachers appears to be worth considering as it is the departments that seem to affect students' perceptions of language learning. However, just motivating students is not enough if the timing is not right. Some of the physics students said that they had not been interested in the Language Centre courses because they had been busy with their physics studies. Consequently, the cooperation between language teachers and the department also in this matter is crucial. Many students said that had they had less physics courses on at the same time, they would have been more motivated to put effort into their language studies. This perception suggests that the Language Centre's aim to make the communication and language courses a natural part of the physics studies did not succeed, at least during the first year of the pilot programme.

As stated in section 6.3, the present study did not aim to find the ground-breaking, objective truth about physics students' perceptions of language but instead attempted to describe some individual students' views. The empirical data consisted of nine individual interviews, so it is clear that the results cannot be generalised. There are many ways in which the present study could have been revised. Only the data analysis reveals how many more questions could have been asked. The interviews could have included more questions related to the students' previous formal and informal language learning experiences for a deeper

understanding of where their perceptions stemmed from. The interviewees could have been given some questions beforehand so that they would have got more time to ponder on the topics that they clearly had not often thought about. It is also likely that the role of the interviewer had an effect on the students' responses. It is impossible to know what the students would have said if the interviewer had been a physics teacher or more closely affiliated with the pilot programme. The methods and the interview structure used provided sufficient information for the present study, but for future studies it is worth considering these limitations and suggestions for alterations.

The information gained from the present study can be used in the development of the Language Centre pilot programme. It may also be of interest to any language teacher as it describes the variety of perceptions students have of a wide range of topics related to language learning. Most importantly, it can work as a starting point for future studies. There were three broad research questions in the present study, each on which could be studied in detail individually. The three questions were decided on and kept as the aim was to gain a general picture of the physics students' views of languages in the context of university language studies. Future studies could take any of the themes discussed in the present study to a closer examination. Based on qualitative data it would also be easier to formulate meaningful questionnaires in order to produce results suitable for more generalisation. A natural follow-up for the present study would also be to continue interviewing the same participants at later stages of their physics studies. Fruitful case studies could be conducted if the students were followed until the time of their graduation and stepping into working life. Stimulated recall could be used to discuss with the students how their perceptions of language learning evolve. Considering the authority the department staff had in the students' minds, it might also be useful to study staff members' perceptions of language studies. This information could be used in developing language studies and when discussing the implementation of university language policies.

Working life is increasingly multicultural and multilingual, which challenges language teachers in higher education to consider the types of communication skills they want students to learn. It seems that the language courses taught at present are not always motivating enough and they are not taught at an ideal time.

The law, university policies as well as employers require advanced language skills from future academic workforce, but as a young freshman this multilingual working life is still far in distance. If teachers want students to start growing into their role as convincingly communicating academic professionals already at the beginning of their studies, they must work on how to assure the students that language studies are of use. However, this work should not only be left to language teachers, as it seems that other staff members in university have impact on students' perceptions. It may even be that subject teachers have a greater role in influencing the students than the language teachers, because they are the ones that know about the realities of their field of study. Departments should therefore carefully consider what kind of message about language learning they want to send their students in what they say and do. Perhaps language teachers could cooperate with the teaching staff of the departments in formulating this message. Language teaching and internationality education at school lay the foundations for students' perceptions of languages and language learning. Teachers in higher education can affect these perceptions, which is a role worth taking seriously.

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## 10 APPENDIX: INTERVIEW STRUCTURE

### Taustatietoja

#### *Background information*

Milloin valmistuit ylioppilaaksi?

*When did you graduate from upper secondary school?*

Mitä kieliä opiskelit koulussa?

- muistatko miksi valitsit ko. kielet?
- mahd. miksi lopetit ko. kielen opiskelun?

*Which languages did you study at school?*

- *can you remember why you picked these languages?*
- *(possibly) why did you quit studying this language?*

### Yleisiä käsityksiä vieraista kielistä

#### *General perceptions of foreign languages*

Aiotko opiskella yliopistossa muita vieraita kieliä?

- mitä kieliä?
- miksi? miksi et?
- entä aiotko opiskella niitä jossain muualla?

*Are you planning on studying optional languages in university?*

- *which languages?*
- *why? why not?*

Oletko mielestäsi hyvä kielenoppija?

- miksi? miksi et?
- millainen on hyvä kielenoppija?

*Do you think you are a good language learner?*

- *why? why not?*
- *what is a good language learner like?*

Osaatko mielestäsi vieraita kieliä?

- mitä kieliä?

*Do you think you know foreign languages?*

- *which languages?*

Osaatko mielestäsi hyvin vieraita kieliä?

- mitä kieliä?
- mitä tarkoittaa "osata hyvin"?

*Do you think you are good at languages?*

- *which languages?*
- *what does it mean to be good at languages?*

Oletko tavannut hyviä kielenopettajia?

- millainen on hyvä kielenopettaja?

*Have you met good language teachers?*

- *what is a good language teacher like?*

### Uusimuotoiset viestintä- ja kieliopinnot: kokemukset ja käsitykset

### *Embedded communication and language studies: experiences and perceptions*

Mitä jäi mieleen tämän vuoden viestintä- ja kieliopinnoista?

*What do you remember from the communication and language studies you took part in earlier this year?*

Mitä opiskelit?

*What did you study?*

Mitä kieliä opiskelit?

*Which languages did you study?*

Panostitko mielestäsi tämän vuoden viestintä- ja kieliopintoihin?

- miten?
- miksi?

*Do you think you put effort into the communication and language studies?*

- how?
- why?

Oletko koettanut parantaa tai ylläpitää kielitaitoasi vapaa-ajalla (tämän vuoden aikana)?

- miten?
- miksi? miksi ei?

*Have you tried to improve or maintain your language skills in your free time (this year)?*

- how?
- why? why not?

Aiotko koettaa parantaa tai ylläpitää kielitaitoasi vapaa-ajalla jatkossa?

- miten?
- miksi? miksi ei?

*Do you plan to improve or maintain your language skills in your free time in the future?*

- how?
- why? why not?

### **Kielet ja työelämä: käsityksiä**

#### *Languages and working life: perceptions*

Tarvitsetko vieraita kieliä opinnoissa?

- mitä kieliä?
- miksi? miksi ei?

*Do you need languages in your studies?*

- which languages?
- why? why not?

Mitä viestintä- ja kieliopinnoissa pitäisi opiskella yliopistossa?

- miksi mainitsemiasi asioita pitäisi opiskella?

*What should be taught in communication and language studies in university?*

- why should those things be taught?

Mitä viestintä- ja kieliopinnoissa pitäisi opiskella fysiikan laitoksella?

- miksi mainitsemiasi asioita pitäisi opiskella?

*What should be taught in communication and language studies at the department of physics?*

- *why should those things be taught?*

Miten kieliä pitäisi opiskella yliopistossa / fysiikan laitoksella?

- miksi niitä pitäisi opiskella mainitsemallasi tavalla?

*How should languages be taught in university / at the department of physics?*

- *why should they be taught in that way?*

Tarvitsetko itse tulevaisuudessa kieliä?

- mitä kieliä?
- mihin?
- miksi? miksi ei?

*Do you need languages in the future?*

- *which languages?*
- *for which purposes?*
- *why? why not?*

Pitääkö fyysikon osata vieraita kieliä?

- mitä kieliä?
- miksi? miksi ei?

*Does a physicist have to know foreign languages?*

- *which languages?*
- *why? why not?*

Tarvitsetko vieraita kieliä tulevassa työssäsi?

- mitä kieliä?
- miksi? miksi ei?

*Will you need foreign languages in your future work?*

- *which languages?*
- *why? why not?*

Onko kielten opiskelusta puhuttu laitoksella muutoin kuin Kielikeskuksen kurssien yhteydessä?

- kuka niistä on puhunut?
- missä yhteydessä niistä on puhuttu?
- mitä niistä on puhuttu?

*Has anyone else than the language centre teachers mentioned language learning during your studies?*

- *who has mentioned it?*
- *in what situation?*
- *what did they say?*