Upper secondary school students' views on the new digitalized Matriculation examination

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Tiivistelmä – Abstract

Ylioppilaskokeiden sähköistymisprosessi on aloitettu vuonna 2016 ja on nyt loppusuoralla. Englannin ylioppilaskoe sähköistettiin keväällä 2018 ja toteutettiin toista kertaa syksyllä 2018. Digitaalisessa kokeessa on pyritty painottamaan autenttisuutta sekä tehtävien monimuotoisuutta.

Opiskelijoiden mielipiteitä ja näkemyksiä sähköistymisestä on tutkittu ennen sähköistymisprosessin alkua, mutta koska sähköistyminen on ilmiönä uusi, ei opiskelijoiden ajatuksia uudesta formaatista ole vielä tutkittu. Tutkimuksissa ennen sähköistymistä oppilaat ovat olleet kriittisiä uudesta formaatista, mutta ovat nähneet uudistuksen kuitenkin tarpeellisena.

Tässä tutkimuksessa halusin kartoittaa opiskelijoiden mielipiteitä kokeen onnistumisesta ja digitaalisuudesta. Olin myös kiinnostunut selvittämään tekisivätkö opiskelijat mieluummin sähköisen vai paperisen version kokeesta ja tutkin tätä kyselyn avulla.

Tulokset osoittavat selvästi, että opiskelijoiden asenne ylioppilaskirjoitusten sähköistymiseen on selvästi positiivisempi kuin vielä muutama vuosi sitten. Tuloksiin vaikuttaa varmasti se, että opiskelijat ovat päässeet tekemään sähköisen ylioppilaskokeen ja he ovat myös harjoitelleet tietokoneella kokeiden tekemistä.

Asiasanat – Keywords matriculation examination, English, attitude, opinion
Säilytyspaikka – Depository JYX
Muita tietoja – Additional information

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1 INTRODUCTION

The digitization of the Finnish Matriculation Examination is on its finish line. The last subject, Mathematics, will be digitalized by spring 2019, which means that all the exams can and will be taken in a digital format. The digitalization started in 2016, when the first exams, geography, German and philosophy, were taken digitally. Since then the different subjects have gradually been digitalized.

The digitalization process has not been straightforward; hence it has been greeted with mixed feelings. Teachers, students, parents and even the people detached from the school world have had an opinion on the matter. The first exams have gained myriads of criticism and the need for the exam to be in a digital form has been questioned more than once. Hence the opinions and the comments made by the students are extremely important and relevant in developing and modifying the exam in the future. The students are the ones taking the exam, so they have knowledge about the functionality of the exam in practice.

Firstly, in the theoretical part of this thesis, I will share the historical background of the Matriculation Examination as it has a long tradition in the Finnish history of Education. Secondly, I will explain the Finnish Matriculation Examination as a concept and describe how the digital language exams have been formed. Thirdly, I will present why and how the exam has been digitalized, as well as the structural changes the digitalization has brought to light. Later on, I will also expand the subject of digital testing further into digital exams elsewhere and how digital testing has been received by the test takers in other countries.

Furthermore, in the section data and methods, I will explain how the data was gathered with the questionnaire and how the questionnaire was conducted. Later on, I will present the data gathered from the questionnaire and the methods of analysis. The data consists of a questionnaire which mostly has open-question responses. Finally, I will present the results of this study and discuss the possible main reasons and implications.

2 HISTORY AND PREVIOUS STUDY

In this part of the study I will explore the history of the Finnish Matriculation examination and what has been found in the studies regarding attitudes towards digital testing. Furthermore, I will discuss what the state of digital testing is in other countries and what the students have thought about them.

2.1 The history of the Finnish Matriculation Examination

The Finnish Matriculation examination board (YTL) is a governmental bureau, which is responsible for planning, executing and developing the Matriculation examination. The history of the exam and the development of the exam over the years can be found from their web page. As it is explained on the web page in the section 'History', the Finnish Matriculation examination has been around for 160 years and it is the basis of the Finnish school and university system. It was first created as an entrance exam for the Royal Academy of Turku (now known as University of Helsinki) and it measured the applicants' skills in Latin and Christian studies. Later in 1852 it was tied to the syllabus of upper secondary school, which can be considered the starting point of what we now know as the Finnish Matriculation Examination.

The Matriculation Examination has since evolved to a national final exam of the upper secondary school and it also plays a big role in the university entrance exams. As an assessment method the Matriculation Examination is greatly valued, and it measures the skills and knowledge that according to the syllabus should have been attained, but also the maturity of the students at the end of the upper secondary school.

As it is stated in the web site of YTL, history, the structure of the Matriculation Examination has varied through the years. In 1919 the exam was changed from oral exam to a written one. In addition, five subjects were established as a permanent part of the exam. The mother tongue and literature, second national language (Swedish), foreign language, math and general studies exam were all compulsory until 1947 when the Matriculation Examination

Board reduced the number of subjects to four, which meant that the student could choose either second national language or mathematics.

In addition, the Matriculation examination board imparts on their web site that in 1994 the decentralization of the exam was allowed in three consecutive examination periods. Furthermore, Matriculation Examination Board started an experimental reform where the structure of the exam was more elective. A student had to take four exams of their choosing, from which the mother tongue and literature had to be one. They could also take additional exams as before the reform. Nowadays the Matriculation Examination consist of four compulsory exams as before but compared to the previous model there is no general studies exam as a whole, but the student can choose from the general studies subjects one or more that they will take. The exams also have cross-curricular tasks.

2.2 The digitalized Matriculation Examination

In 2013 The Ministry of Education and Culture started a project called Digiabi, which is a reform of the Matriculation Examination. The aim of this reform has been to replace the written exam with a new digital exam. This reform was first introduced in 2016 when the first exams in geography, philosophy and German language were carried out. The other exams will gradually be held digitally as well and in 2019 all of the exams will be digital (Ministry of Education and Culture, Reform of the Matriculation Examination, n.d.).

The digital Matriculation Examination enables the use of multi-modal material, e.g. video, audio, pictures and diagrams, which has been seen as beneficial for the test experience according to Tarvainen (2014:80). The exam in itself is not browser-based, hence the use of various applications used in teaching is allowed during the exam. In the web site of YTL the technical details of the exam are described in great detail. For instance, the exam can be done on the student's own laptop or with one borrowed from the school. Various different types of computers are allowed, and the computers are booted to a Linux operating system through a USB-drive, which ensures that the students cannot access their local files or programs, but only those which are pre-installed on the operating system by the Matriculation Examination

board. The computers then are wired to the server via a local network, but the candidates will not be able to access the internet.

The newest reform, which was recently explained in a webinar by Lattu, is the USB-driveless exam system. It was used in autumn 2018 for the first time and it enables faster and safer mobility of the data and is argued to be easier than the USB-drive after the installation. Furthermore, it is compatible with every device. In autumn 2018 it was used if there were more than 100 students taking the exam and in spring 2019 it is used if at least 50 students are taking the exam.

As it is explained on the web page of YTL, in the section of digital Matriculation examination, after the students have taken the exam, the exam will be sent to YTL web service where the teacher will first evaluate the answers. The teachers will need to log in to the service using their bank account information, so that the data will be secured the whole time. After the teacher has assessed the exams, he/she will send them to YTL, where the official censors will evaluate the exams once again. After that the scores will be published to the schools.

2.3 Testing of English

For every subject, the digitalization creates its own challenges, therefore the exams could not be all changed to a digital form with the same schedule. The digital versions of the matriculation examination of languages were gradually taken into use, starting from German. English exams, among other languages like Spanish and Portuguese, were first carried out digitally in spring 2018, as reported on the web page of YTL, in the section of digital Matriculation examination.

The main focus of language testing used to be on grammar and vocabulary, but nowadays it emphasizes communication and the strong bond between spoken and written language (Huhta and Hilden 2016). This creates a challenge for the test makers of the matriculation examination, but the digitized version enables better opportunities to create authentic exercises by using multimodal material (von Zansen 2014).

Huhta and Hilden (2016) have also discovered that using articles, news pictures, web pages, etc. can help the student to relate the language to the real world, and therefore link the topics to their everyday life. The digital form of the language exam also enables digital assessment to be done by the teachers and the censors, which makes the process much more efficient and reliable.

Although digitalization of matriculation examination is a new subject, digital language tests are not, and they have been carried out before in Finland, but also in other countries. According to a study done by the Finnish Matriculation Examination Board, Denmark is one of the leading countries when it comes to digital exams and the research on them and they in fact have a digital matriculation examination. As it was found out in Lahti, Heinonen, Siira and Lattu (2013), the experiences of both students and teachers have, without fail, been positive. The term the Danish use of their digital testing is CAT; computer adaptive testing, which means that the ability of the individual is measured by the computer and the exercises will adapt according to that level.

In Huhta and Hilden (2016) it is stated that in Finland there are international as well as general language tests that are done in a digital form or are transitioning to a digital format. They have been established for people to have qualification of their language abilities in writing, speaking, reading and listening comprehension. They follow the European framework of six scales. International language tests are for example TOEFL (Test of English as a Foreign Language), IELTS (International English Language Testing System) and the language certificates of Cambridge. The Finnish equivalent for these qualifications is YKI (Yleiset kielitutkinnot, National Certificates of Language Proficiency). The TOEFL can be done on the internet, but it needs to be done in appropriate test centers.

The model for the digital Matriculation examination has been taken from the international high stakes language proficiency tests such as TOEFL (Test of English as a Foreign Language) and IELTS (the International English Language Testing System).

2.4 Matriculation Examination as an assessment method

Matriculation examination is foremost the final exam of Finnish upper secondary school, but many universities and degrees use it as an entrance exam or part of an entrance exam. The matriculation examination is not only an assessment method for ending the upper secondary school, hence it does not serve only one assessment method type, of which the next sub-chapters will tell more about.

2.4.1 Formative vs Summative Assessment

I will be describing the terms summative and formative assessment according to the framework of Brown (2000). He states in his work, that formative assessment is the ongoing evaluation of students' works and the process of learning, whereas summative assessment is the final exam/test of the course, year or particular school. The difference between the two assessment methods is the extent of the evaluation. Formative assessment evaluates only smaller units of language, as well as the learning process. Summative assessment, on the other hand, measures what the students have learned during a certain period of time and how they have met the learning objectives.

The matriculation examination is clearly a summative assessment method and therefore it measures how the students have grasped the information and knowledge of what they are demanded in upper secondary school. Even though the matriculation examination is not the only assessment the students will receive in the end of upper secondary school, it is the most important one, because it will also have an effect on the student's future.

2.4.2 Gatekeeping

Because Matriculation examination is used as an entrance exam to universities, it serves also as a gatekeeper as Huhta and Hilden (2016) have stated in their research. Gatekeeping is a way of assessing which measures language competence for a qualification. It has been

created to make sure that the person has achieved a certain level of competence, which will allow them the entrance to an institution or a job, therefore it acts as a gate to the desirable goal (Brown 2013). The Finnish ministry of education and culture have been pushing for the matriculation examination to be the only entrance exam, so that the candidates would not have to go through the exhausting process of first taking the matriculation examination exam, and right after that the entrance exam. The change will be done gradually, but most of the entrance exams will be replaced by the matriculation examination by 2020 as it is explained in Hanhinen (2017).

2.5 Previous study

There are not many studies done on the digital Finnihs Matriculation examination of English since it is fairly new phenomenon in the Finnish school system. Few studies have been conducted before the execution of the first digital exams. For instance, Kitola (2014) reports in his master's thesis on the execution of the preliminary Matriculation examination of English. The pre-run of the exam was designed on the test platform WiLLE, which is a platform engineered by the University of Turku. In this study the students took the digital Matriculation examination of English and following that their opinions on the digital exam were asked. The attitude of the students who took the preliminary exam was positive towards the reform.

This has not been the case in all of the studies that concern the attitude the students have had on the digitalization of the Matriculation examination before its actual execution. In some of the studies, for example Harju (2015) the attitude and the view to digitalization has been contrary. When asked the students would have preferred the pen-and-paper version of the Matriculation examination. In this study the students had not yet taken the Matriculation examination or any equivalent exam digitally, which might have an effect on their opinion on the digitalization. As they had not gotten to try to take the digital exam before, they do not have the experience of taking it yet.

Similar results were found in the study by Tarvainen (2014). In this particular study the platform WiLLE was also used to create four different kinds of digital tasks that resemble the tasks the digital Matriculation examination could have. The students in this study thought that

the new type of tasks were interesting, but very different from the paper-and-pen version. They also thought the interactiveness and authenticity of the tasks to be an important reform. Even though the students felt that the reform is a good and necessary change only 22% of them would have taken the Matriculation examination digitally. One of the key factors for this result was the fact that they felt they underperformed in the new types of digital tasks.

The results regarding the opinions of the students on the digital Matriculation examination have varied. When the results of the previous studies are collected together and compared the results would tell us that before the execution of the digital Matriculation examination the students were made aware of the reform coming in the following years and they thought that the reform is a necessary and good reform. Nevertheless, they were unsure of taking that digital exam themselves even though they did have the chance of trying out the new task types.

3 RESEARCH AIM AND QUESTIONS

The aim of this study was to find out how the students of upper secondary school experienced the new digitized Matriculation Examination of English and what kind of expectations they had about the exam before taking it. The main research questions were:

1. Did the integrated multimodal materials have any positive or negative effect on doing the exam?

2. What kind of thoughts and presumptions of the test the students had before and after taking it?

3. Which one would the students prefer to do; the pen and paper-version or the digital version of the exam?

Although this thesis is a rather small case study and the results cannot be generalized, the topic is certainly relevant, since the digital Matriculation Examination is a new concept and the discussion about it is on-going. The perspective of the students doing the exam is often neglected since much of the research I have studied around this subject is from the viewpoint of the teachers. Therefore, this study will provide useful information about the experiences

and opinions of the students. This study can be useful particularly to educators, parents and the Matriculation Examination board. Furthermore, on a larger scale, this study will bring to light the younger generation's attitude to digitization and digital exams. It will reflect how on board they are with the current reform in the school system in Finland. Recently there have been studies like Kitola (2014), Harju (2015) and Tarvainen (2014) about the attitudes to the digitization of the Matriculation Examination before the reform, but this study will provide new insight into the topic and convenient information about the success of digitalization after the reform has started.

4 DATA AND METHODS

In this section I will report how the data was collected, as well as share some insight why these particular participants were chosen and on what the background of the participants is. I will also describe the methods of data collection used in this study.

4.1 Participants

The data was gathered with a questionnaire which was carried out in a Finnish upper secondary school located in eastern Finland. The participants of the questionnaire were 3rd-year students, who have recently taken the digital Matriculation Examination of English. The questionnaire focuses on the students' opinions and views about the digitalization and their experiences on the digital exam.

Adequate permissions were asked from the principal of the school, as well as from the Head of upper secondary school development. In addition, before starting the questionnaire the participant had to confirm that they are over 18 and give permission to use the results of the questionnaire for research purposes. All in all, 28 students answered the questionnaire and the responses were anonymous.

The gender divide in the questionnaire centered around female respondents, males covering only 18 % of the responses. Seeing that, the results will be skewed towards female opinions

on the exam. On the other hand, the gender of the respondents did not hold a particular role in this study and also the attitude towards the digitized exam was nearly solely positive.

The sample in the questionnaire survey is rather small. Thus, the results of this study cannot be generalized in Finland or anywhere else.

4.2 Data collection

The data was collected with an online questionnaire, sent through Wilma. Wilma is a website designed for communication between school and home, but it also works as a communication and notification tool between students and the school staff as it is explained on the web page of Visma, the creator of Wilma. The questionnaire was created using a website, Webropol 3.0 and it is in Finnish. The data was collected in October 2018, a week after the Matriculation Examination of English.

The questionnaire had 17 questions. Some of them were open-ended questions (qualitative), while others were multiple choice (quantitative). The student could not continue the questionnaire without answering each question. The multiple-choice questions were mostly about factors like age, gender or whether the student had previously taken Matriculation examination in a digital or non-digital form. One of the multiple-choice questions asked directly which one the students would prefer, the digital or the pen-and-paper version of the Matriculation examination. Then again open-ended question covered subjects that could be answered more broadly and in detail and questions that demanded opinion or explanation of the opinion the students had of something. For example, feelings of the exam before and after taking it and the faults and successes of the new types of tasks.

I specifically wanted the questionnaire to have a lot of open-ended questions because as it is stated in *Kieltä tutkimassa* (Kalaja et al. 2011) open-ended questions state the voice of the respondent more clearly and even though they might be demanding to analyse, the responses will be authentic, and issues might arise which the researcher has not even thought of.

4.3 Methods of analysis

The questionnaire contains mostly open-ended questions hence the analysis method is qualitative content analysis. The results have been categorized and coded in order to find similarities and differences between respondents, so that the results can be further analysed in a quantitative form. This process of analysing will be done manually, since the answers cannot be directly transferred into numbers in any program. The manual analysing consists of color coding different types of answers and then comparing the different categories.

5 RESULTS AND DISCUSSION

The questionnaire was up for five days and there were 28 respondents at the end of this period of time. The sample is quite small, but as this study is BA-thesis this is a sufficient number of respondents. I chose to do a content analysis on the open-ended questions, in other words, categorize the answers on a certain categories, which reflect my research questions.

For this part of the study, I analysed the open-ended questions and discuss the results of the questionnaire in general. The results will be compared to previous studies and to my expectations of the results.

5.1 The multiple choice questions

The questionnaire had 17 questions of which 10 were open-ended questions. The quality of the responses to the open-ended questions was unexpected. The students had answered very broadly and in detail and had plenty of opinions on the subject. There might be two reasons for this finding; first being the timing of the questionnaire. As the students had just taken the exam, they had a very clear image of the content and their own answers on the exam. In

addition, the mistakes might have been very fresh in their minds, which lead to the fact that the answers were very opinionated.

The second reason for the broad responses might be the novelty of the digital form. The students had a lot to say about the success of the digital exam, thus they answered broadly to have an effect on the future digital exams. Even though this study might not directly affect the form or type of tasks in the Matriculation Examination, it might give an insight what works and what does not work in the digital form of the exam.

I was interested in the previous exam experiences of the students. In particular, if they have done the digital Matriculation exam before, since that could have an effect on their attitude towards the digital exam of English. For most of the respondents the digital ME of English was the first digital ME they have taken, so their answers will only be based on that exam. I took these previous experiences of the digital language ME into account while analysing individual responses.

Almost 30% of the participants were retaking the English ME, which was surprising. Although, considering the fact that that the previous English ME was the first digital exam of English, it comes as no surprise, since the exam might not have been successful at the first time. The respondents who have retaken the exam have already some kind of experience in taking English ME, but the questionnaire did not specify if they had taken it digitally or as a pen-and-paper version.

5.2 The open-ended questions

When asked about the preferences towards the format in which they would take the Matriculation examination, the responses were almost completely positive towards the digital version. Only one of the respondents would rather have done the pen-and-paper-version. They had done the paper-version, as well as, the digital exam before, and hence had experienced both. The reason they would have done the exam as a paper-version was that the new form of the exam is too complicated and that they had practiced the listening comprehension previously in one way and now in the digital exam it was different.

I categorized the positive answers to four different categories: Efficiency and simplicity, easiness to write, the order and pace of the questions and the modifiability. Out of the 27 respondents four mentioned that the digital exam was more efficient and faster to do than the paper-version.

"It is more efficient, since you don't have to mess around with pen and paper."

"Everything is on the computer and you don't have to fuss around with the papers."

Of all the respondents 16 thought that it is easier and faster to write with the computer. Especially the essay answers were thought to be much faster to write and their hands did not get as tired as when writing with a pen.

"I am used to taking digital exams and I feel that writing by hand would be hard."

"It is faster and easier to write essay answers."

The pace and the freedom in choosing the order of the tasks was mentioned in 9 respondents answers. It was one of the key elements why they would rather do the digital ME. Especially the listening comprehension integrated with the written exam gained a lot of positive feedback. According to few of the respondents, the time was easier to manage also when the order and the pace of all components was in their hands.

"The digital exam gives me the power of deciding in which order I do the tasks, for example I can decide when to do the listening comprehension."

"One can listen to the listening comprehension tasks many times."

From 27 students eight mentioned that especially the essay answers are more easily modified in the digital ME. One can add and delete parts while writing the essay and modify the structure of the essay on the spot.

"The answers are easier and faster to modify, so you can focus on the subject."

"It is easier to polish up the essay answer."

I categorized also answers of the question "What are the drawbacks of the digital exam?" to five categories. First of the categories is the complexity and slowness of the digital format. Many of the respondents felt that the new structure was more complex than they had expected, in addition, the digital format had some restrictions, which the pen-and-paper version did not have, for example, it is not possible to see the whole exam at once. Few of the respondents reported that it is easy to get lost in the multiple tabs open at the same time, and therefore, some of the questions could be unintentionally be left unanswered.

One drawback the respondents were especially worried about was the different physiological problems during the exam. For instance, the respondents felt that their eyes got tired and some even reported that they got headaches since they were looking at the computer screen for six hours.

"It is a bit numbing to look at the screen for 6 hours straight."

The biggest worry the respondents had regarding the digital format of the Matriculation examination was that technological problems would occur during the time they are taking the exam. The respondents told that there is a chance of the USB-drives not working and also there could be problems with the internet connection or with the server Abitti.

"Technical problems with the USB-drives."

Technology poses also other problems in the eyes of the respondents. It has certain restrictions that the pen-and-paper version does not have. In addition, few of the respondents also mentioned that it is not possible to make notes in the digital version of the exam. Although, the students do have a paper where they can scribble notes during the exam, it is not the same as writing notes directly to the texts for example.

The respondents raised one more drawback which is the new types of tasks that were introduced for the first time in the digital exam. There were many types of tasks that the respondents might have not practiced or seen before. On the other hand, it is impossible for the teachers to come up with all the different task types that could be on the digital exam, since there are countless possibilities which the digital format enables. Moreover, the

limitations of the computer assessment were also one of the worries the respondents shared in the questionnaire.

"Automatically marked tasks can go wrong due to the reasons that do not reflect competence in English. For example, typing error or accidental pressing of the space key..."

When asked about the multimodal tasks and materials, 23 of the 28 respondents thought that the multi-modal materials were a positive addition to the ME. Five of the respondents thought that they had a negative or neutral effect on the experience of doing the exam. The audios gained most of the critique. They had been hard to understand due to the poor quality.

"Pictures and videos made the exam more interesting."

"Positive, the materials brought more depth and variety to the exam."

"...the audios were really unclear, I have heard a lot of negative feedback on them…"

The new types of tasks gained mostly positive feedback. For example, the listening-comprehension in a video format was liked among the respondents. All in all, videos and pictures were really popular among the respondents. Other types of tasks that were well-liked were for example a receipt-task, which was a task where the test-taker had to interpret medicine and match it to the right medicine bottle. These types of tasks reflect real life situations and that is why they might be successful. On the other hand, those types of tasks are hard to practice, since the teachers cannot know exactly what is on the exam.

The two new tasks the respondents disliked were a listening comprehension task where they had to interpret the politeness of the speaker's tone of voice and a matching task where they had to match the word to the right explanation. In most of the cases the reason for the dislike was the discomfort of a new task type.

"I did not like the interpret the tone of voice-tasks because one cannot practice them."

The questions about awareness of different types of tasks and if they had been practiced beforehand could be linked together and as it can be seen in Figure 1: Awareness and practice of the new types of tasks there was a difference between knowing about different task types and actually having practiced all of them.
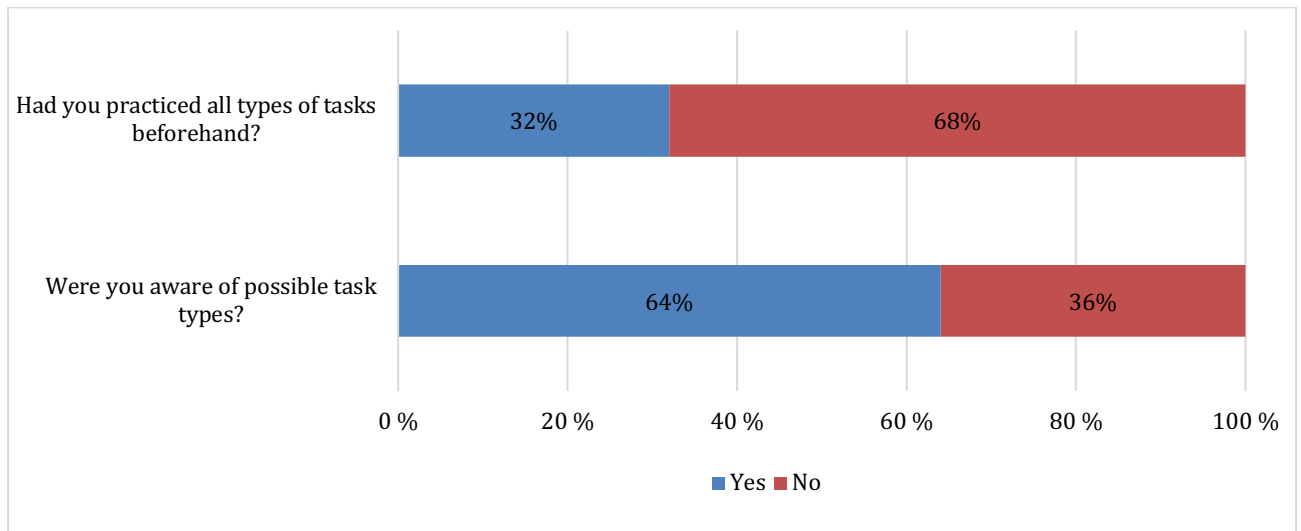

Figure 1. Awareness and practice of new types of tasks

According to the questionnaire the students were aware of the possible task types, but they had not practiced the different types of tasks that might be in the ME. The range of task types that are possible due to the digitalization of the ME are much more varied than the ones in a paper exam, for that reason it is difficult to practice them all.

The last question covered one of my research questions directly. I asked the respondents how they felt before going to the exam and what kind of expectations they had about the exam. The feeling I got from the questions was that the respondents were nervous about the possible complications in the digital exam, but other than that they had a neutral or positive view of the exam and how it was going to be. Some of the respondents were enthusiastic about the digitalization because it enabled many new and "exotic" types of tasks to be in the exam.

"I was little bit of nervous if the all the equipment would work."

"I was nervous, not because of the digitalization, but because of the situation."

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All in all, the results of this questionnaire were very positive towards the digitalization, unlike in the previous studies, which had been made before the digitalization. According to some previous studies e.g. Harju (2015) before the digitalization the students were unsure and very critical of the digital ME, but at least the third-year students participating in the present study had accepted that the format of the ME has changed, and they discussed the advantages and drawbacks of the new format in a positive manner. They had a lot of improvement suggestions, which means that they would like the digital exam to work even better. The biggest change of attitude was that the participants preferred the digital format over the pen-and-paper version of the ME.

6 CONCLUSION

In this chapter I will draw some conclusions on the basis of the questionnaire and compare them to the research questions I had. Furthermore, I will compare the conclusions to previous studies made on the subject. Finally, I will suggest further studies that could be made on this phenomenon and discuss what the limits and points of improvement for this study are.

The main research question was whether the students would do the Matriculation Examination as a digital exam if they had the choice. The answers were clear. All but one of the respondents preferred the digital exam over the paper version. This attitude and opinions of the students have shifted completely from the studies that have been conducted before the digitalization. This is of course partly explained by the fact that the students in the present study had actually taken the digital exam at least once. The students in the previous studies did not have experience in taking the digital Matriculation Examination, which is why they might have felt uncertain about the format and the possible new tasks.

On the other hand, in the study of Kitola (2014) the results were on the positive side in regard to digitalization. In the study the students had taken a beta version of the ME (ViLLE). In this light, the familiarity with the digital format and the experience of doing it has a positive effect on the opinion towards digitalization. Unknown is scary and therefore the more prepared and familiar with the digital format the students are, the more positive view they have towards the digitalization.

The multimodal materials played their part on the positive feedback on the exam. The general opinion of the students was that the multimodality of the ME made the exam much more interesting to do and the integrated listening comprehension was a good reform. There was also a significant number of students that thought that the multimodality had zero effect on taking the exam. The question in itself was not very good, because not many of the students had done the paper exam, so it is impossible for them to compare the two formats. The students who had done both the paper-and-pen version and the digital version preferred the digital one and also thought the multimodal materials improved the test, so in that sense, the multimodality had a positive impact on doing the exam.

The possible drawbacks of this study could be the small number of participants. Also, the fact that this is one of the first times the digital exam of English has been executed. Further study should consider a larger number of students so that the results could be better generalized and furthermore this topic could be studied for a longer period, so that the development of the digital exams could be seen as a factor when the attitude of the students is studied. For further study, a physical questionnaire, which the researcher or the research assistants would conduct, would be a more reliable way to get everyone to answer truthfully and in detail.

The negative opinions on the exam were almost all due to the new type of exercises which did not work perfectly or to the technical problems, which might be resolved for the future exams. Although, the risk of technical problems will remain, but the schools should be better equipped to deal with these kind of problems. The new types of tasks will be also hopefully improved according to the feedback the exams receive.

Finally, it appears the digitalization of the Matriculation Examination has been accepted by the students and they do not have a negative attitude towards the fact that everything is done on the computer, at least not in the ME of English. Languages are some of the subjects that easily transfer to a digital format, since new types of tasks that can be done on a computer support the approach of languages being a tool for communication and the fact that language is used in day-to-day situations.

The perspective of the students is crucially important in developing the digital Matriculation examination further. The exam is a major milestone in their academic career and in the future the exam will play a bigger part in deciding whether they are accepted into universities or to other higher education. As the Matriculation examination has such a big role in the future of the students, it should be designed to fit their language goals and needs, as well as, be a good example of the ongoing digitalization of the school system and working life.

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