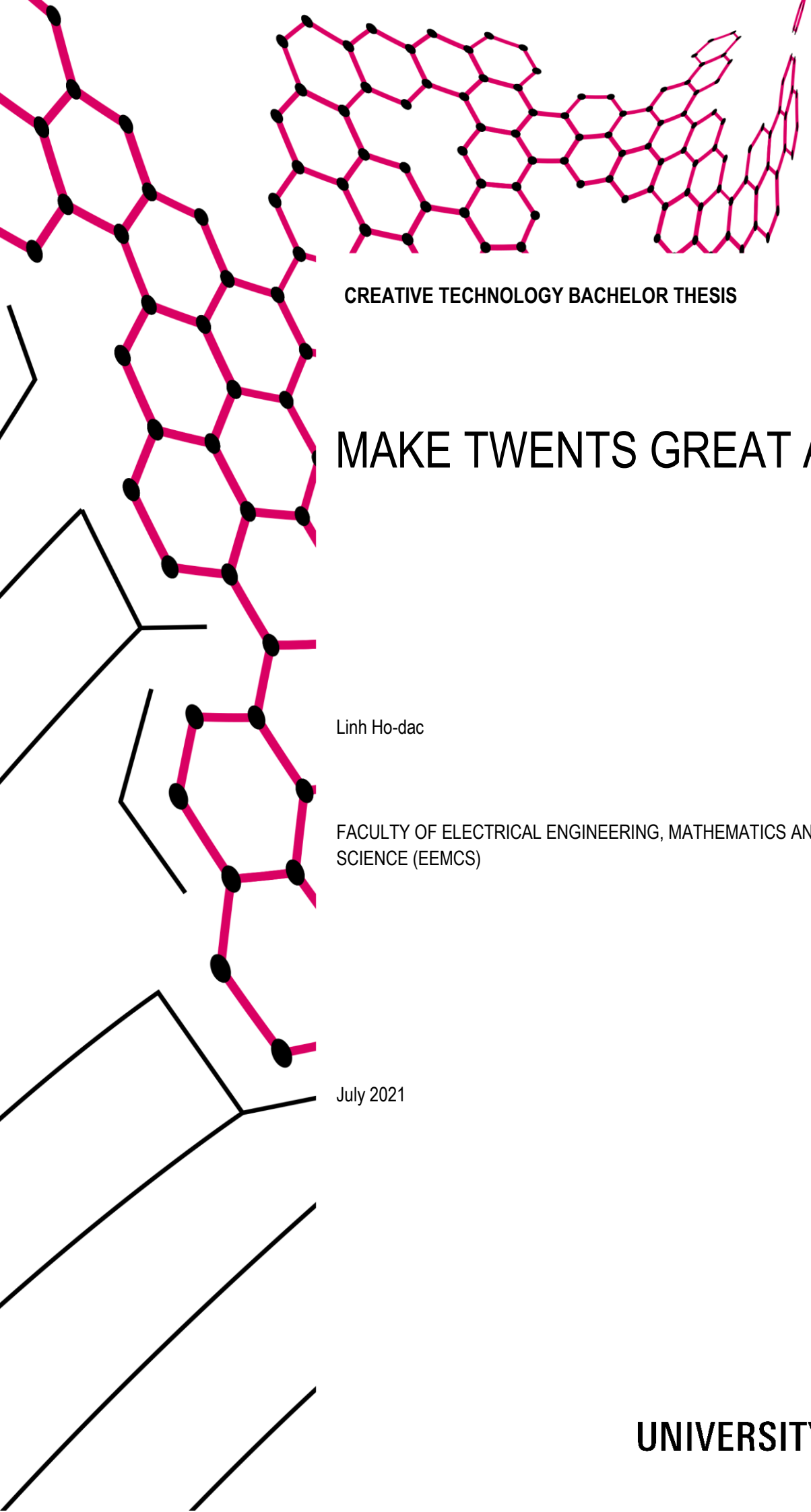

CREATIVE TECHNOLOGY BACHELOR THESIS

MAKE TWENTS GREAT AGAIN

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ABSTRACT

Twents is a dialect from a region in the east part of The Netherlands called Twente. Twents belongs to the language Low Saxon and is threatened with extinction because people stop speaking it. Research suggests that the problem is best tackled at the roots: children. Here we investigate what system can make the youth (8-12 years old) appreciate Twents more. The Creative Technology Design Process by Mader and Eggink (2014) was used during this research. Interviews were conducted with 5 experts within the field of Twents, education and playful learning. In addition, brainstorms were conducted with a group of 7 students and with a group of 3 experts. By using the method creative matrix, many ideas were generated and placed into a how-now-wow matrix. By voting on the ideas and reviewing them based on important aspects from research and interviews, the final idea of a cards collection campaign called Rap Plat was chosen. The cards have six categories: Influencers from Twente, Food, Words, Events, Popular Places and Trips. On the back there is a Twents text that tells a story. The user can scan a QR code on the card which will lead them to an audio fragment that reads the text aloud and gives the translation. An application was added wherein the user can collect all the cards and get extra's such as videos and recipes. A user test was then performed with 5 future users (aged 8 to 10) and the results suggested that Rap Plat teaches children successfully about Twents and that the application that was made was very usable for the children. It is expected that Rap Plat will make the youth (8-12 years old) appreciate Twents more to create a more positive attitude towards Twents to prevent extinction of the dialect.

TOKEN OF APPRECIATION

I would like to thank several people who have helped me during this graduation project, without them this would not have been possible. I would like to start with thanking my supervisor Dr. Femke Nijboer. Her motivation, personal interest in this subject and her critical view helped me a lot during this research. In addition, the fact that Femke Nijboer recorded the audio for the cards was a lifesaver since I cannot speak Twents myself. Secondly, I would like to thank my critical observer Sefora Tunc for giving me a lot of feedback and guiding me during the time that Femke was not present. I am very pleased with the guidance of my supervisor and critical observer, the meetings were very friendly and 'gezellig' but still very informative and focused. Next, I would like to thank all the people that were willing to share their knowledge with me which helped me to finish this thesis: Willemijn Zwart, Wiro Kuipers, Eline Harleman and Adrie Hemmink. Lastly, I would especially like to thank Adrie Hemmink for translating the Dutch sentences to Twents, because I could not have done that myself.

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1. INTRODUCTION

According to Moseley (2017), 228 languages are already extinct, 577 languages are critically endangered, and even more are either severely-, definitely endangered or vulnerable. In other words, languages disappear. They die when people stop speaking them. This is also happening with Twents, a dialect that is being spoken in the region Twente in east Holland. Twents belongs to the regional language Low Saxon, which is mostly being spoken in Drenthe, Groningen, Gelderland and Overijssel. Besides the dialect Twents, there are many more dialects within the region of east Holland such as Drents, Sallands and Achterhoeks. Low Saxon is considered vulnerable (Moseley, 2017) meaning that all the dialects within Low Saxon are within this category or even more critically endangered. The amount of people that speak Twents has decreased over the past decades (Driessen, 2012; MIKR, 2018), because people have stopped speaking Twents.

This has to do with different factors, one of the main reasons can be considered the image and preconceptions that speaking Twents has. First, there are negative stereotypes around speaking a regional language which has an influence on the number of people that speak the dialect (Collins, 2000). These stereotypes include being unprofessional, countrified *(in Dutch: boers)*, having a lack of assertiveness and to be narrow-minded (Veerbeek, 2018). Second, Low Saxon is little used in formal settings such as education, media or politics (Veerbeek, 2018; Braak, 2020). Nijen Twilhaar (2003) adds that because of globalisation, television, radio and increasing mobility of mankind, people nowadays tend to communicate more outside of their domain. Therefore, the standard language is considered more suitable than their own language and/or dialect (Nijen Twilhaar, 2003). This prevents people from talking their language in the formal settings.

According to MIKR (2018), it is desirable to improve the image of Low Saxon and to stimulate and reinforce its usage. It is important to preserve the language because there are benefits to speaking regional languages. When an individual speaks a regional language in an environment that also speaks this language, the individual will be confirmed to his/her group. This brings a feeling of recognition from which the individual can derive a positive identity (Boves&Gerritsen, 1995; Verkuyten, 2010). As a result of them speaking the same language and forming a group, they take their specific norms and values as a starting point. In addition, regional language connects more than that it divides; people of different ages for example are connected more easily (Braat, 2020). Thus, it was found that speaking a dialect makes people feel connected. Speaking the same language creates a cultural, regional group with their own norms and values to which an individual can belong (Brookman, 2018; Braat, 2020). Within the region of Enschede, there are many international students. One could be critical about this, because what effect will the regional, cultural group have on the internationals? Within this research, the focus is not on the international students and it is not expected that by increasing the popularity of Low Saxon, this will have a negative effect on internationals.

To preserve a language, younger generations must learn to speak Low Saxon (MIKR, 2018). According to Visser (2020), children have the ability of learning new languages easily and that society and communities should use those qualities to prevent the dialects from extinction. Therefore, the target group for this research are children within primary education, more specifically between the age of 8 and 12. This age is chosen because children of that age know their basic skills of Dutch and have the ability to understand and learn new languages (Zwart, 2021). According to Braat (2020), protecting and promoting Low Saxon is in its start-up phase, this means that more research needs to be done on this topic. Accordingly, this research focusses on how to preserve the Twents dialect by introducing children in primary education to Twents by using technology in an innovative and creative

way. It should be noted that Twents is taken as an example, but the research should be applicable to all the dialects within Low Saxon.

1.1 GOAL AND RESEARCH QUESTIONS

The goal of this research is to come up with a technological solution that will increase the popularity of Twents by introducing children in primary school to the dialect.

Therefore, the main research question follows:

What system can make the youth (8-12yrs) appreciate Twents more?

To gain a better insight in why to preserve Twents and into the relation between children, technology and education, the following sub question was composed:

What technical system works best for children in order to learn?

I will address these questions with the Creative Technology Design Method to develop a user-centred solution to preserve Twents.

1.2 STRUCTURE OF THE REPORT

The research contains eight parts. Chapter two discusses the state of the art, meaning all the existing works. In addition, the sub question will be answered through literature research. Chapter three will be about the method used for this research; this part will clearly explain the Creative Technology Design Process which are all the steps taken to be able to make and evaluate the prototype. Third is chapter four where the first step of the Creative Technology Design Process is explained: The Ideation phase and includes brainstorms and interviews with experts. After that, chapter five follows with Specification where the idea is further specified by use of personas and scenarios. Chapter six is about creating the prototype and explaining design decisions: The Realisation phase. Following with the Evaluation phase in chapter seven where the evaluations are explained, and results are discussed. This chapter leads to the final chapter eight where the key findings of the research are listed and discussed and implications, limitations, strengths and future work are stated.

2. STATE OF THE ART

Within this chapter, the current state of the art and an attempt to answer the sub research question mentioned in the introduction will be discussed. The structure of this chapter will be as follows: the first section will discuss existing works for learning and promoting Low Saxon. The second section will discuss initiatives for learning other languages such as endangered languages but also actively spoken languages. Thirs, different technologies used in education are compared with traditional classroom teaching concluding with a table with pros and cons of each technology. Lastly, a concluding section will summarize the findings of the state of the art.

2.1 EXISTING WORKS LOW SAXON

There have been several attempts to educate people on Low Saxon and/or dialects. Within this chapter, existing works such as apps, magazines and interactive playgrounds are discussed.

2.1.1 WOORDWIES

The first system is an application called 'Woordwies'. This app was made by cooperating Low Saxon regional language organisations such as Centrum Groninger Taal en Cultuur, Huus van de Taol and Twentehoes, to be able to integrate all the dialects within Low Saxon within the app. When one opens the app, the front page shows the latest Twitter feed on Low Saxon. Within the game itself, one can choose which Low Saxon variant they want to play. A word will be shown and the task is to give the Dutch translation by choosing from a set of letters. The game provides correct letters as a helping hand to the right answer. With the right translations, points can be earned that lead to prizes: beautiful pictures from the Low Saxon area. Figure 1 shows the app Woordwies (Woordwies - Apps op Google Play, 2020).

The design of this app is not directed at children, but more tailored to adults. Also, the overall usability is acceptable but the application does not sustain repetitive use. Reason is that for the user, there is not a goal that they can reach besides the pictures that they can earn, which does not support the overall goal of maintaining the language. In conclusion, the aspect of motivating the user to keep playing and giving them a goal to work towards is lacking.

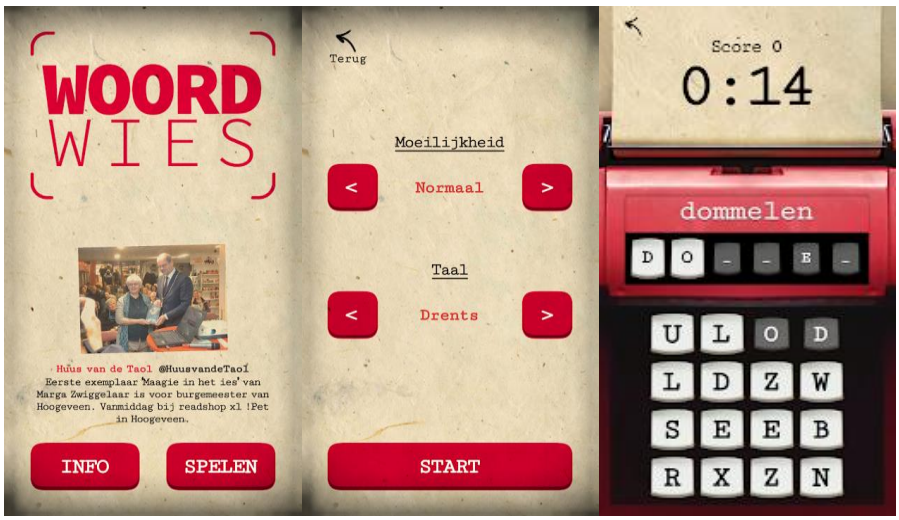

FIGURE 1: THE APP WOORDWIES

2.1.2 WIESNEUS

Secondly, the Huus van de Toal is a regional language organization that focuses on the Drents' dialect of Low Saxon. They created 'Wiesneus' which is a website and a magazine that provides teaching

materials for primary education. On the website, one can find ‘speulenderwies Drents’, which roughly translates to playfully Drents. It provides a variety of different activities for children or teachers to use. There are stories, quizzes and games which all have been pre-recorded to demonstrate the exact pronunciation of the words. Figure 3 shows a page of the website Wiesneus.nl. In addition to the website, Wiesneus publishes an annual magazine (Wiesneus | Twentehoes, n.d.). Within this magazine, poems, songs, recipes and other child-oriented subjects are presented. The unique part of this magazine is that it gets published in all the different dialects within Low Saxon. Figure 2 shows some pages of the magazine Woordwies in the Twents dialect.

An advantage of Wiesneus is that it has a tangible counterpart to its website. However, what lacks the magazine but is well integrated into the website is the fact that all the Twents’ words are read aloud. This way, a parent or teacher does not have to speak the dialect themselves since the website provides the right pronunciation. In addition, since Wiesneus magazine is only published once a year, this is not a continuous promotion of Twents.

FIGURE 2: COVER AND 2 PAGES OF THE WIESNEUS MAGAZINE

FIGURE 3: WEBSITE WIESNEUS, THEME 'OP REIS'

2.1.3 PLATKUIERKWIS

Thirdly, there are not only applications or magazines, but there is also interactive playground equipment made by company Yalp in cooperation with Herman Finkers. Yalp is a company that makes interactive playgrounds for children and Herman Finkers is a Dutch comedian, actor and singer from Twente. Together, they made the ‘Platkuierkwis’. It intends to introduce youngsters to dialect. Herman Finkers recorded questions and answers in Twents and Dutch, most of the questions are of the sort: “what does ___ mean? A.., B…”. The children then have the task to run to the right pillar and push the button. Figure 4 shows a picture of the playground (Janssen, 2018).

This system is a unique approach to promoting Twents. Children are very actively engaged with the system. A disadvantage of this installation is the fact that it is not mobile, so children can only play this where it is placed.

FIGURE 4: THE PLATKUIERKWIS

2.1.4 CONCLUSION

In conclusion, at the moment there are 3 main initiatives for educating children on the Low Saxon language, with the focus on Twents. These include a highly interactive playground installation, a magazine with songs and puzzles and a play-based app. All the systems have some pros and cons; the Platkuierkwis is very interactive but not mobile, Wiesneus magazine does not provide the right pronunciation and is only published once a year and Woordwies is not very well-design regarding user experience. Overall, there is a lot of room for improvement and for other initiatives to promote Low Saxon.

2.2 INITIATIVES FOR LEARNING NEW LANGUAGES

Besides the systems and ideas that were made for promoting Low Saxon, inspiration can also be derived from systems that were made to promote or teach other endangered and actively spoken languages. This chapter discusses systems made for other endangered languages and for actively spoken languages, meaning languages that are still actively being spoken by many people.

2.2.1 SURYOYOTALK

First of all, the application 'Suryoyotalk'. This app is made to teach people the language Surayt, which is a language that is only spoken by about 250,000 people in the world (Šlomo Surayt, n.d.). Suryoyotalk is not specifically focussed on children but more on anyone who would like to learn (about) Surayt. The app provides a translate program, the game hangman, Surayt music with lyrics and translations, Surayt lessons and Surayt resources.

This app is a way to promote an endangered language by using modern technology. Noticeable is that this app provides many functionalities that give background information on the language. In addition, by including the game hangman, a fun aspect is added to the application.

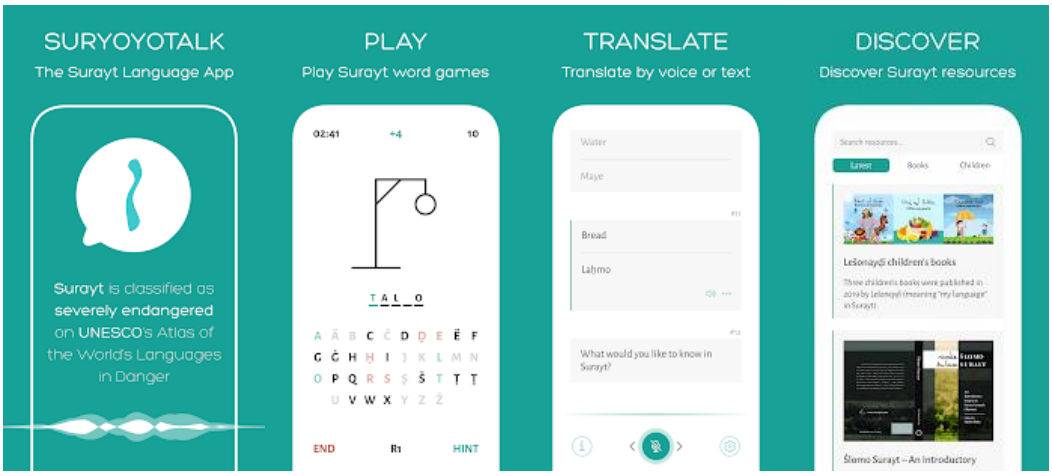

FIGURE 5: SURYOYOTALK APPLICATION

2.2.2 INITIATIVES FOR FRIES

There is a second regional language in the Netherlands called Fries. In comparison to Low Saxon, Fries is actively spoken by the inhabitants of Friesland. It provides successful examples of how to teach the dialect to children. According to De Fryske Taalatlas 2020 (2020), 57,3% of the people living in Friesland has Fries as their native language and between 60% and 67% can speak Fries very well.

For learning Fries, there are several existing initiatives, this paragraph discusses 3 of them. First, 'Tomke' (see figure 7) is an app for children between the age of 2 and 6. The app provides stories (Ferhaaltsjes), games (Spultsjes), songs (Ferskes), radio and short films (Filmkes) (Boartsje mei Tomke - Apps op Google Play, 2019). With all these different options, the children can either pick up some words through listening or through an interactive way by playing games. Second, the app made by Omrop Fryslân is the app 'Omrop Fryslân Tsjill app' (see figure 6). This app provides audio and video for children. The unique thing about this app is that it selects material based on your age with a maximum age of 12 years old (Omrop Fryslân Tsjil - Apps op Google Play, 2020). Lastly, there is an augmented reality app that can be used in the city of Leeuwarden. Within this app called 'Lân fan Taal', one can walk through the city and solve mysteries and puzzles. This is a fun way to integrate some culture, but the downside is that the application is not entirely focussed on learning Fries but more on being interactive with the surroundings of Leeuwarden, meaning that the game can also be played in Dutch or English (US: Lân fan Taal in de App Store, n.d.). Nevertheless, this application integrates the culture of Leeuwarden and therefore can be of value for this research. These three initiatives for the Fries' language are examples of what can also be made for Low Saxon.

An app with stories, videos, games and songs, an app that provides Fries' videos based on your age and lastly an augmented reality game that lets you dive into the history of a city in Friesland are

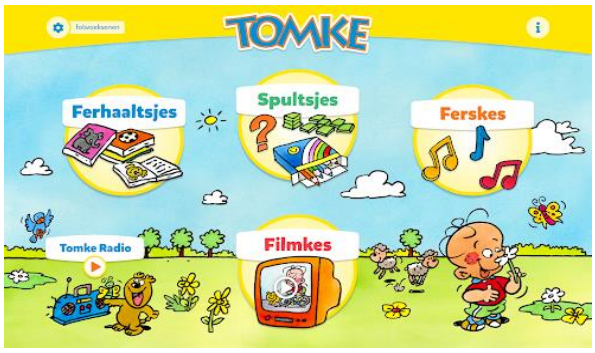

FIGURE 7: TOMKE APPLICATION

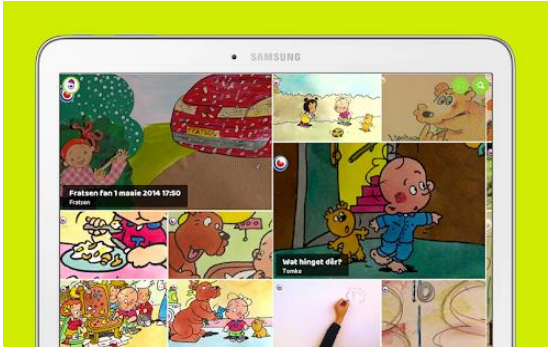

FIGURE 6: OMROP FRYSLAN TSJILL APP

great examples of how to use technology to promote a language. Tomke in particular is a very good example of providing the language in different forms.

2.2.3 Video streaming and Podcasts

ABC Australia has two platforms for children to learn new languages. 'Play School Storytime' is an online streaming platform with videos for young children. 'Play School Storytime: Languages' provides 5-10min episodes where they tell stories in different languages such as Mandarin, Arabic, Italian and Japanese. A different series is 'Languages of our Land', which relates to this research. Australia has the Aboriginal language Yugambeh, in these episodes of less than 2 minutes, children can actively learn words from this language from South East Queensland.

Second, 'Kids Listen' features the diverse languages of Australia and with this platform, ABC wanted to reflect their multicultural population onto the children. Kids Listen provides videos of people teaching languages, but it also provides podcasts and storytelling (Rogers, 2019). One of the podcast series is made by Little Yarns, a co-listening podcast series for pre-schoolers. Little Yarns explores the languages, stories and countries of Indigenous Australia. ABC has made two platforms with audio and video for children, interesting is that Australia has an aboriginal language that

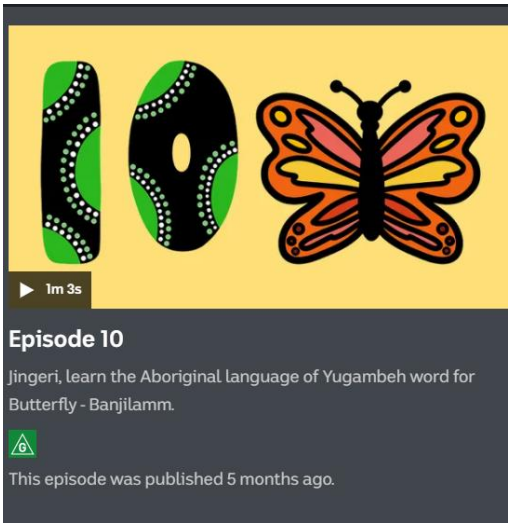

Figure 9: Episode from ABC Play Kids Storytime: Languages of our Land

Figure 8: Episode from ABC Play Kids Storytime: Languages

promotes and teaches children about within their early phases of life (Rogers, 2018). The use of audio and video is nice for parents and educators, again because of the fact that they do not need to have the language skills themselves. To improve these systems, an interactive aspect would probably let the children engage more into learning words and sentences in the new language.

2.2.4 ELLA

A digital, play-based program for pre-school children that can be integrated into the pre-school program is what the Early Learning Languages Australia (ELLA) provides. Ella provides 13 language programs which include 7 play-based apps, newsletters, discussion groups for educators, program guides and printables such as posters and games. When an educator starts using ELLA, they receive a starter kit with printables and guides on how to use the apps and a program guide. This program is a very good example of how to start teaching young children new languages (How ELLA works, n.d.).

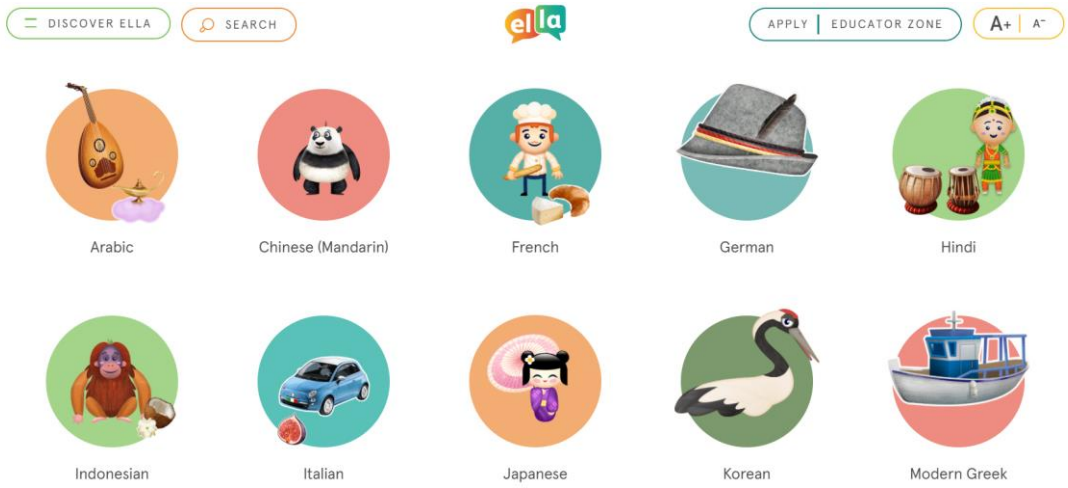

FIGURE 10: SCREENSHOT OF THE ELLA PLATFORM

2.2.5 FLUENTU

The following resource is not focused on children, nevertheless, it is a unique way of teaching a new language. FluentU takes real-world videos and turns them into personalized language learning lessons. Music videos, news reports or other videos, FluentU provides translations and subtitles. If you want to know more about a word, you can click on it and more in-depth information such as in-context definitions and example sentences will be given (FluentU, n.d.) . FluentU claims that by using real-life videos, the user will learn to speak like native speakers.

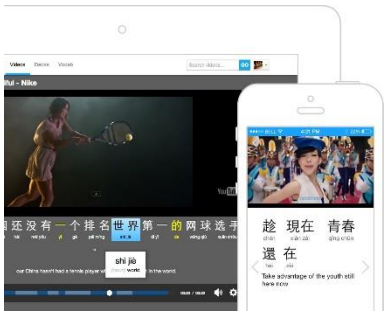

FIGURE 11: FLUENTU APPLICATION

Lastly, there are many videos online with songs or rhymes that can help to learn words and sentences in a fun way. These are also a part of the state of the art and a source of inspiration for this research.

2.2.6 CONCLUSION

To conclude, there are many ways to teach children a new language. When comparing the systems made for endangered languages and for actively spoken languages, one can see some differences. First of all, there are not so many systems for endangered languages found which indicated that there are not so many systems made or they are not easy to find and therefore not popular. In addition, the systems for endangered languages give more information on the background of the language. Systems for actively spoken languages exist as various technology types: apps with games, video, audio, augmented reality, but also entire preschool program guides. Based on the different technologies that were found, a literature review was conducted to determine the most effective teaching method out of these, this is stated in chapter 1.3.

2.3 TEACHING CHILDREN

Within this research, the goal is to teach children a language by using technology. The technology must therefore match the target group and its environment. To do so, this chapter compares different technologies used in education with classic classroom education. Literature research will be performed to see what the pros and cons are of different techniques to teach children. Lastly, a table is formed for a clear view of the pros and cons of all discussed technologies and classic education.

2.3.1 AUGMENTED REALITY

Akçayır, M., & Akçayır, G. (2017) defines augmented reality (AR) as "a technology which overlays virtual objects (augmented components) into the real world. These virtual objects then appear to coexist in the same space as objects in the real world"(p.1). According to Alkhattabi (2017), augmented reality offers an efficient way to visualize abstract concepts and it supports interaction and engagement of the user. Virtual annotations and illustrations can enhance understanding. Fotaris, Pellas, Kazanidis, & Smith, (2017) concludes the main advantages of the use of AR in primary education are knowledge gain, increased motivation, augmented interaction and enhanced collaboration. Nevertheless, AR requires an appropriate ICT infrastructure and IT skills for good understanding since AR is complicated and often encounters technical issues (Fotaris, Pellas, Kazanidis, & Smith, 2017; Akçayır&Akçayır, 2017). Besides, the design is often bulky since not much research has been performed on how to improve the AR experience. Lastly, it was found that there is a high chance of needing extra lecture time when using AR.

2.3.2 VIRTUAL REALITY

Virtual reality (VR) can be described as a simulated experience that can be similar or different from the real world. According to Peng (2020), most people are very supportive of VR technology, they generally understand and think about VR. This technology can bring more enlightenment and imagination to children in education. VR makes teaching simpler, happy and efficient, which is most applicable for more abstract courses such as macroscopic topics such as the universe (Peng, 2020). Another example where VR is already successfully being used are in history classes: going on a field trip to ancient Spain. Kavanagh, Kavanagh, Luxton-Reilly, Wuensche, & Plimmer, (2017) states that VR is more conducive to the absorption, understanding and acceptance of children. Nevertheless, teachers point out that VR should only be a supplement to traditional education methods, not a complete replacement. Problems with VR are the costs, insufficient realism, software usability, lack of feedback and the risk of it not being educationally designed that it creates a lack of engagement. (Kavanagh et al., 2017)

2.3.3 APPLICATIONS

It was found that using a digital tablet with apps improves children's verbal literacy skills (Neumann&Neumann 2014, as cited in Otterborn, Schönborn & Hultén, 2019). Pros of using apps in the classroom are flexibility, participatory, collaborative learning, adaptability for various activities and usability. Nevertheless, there are shortcomings in resources available for the meaningful integration of tablet use. Meaning that teachers want training in how to integrate tablets in actual pedagogical practice and classroom environment (Otterborn, Schönborn & Hultén, 2019).

2.3.4 CLASSROOM

Lastly, traditional teaching will be discussed on its pros and cons. In comparison with the other discussed technologies, classroom teaching mainly lacks the motivational point. It was found that this way of teaching is old and therefore people find it boring and less motivating (Tucker, 2020). Looking at the other points such as amount of research done and ease of use, this method is very practical.

2.3.5 COMPARISON OF TEACHING METHODS

According to Tucker (2020), the technology used in education is supposed to touch on four different aspects of learning: active engagement, participation with others, frequent feedback and connection to the content. But Akçayır&Akçayır (2017) also highlights the ease of use regarding user experience

and technical issues. Otterborn, Schönborn & Hultén (2019) add the importance of motivation and the amount of research that has been done on the technology's effectiveness and guidance for teacher to use the technology.

Based on the literature review, the teaching methods have been compared in table 1. Per important point and type, it is stated whether that point is a pro for the type of technology or whether it is a con. A plus shows that it is a pro, a minus shows that it is a con for that type of technology. It should be noted that these pros and cons are based on the literature above but are not measured or calculated. This table acts as an indication for showing the best type of technology to use in education.

TABLE 1: INDICATING TABLE WITH PROS AND CONS OF TECHNOLOGY TYPES IN EDUCATION

Type	Ease of use	Motivational	Frequent feedback	Amount of research done	Active engagement	Connection to the content	Participation with others
AR	-	+	-	-	+	+	-
VR	-	+	-	-	-	+	-
Classical	+	-	+	+	+	+	+
Applications	+	+	+	+	+	+	+

2.3.6 CONCLUSION

From the table, it can be concluded that the best technology to use for teaching is an application. The ease of use, no difficult technological skills are required, the active engagement, the amount of research done, and the other points stated in the table support this conclusion. Therefore, the sub research question "*What technical system works best for children in order to learn?"* is answered. Classical teaching is the second-best option for teaching, but its main downside is that it lack motivation, something that is very important in this research. Augmented and virtual reality both are not suitable for the classroom since they require technical skills in addition to the fact that there has not been enough research on how to integrate these technologies correctly into the classroom or its effectiveness.

2.4 CONCLUSION STATE OF THE ART

One can conclude from this chapter that there are many existing ways for promoting a language. The systems made for promoting Twents are not all user friendly and often lack the right pronunciations of the words which is of great value for parents and teachers to use the system. Overall, there is room for many other initiatives and improvement of the existing systems. Looking at systems for endangered languages, there are not many to be found which indicates that there are either not many made or that the majority is not well designed and therefore not used. There are on the other hand, many systems made to learn actively spoken languages. They come in many technology forms such as apps, programs, podcasts and video. Because these different technologies were found, a literature research was performed to determine the best form of technology that could be used in primary education. It was found that applications would be the best technology to use in education partly due to its ease of use and motivational nature, this answers the sub research question from the introduction: *What technical system works best for children in order to learn?*

3. METHODOLOGY: CREATIVE TECHNOLOGY DESIGN PROCESS

Within this section, the method for this graduation project is described. The Creative Technology Design Process (Mader & Eggink, 2014) is explained and how this is applied within this research.

3.1THE DESIGN PROCESS

Within this research, the design process as described by Mader and Eggink (2014) is used. Therefore, this section discusses how the research question will be answered according to the Creative Technology Design Process. The design process consists of four phases: Ideation, Specification, Realisation and Evaluation. The realisation phase is not described within this chapter since there is not scientific method to perform; it is solely making the prototype. Figure 12 shows a visualization of the design process for my research.

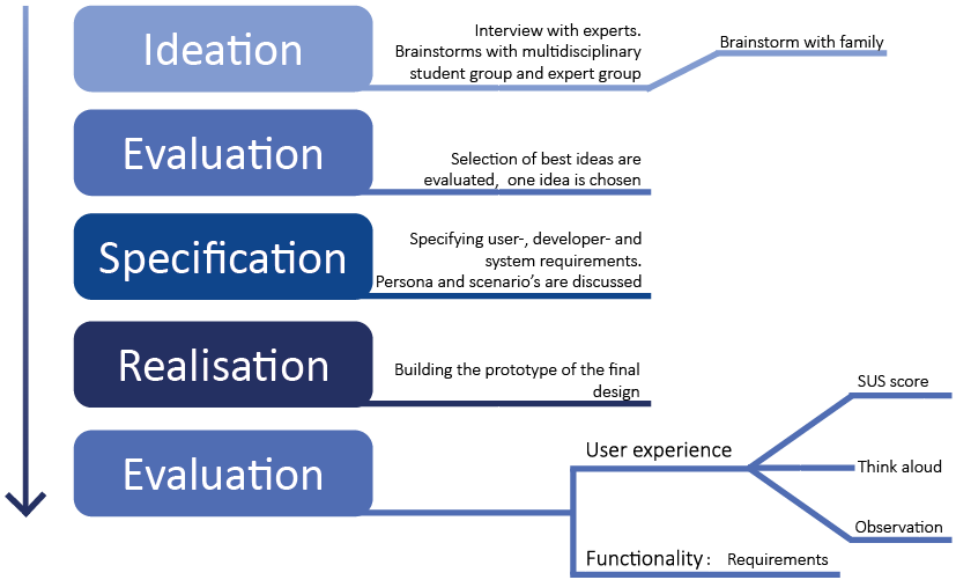

FIGURE 12: MY DESIGN PROCESS

3.1.1 IDEATION PHASE

The ideation phase has the goal to learn about and to understand the user to be able to set up requirements within the specification phase. Therefore, this phase aims to get a more elaborated impression about the product with possible ideas and requirements. The used methods in the ideation phase are interviews with experts and brainstorming.

INTERVIEWS

With the aim of getting a better idea of the situation of Twents within education, to get more insight into playful design and to hear people's opinion on Twents, interviews were conducted online (Microsoft Teams and Google Meet) with five experts (see table 2). These experts all had a different relation to the problem stated in this report which gives multiple perspectives on the problem. The interviews were all semi-structured, because within the ideation phase the goal of the interview was to gain as much information as possible from the interviewees without them only giving answer to the pre-set questions. The interview questions can be found in Appendix D. Almost all interviews were recorded after getting verbal consent. Afterwards, notes were taken from these recordings. From the

notes, quotes were taken from which them codes were identified. These were then colour-coded to get a clear view of all the information and to be able to compare the interviews with each other more easily. For the interviews that were not recorded, only notes were taken during the interview.

TABLE 2: EXPERTS THAT WERE INTERVIEWED

Participants
Willemijn Zwart (female, 46, educative designer)
Eline Harleman (female, 22, student creative business master)
Wiro Kuipers (male, +/- 45, playful facilitator at Zin in de Zaak, using playful interventions and gamified solutions)
Adrie Hemmink (female, 46, Twentehoes)
Veronique de Tier (female, +-60, Linguist at University Gent)

BRAINSTORMING

As one of the goals of the ideation phase is to generate multiple ideas to find the most suitable and creative solution for the problem, two brainstorm sessions were held with two different groups. Table 3 shows more detailed information on the participants of the brainstorms. The first group consisted of seven students from different studies and the second group consisted of the same experts that were interviewed earlier. The student group consisted of students between the age of 20 and 24 from the following studies: integral safety science, technical medicine, creative technology and forensic investigation. This group was diverse which gives different perspectives of the problem. In addition, most of the students (3) were from creative technology, which was useful since they had experience with innovative technology. Therefore, this group was different from the expert group, creating an excellent brainstorm.

Because of COVID-19, the brainstorm sessions were conducted online through video calling and by use of the platform Mural. This platform was used as an online whiteboard and virtual space where all the participants could work simultaneously. Both groups received information about the research a day before the brainstorm so that they had an idea of what the brainstorm was about. The expert group received more additional information about the skills of Creative Technology students, since this creates a better framework of the possibilities. The brainstorms were prepared beforehand, and the following schedule was adhered to: introduction, energizer, creative matrix, first voting, how-now-wow matrix, final voting. From the brainstorms, many ideas came forward, which can be seen in chapter 4.1. From these ideas, one idea was chosen, this process will be discussed in chapter 4.2.

TABLE 3: BRAINSTORM GROUPS

Student group (gender, age, study)	Expert group (gender, age, profession)
P1 (female, 22, technical medicine master)	Willemijn Zwart (female, 46, educative designer)
P2 (female, 20, technical medicine bachelor)	Eline Harleman(female, 22, student creative business master)
P3 (female, 21, forensic investigation)	Wiro Kuipers (male, +/- 45, playful facilitator at Zin in de Zaak, using playful interventions and gamified solutions)
P4 (male, 24, integral safety science)	
P5 (male, 21, creative technology)	
P6 (male, 21, creative technology)	
P7 (female, 22, creative technology)	

3.1.2 Specification Phase

The specification phase offers a clear overview of all the components that are present in the system. These include a user experience specification and a technical specification. To specify the user experience, scenarios and a persona will be used. A scenario is made for every different interaction that the user might have with the system. A persona is made to define the user and its needs. A system architecture will be used for the technical specification. This architecture will show how all components of the system will interact with each other. Lastly, a list of requirements will be set up to incorporate into the first prototype. These requirements include not only the user requirements, but also developer- and system requirements

3.1.3 Evaluation Phase

Lastly, the evaluation phase is there to evaluate on two different aspects of the prototype. First, functionality will be tested by checking whether all the requirements are met. Second, a user evaluation will be performed to find out what the user thinks of the system. Because the user test was performed with children, research was performed to find the best method for this evaluation. Jean Piaget's theory on cognitive development is very useful for user experience studies with children. Figure 13 shows a diagram with child development and user experience methods (Piaget, 1964). The end user group for this research falls within the category 8-11 years, the concrete operations. According to Piaget (1964), a user test is possible, but the questions need to stay simple. The user will be able to answer questions and form a basic opinion. Khanum (2012) does argue that usability evaluation methods that involve only verbalization will be too strict for the children. Therefore, flexible approaches in which the child can express emotion, thoughts and opinions in activities will work better. Lasty, Khanum agrees on the fact that children's logical thinking and reasoning capabilities is not fully developed and Khanum points out that relying on one type of evaluation method may not be a wise decision.

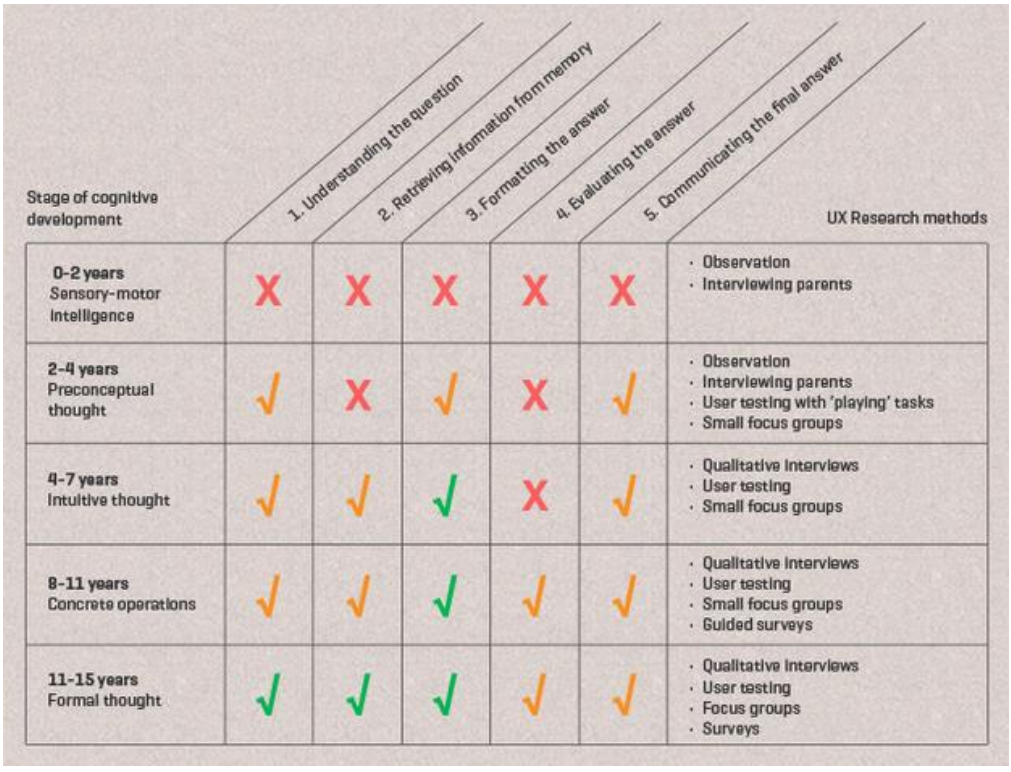

Figure 13: Diagram based on Piaget's theory on cognitive development of children

Before the execution of the evaluation, a test protocol was made, this is explained within the evaluation chapter. The evaluation was performed with end users, accompanied by their parents. The

think aloud method was used together with observation. Donker and Reitsma (2004) found that by using observation, the usability problems are identified and with the think aloud method the importance of the problems is assessed. Van Kesteren et al. (2003) and Khanum (2012) both found that the thinking out loud method is one of the best methods to use during an evaluation with children. Edwards and Benedyk (2007) on the other hand state that peer-tutoring, letting one child teach the other child how to use the system, worked best. This last method was not a possibility regarding COVID-19, thus as user test solely thinking out loud and observation was used.

Afterwards, an interview with 11 open questions was conducted to get the opinion of the user and to find out where the system could be improved and to get the overall opinion of the users. The questions can be found in chapter 7 Evaluation. According to Piaget, the target group will be able to perform guided surveys, meaning that it would be possible to calculate a System Usability Scale (SUS). The System Usability Scale is a short and simple questionnaire wherein participants can define whether they found the device pleasant to use (Brooke, 1986). Every question is answered through a Likert-scale. Eventually, the SUS gives a score (SUS-score) between 0 and 100 which represents the usability of the system where a score of 68 is conserved as the average score (Brooke, 1996). There is no validated Dutch translation of the SUS questionnaire, so for this research the Dutch translation of Wever et al. (2012) is used. Further explanation on calculating the SUS score will be discussed within the evaluation chapter.

4. IDEATION PHASE

In this section, the ideation process is described which includes the idea generation and selection. The idea generation includes interviews with experts and brainstorms and the idea selection concludes with the final idea.

4.1.1 INTERVIEWS

Interviews were conducted with experts in different disciplines relevant for this research, with the reason to gather more background information, to hear their opinion and to see whether these experts would be an addition to the brainstorming team, table 4 shows an overview of the participants. Permission was given to use their names in the report. The notes that were taken during the interviews were transformed into quotes, which were then colour-coded in Mural. Looking at the quotes, the following codes were identified: playful learning, in school, how to teach, how to convey and status. Appendix A shows the mural page with the colour-coded quotes. There were 12 quotes on how to teach Twents to children, 9 about playful learning, 8 about how to convey, 6 on status and just 4 about implementation.

TABLE 4: INTERVIEWEES

Participants
Willemijn Zwart (female, 46, educative designer)
Eline Harleman (female, 22, student creative business master)
Wiro Kuipers (male, +/- 45, playful facilitator at Zin in de Zaak, using playful interventions and gamified solutions)
Adrie Hemmink (female, 46, Twentehoes)
Veronique de Tier (female, +-60, Linguist at University Gent)

First, I talked with Adrie Hemmink, a project leader at Twentehoes is, an organization that commits themselves to the preservation of the Twents' culture and language. Adrie already knew many people, so she provided me with contact information of the following experts. First Eline Harleman, a student Creative Business at Saxion, specialized in Educative Mediaconcepts. She is graduating from local broadcaster 1Twente where she is involved in bringing the Twents' dialect to the attention of residents of Enschede by making explainer videos. Second, Wiro Kuipers is a specialist in playful learning. He runs his business 'Zin in de zaak' which focusses on businesses to make working feel like playing and he is coordinator of the Enschedelab which connects students with Gemeente Enschede to tackle problems. Third, Willemijn Zwart is an educative designer and chairman of the association Levende Talen Nedersaksisch (Living Languages Low Saxon). Fourth and last, Veronique de Tier is a linguist professor at the University Gent and project leader dialect in the province Zeeland in the Netherlands. Veronique could tell many things about what a dialect is, but unfortunately not so much on education and dialects, therefore her information was used more as background. Interviews were conducted with all experts and provided interesting information on the topic.

4.1.1.1 Accesibiliy of Twents

First, all the experts agreed that the use of Low Saxon could be improved, nevertheless they did differ in their opinions on how to tackle the problem of this research best. Eline Harleman mentioned that she is pleased to see that the dialect is getting more attention lately and that the status is slowly improving. She speaks of a "dialect renaissance": which means the re-birth of dialects and argues that we should focus on the uniqueness of being able to speak dialect. Veronique de Tier supports this, but not for the dialect of Zeeland since that dialect is not as popular as Low Saxon is within its region. Eline

Harleman adds that the culture and dialect is something that the west part of Holland does not have, this should provide a feeling of pride. Willemijn Zwart on the other hand suggested to be careful to not make it look like chauvinism. By focussing too much on 'you are from Twente, so you should speak Twents' and 'we are bubble, we can trust each other, we work together', speaking a dialect will become less accessible to people who are not from the region. This is something that Adrie Hemmink also mentioned as people who are trying to promote Twents are mainly born and raised in Twente. They find it hard to be open to outsiders who would be willing to help promote the dialect (myself as an example). Thus, the system should not focus too much on identity and pride, but it should be more accessible to others who are not from the region and/or do not speak Twents. In addition, the system should not be forced onto children.

4.1.1.2 Teaching Twents to Children

The experts mainly agreed on how to introduce children to Twents: small steps, playful learning and not through an educational program that needed to be integrated in school. Wiro Kuipers and Eline Harleman pointed out the importance of beginning small; first make the children get acquainted with what Twents is. Thereafter, teach them some words or small sentences that are not too difficult and make it fun. Integrating a Twents' educational program into the existing schools is impossible according to Willemijn Zwart. She noted that learning Twents should not be forced onto the children, but that it should be more voluntary, this has also to do with the reasoning of the previous paragraph. Wiro Kuipers agrees and adds that children should learn Twents through playing: this way they learn it without even noticing. As an example, he talked about his son who learned English words through playing with Pokémon cards, why would this not work with Twents? Lastly, Wiro Kuipers suggested that by making something that children can play with and trade with each other, the popularity of the system would increase rapidly. Because according to him, if children see other children play with something that they do not have, they want to play as well.

4.1.1.3 Existing Alternatives

A final subject that came forward through the interviews was the usability of the existing works for Low Saxon. Adrie Hemmink and Willemijn Zwart both argued that the existing apps are not well designed. Especially for children there is no existing application that has a great user experience. Most of the applications are not specifically designed for children, which is necessary if one wants children to understand the application. Besides, Adrie Hemmink pointed out some websites that were made by some elderly people who did not know anything about design which resulted in very poorly designed websites such as Nedersaksisch.nl. Willemijn Zwart adds that she also finds the magazine Wiesneus not a great solution to the problem as she thinks there are different, better media to use. She explains that one of the problems with Wiesneus is that a child who cannot read Twents will need someone to read it out loud, but if a parent or teacher does not speak Twents, Wiesneus cannot be used. In addition, Wiesneus is only produced once a year, which means that there is no learning progress for the child to learn Twents.

From the interviews with the experts can be concluded that the system should not be forced onto the children, but the best way will be through playing. In addition, by making something that children can trade and/or collect, the system's popularity will probably increase quickly since children want to play along.

4.1.2 BRAINSTORMS

A brainstorm was conducted with two groups. The brainstorms were prepared beforehand and the following schedule was adhered to: introduction, energizer, creative matrix, first voting, how-now-wow matrix, final voting.

The energizer functioned as an icebreaker to get the participants into the right mindset. The brainstorm method that was chosen was the creative matrix. With this method, there are users on the x-axis and categories such as technology or environment on the y-axis. The participants then needed to think of ideas within every intersection. With the student group, the participants were asked to fill these axes in themselves, but since this did not benefit the process, these were filled in beforehand in the second brainstorm. After the creative matrix, there were many ideas in both brainstorms. Normally, the group would then categorize the ideas to get a better overview of all the ideas, but because of time constraint this step was left out in both brainstorms. Within the first voting, everyone got 5 votes and the ideas with the most votes were then put into the how-now-wow matrix. This matrix shows how feasible and original the ideas were and the WOW quadrant is the most desirable since this idea is feasible and original. Figure 15 shows the matrix of the first brainstorm, figure 14 shows the matrix of the second brainstorm and in Appendix A one can find pictures of the Mural's used in both brainstorms. The colours of the sticky noted in the matrixes are random and can be neglected.

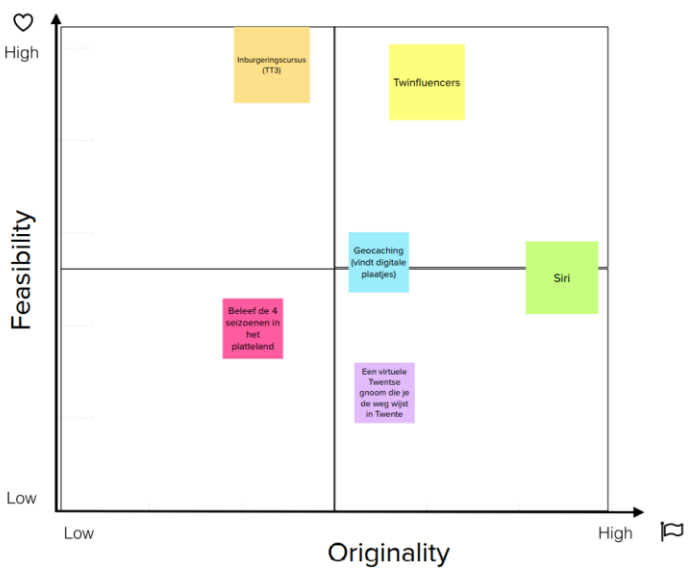

FIGURE 15: HOW NOW WOW MATRIX EXPERTS

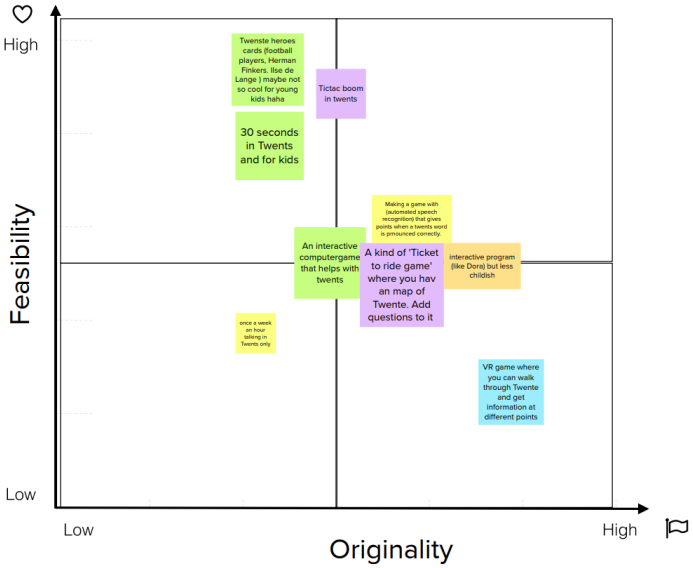

FIGURE 14: HOW NOW WOW MATRIX STUDENTS

With the second and final voting, every participant received 2 votes. They could vote on the idea that they liked best. The following ideas came out to have the most votes:

- Twinfluencers (Twents' influencers)
- A virtual gnome that leads you through Twente
- Cards with heroes from Twente
- An interactive program like Dora in Twents
- A game with automated speech recognition; earn points when pronounced correctly

4.1.3 EVALUATION OF IDEAS

Table 5 incorporates some of the most important aspects of the system identified earlier through the interviews and the research within the state of the art. These are all estimations meaning that it is not very accurate. Nevertheless, this table gives a first impression of the most suitable idea.

The Twinfluencers is one of the ideas that got 4 votes which is relatively a lot since there were 4 people within the brainstorm. Nevertheless, since Twinfluencers is not some sort of system, this idea is not

used in the table. However, outside of the brainstorm an additional idea was though of spontaneously: cards with Twents' 'things' that one can scan and get augmented reality pictures. This idea is added to the table and taken into consideration.

TABLE 5: COMPARING IDEAS FROM THE BRAINSTORM

Type	Feasibility	Ease of use	Motivational	Active engagement	Participation with others	Playful learning	No prior knowledge of Twents required
A virtual gnome that leads you through Twente	**+/-**	**-**	**+**	**+**	**-**	**-**	**++**
Cards with heroes from Twente	**++**	**++**	**+/-**	**-**	**+**	**+/-**	**++**
An interactive program like Dora in Twents	**-**	**+**	**+/-**	**+**	**-**	**+**	**+**
A game with automated speech recognition	**+/-**	**-**	**-**	**+**	**-**	**+**	**-**
Augmented reality cards	**+/-**	**+**	**+/-**	**-**	**+/-**	**+/-**	**++**

To be able to find out which ideas from the table are best, points are linked to all the plusses and minuses, which makes it possible to generate a score. The following points are addressed to the plusses and minuses: + = 1, - = -1, +/- = 0, ++ = 2. This gives the following scores:

- A virtual gnome that leads you through Twente: 1
- **Cards with heroes from Twente: 6**
- An interactive program like Dora in Twents: 2
- A game with automated speech recognition: -2
- Augmented reality cards: 2

Thus, best ideas that come forward through the table are the following:

1. Cards with heroes from Twente
2. An interactive program like Dora in Twents
3. Augmented reality cards

Clearly, the cards with heroes from Twente have the best score which indicates that this is the best idea to move forward with. However, this idea does miss the active engagement and it could be improved in how motivational it is and playful learning. This idea was therefore brainstormed on again with family verbally, this brainstorm was performed very informal and was not documented. The final idea follows:

Cards with Twents' subjects such as influencers, popular buildings, food, words and events that the user can collect and trade. The cards would be distributed by local stores; by spending a certain amount of euros at the store, the customer will receive a card. The front of the card will have a picture and title and the back will have an explanation or story in Twents and a unique QR code. By scanning the QR code, the user will be led to an audio fragment with someone who reads the Twents' text and gives the translation. A digital application for a tablet will be made wherein the user can add their card to save

it digitally and to get more information such as: the translation of the Twents text, recipe in case of a food card/a video/an audio fragment on how to pronounce a certain phrase or word.

5. SPECIFICATION PHASE

The following section will describe the specification phase. Within this section the user-, developer- and system requirements will be explained to define the technical side of the system. Secondly, the user experience specification will be defined using personas and scenarios.

5.1 TECHNICAL SPECIFICATION

This section describes both components of the system into more detail and how they are connected. First, both components are discussed into more detail. Secondly, it is explained how both components are connected and how they interact with each other and developer- and user requirements are listed. Lastly, for both the cards and the application, a list with requirements will be set up. The requirements are categorized into three parts Must, Should and Could, according to the MoSCoW method (Achimugu et al. 2014).

5.1.1 THE CARDS

The cards are the main component of the idea. It should be possible to have the full experience, all main functionalities by only using the cards. The cards have different categories: food, popular places, words, influencers, events and fun trips. On the front of the card, a picture, number of the card, subject of the card, unique code and the category needs to be shown. On the backside, a short story or explanation is shown in Twents together with a QR code to an audio fragment of the text. Lastly there needs to be information on the additional application that the user can download to gain more information. Figure 17 shows a simple representation of the idea of a card.

The main functionality of the cards is to be able to trade with the cards, so information of the specific card is on there and to be able to hear the Twents text, this happens by scanning the QR code.

5.1.2 THE APPLICATION

The app has the functionality to give more information about the subject that is on the card and to have an online collection book. The additional information can be a video, a story or even a recipe when it is in the category food. Within the application, one should have an overview of what cards they collected, add new cards and to be able to get to the extra info of each card. The application will be made for a tablet, because according to Auxier et al (2020), most parents do not find it appropriate for a child under the age of 12 to have their own smartphone. Regarding tablet computer use, this is more accepted (see figure 16).

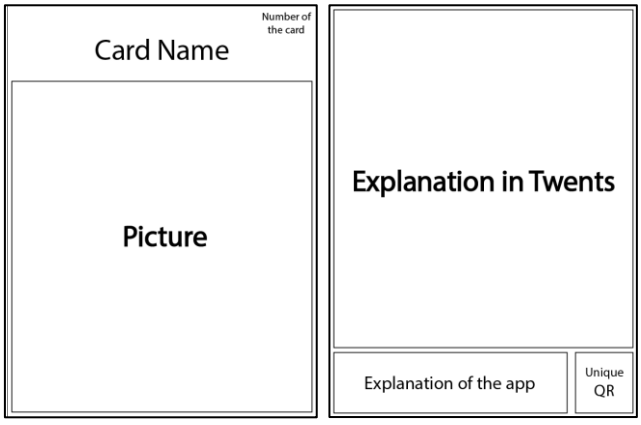

FIGURE 17: SIMPLE REPRESENTATION OF COMPONENTS OF A CARD

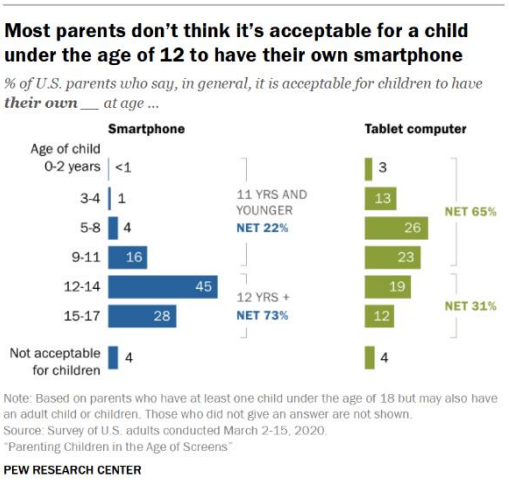

FIGURE 16: RESULTS OF RESEARCH FROM PEW RESEARCH CENTER ON PARENT'S OPINION WHETHER IT IS ACCEPTABLE FOR CHILREN TO HAVE THEIR OWN TABLET OR SMARTPHONE AT A CERTAIN AGE

5.1.3 THE OVERALL SYSTEM

Parents or grandparents can spend a minimum amount of euros at a local store, then they receive a card. The cards are then given to the child who will play and trade with them and possibly adds them to the application. The interaction that happens between the cards and the application is the fact that the user can add their physical card into the application. The goal is to have a page or button within the application where the user can add a card. This will be done by inserting a unique code in the app to add the card. Figure 18 shows a graphic representation of the entire ecosystem: how do all components interact and how are all stakeholders connected.

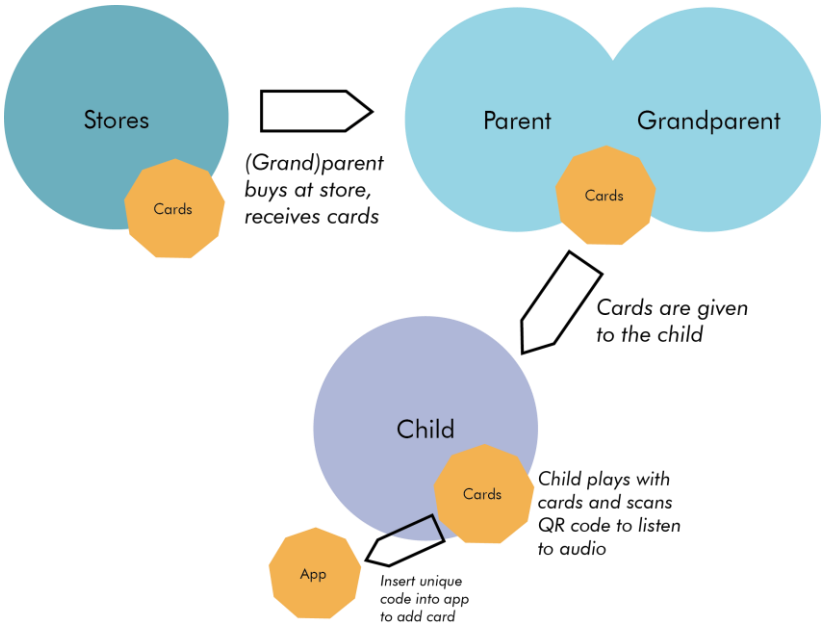

FIGURE 18: GRAPHIC REPRESENTATION; OVERVIEW OF THE ECO-SYSTEM

5.2 USER EXPERIENCE SPECIFICATION

To define the user experience as good as possible, two methods were chosen to explain the user and the experience of the user when using the system. The first method is creating personas, this explains the future user (Idoughi et al., 2012). The second method are scenarios which describe every possible interaction of the user with the system. For better understanding, the personas are used in the scenarios (Idoughi et al., 2012).

5.2.1 PERSONA

The user of the system will be children from Twente between the age of 8 and 12 years. However, since the children can differ widely from one another, two personas are created. One persona represents children who can speak Twents ('speaker') and the second persona represents children who did not have an experience with Twents before ('non-speaker'). Their characteristics are based on my experience with children and the research from Wood (2007) on characteristics of children between 8 and 12 years old. Wood (2007) researched Physical, Social-Emotional and Cognitive Development of children between the age 5 and 14. Appendix B shows the data that was used within this research; group 7–12-year-old children.

Isabel van der Post

Non-speaker

"I like to play games with my friends and to learn new things."

Demographics

Age	10
Gender	Female
Location	Enschede
Work	Student

Isabel lives with her two siblings and parents in Enschede. Her parents are both from Amsterdam and but they have lived in Enschede for the last 15 years. Isabel really likes to play outside and likes to go to school to play with her friends. Besides playing outside, she is doing very well in school and she is following an additional class besides her normal 6th grade class. She has no experience with Twents since no one in her surroundings speaks Twents.

Hobbies & Interests

The favourite games to play are Among us, Skip Bo and trading Pokémon cards. Besides playing these kind of games, Isabel really enjoys playing outside, almost all games outside are her favourite.

Luut Lenferink

Speaker

"My grandpa loves to teach me Twents and I like to teach my friends."

Demographics

Age	8
Gender	Male
Location	Enschede
Work	Student

Luut is an enthousiastic kid in 3rd grade of primary school. He lives in Enschede with his mother and sister all of his live. His mother is also from Twente and works most of the time which means that Luut and his sister are often at their grandparents house. His grandpa always teaches Luut Twents words and sentences since he finds this important. Luut likes speaking Twents and at school he teaches his friends some words as well. He does not speak it at home with his mother.

Hobbies & Interests

Luut is a driven soccer player, he goes to training twice a week and has a match once a week. Besides this, he likes to play with flippos and 'knikkeren'. He is not that good at knikkeren, so he is more into trading them. Lastly, he likes to explore the woods with his friends and climb trees.

The personas briefly describe their hobbies, interests, demographics, situation and gives a quote. These aspects were considered most interesting to clearly define the user.

5.2.2 Scenarios

Scenarios can specify the interaction of the user with the product. Scenarios are important as they can reveal potential problems and parts of the product that may need revision. In addition, all functionalities from the user's perspective are shown which can reveal missing or unnecessary functionalities. Three scenarios are explained with a text. Scenario one will be about the Twents speaking persona who was described earlier. The second scenario will be about the other, non-speaking persona. The last scenario is about someone who cannot use the application. In all scenarios, all the interactions with the system will be described.

SCENARIO 1: SPEAKER

Luut Lenferink is an eight-year-old living in Enschede who loves to learn Twents words from his grandfather. Today he is going to his grandparents to have dinner. When he arrived, he greeted his grandparents in Twents, and his grandfather gave him a few cards. Luut looked at the cards and recognized several things: 'Reppelkoonte', 'Arretjescake', 'Suzan en Freek'. He then looked at the back and saw that there was a Twents' text. He read the back and he could understand the text almost completely, his grandfather then helped him to get the text right. Luut saw the QR code and wondered what that was for. Immediately scanned the QR code with his grandpa's phone and he was led to an audio fragment. While he listened, he understood that this was the same text as the text that was on the card. After that, he looked back at the card and saw that he could download an app that would give the translation of the text and give more information on Reppelkoontje, Arretjescake and Suzan en Freek.

When Luut had downloaded the app on his grandparents' iPad, he browsed through the app. Luut took the card and inserted the numeric code into the app and he got confirmation that the card was added to his collection. When he opened the Suzan en Freek card within the app, he got a video of an interview with Suzan and Freek. He watched it together with his grandparents and the next day het logged in to his own tablet to be able to show his friends his collection.

SCENARIO 2: NON-SPEAKER

Isabel van der Post is ten years old and is a primary education student in sixth grade. She went to the local baker together with her mother. After paying, the baker handed them two cards: "These are cards of Twente that you can collect, you get one for every five euros spent at cooperating local stores." Isabel looked at the cards, the first card said on the front 'Kozak' and the other card said, 'The Game Box', the first word she had no idea of what that was, but the second one she knew that one since she went there once with her mother. When she looked at the backside of the card, she saw a text that she did not understand. However, she noticed an explanation on how to use a corresponding app called 'Rap Plat' and a QR code that said 'Scan mij'. Isabel was stoked and immediately asked her mother to scan the QR code. Together they listened to the audio fragment on the page that they were lead to. While listening, her mother explained that this was the language that they spoke in the area: Twents.

When Isabel got home, she downloaded the app on her tablet and opened the app. She then added her first card into the app by inserting the numeric code of the card, this was the Kozak card. The app showed that she succeeded in adding the card and that she could find it within her collection. Isabel went to her collection page and found the Kozak card. When clicking on the card, the app gave the recipe for the cookie and the translation of the backside of the card was also shown. When Isabel read the text, she understood that this was an explanation of what Kozak is and why it is something Twents.

There was also a page for advertisement of the cooperating stores, she showed them to her mother because she wanted to collect as many cards as possible! When she went to school the next day, she took her cards with her to show her friends.

SCENARIO 3 : NO USE OF APPLICATION

Kees Versteegh is an eight-year-old who has lived in Hengelo for his entire life. He does not speak Twents, but he does know about its existence. Today, he got 6 cards from his parents. They were cards about Twente and he could collect and trade the cards. When Kees first looked at the cards he noticed that 3 of them had the same colour and the other three all had a different colour. When he saw the QR codes, he asked his parents to scan every one of them and he listened to the audio fragments. Kees was confused at first, but when the audio fragment followed with the Dutch part, he understood that this was the translation of the Twents part. He also saw that there was an app with extra's, but at his

home he does not have a tablet and he was not allowed to download apps on his parents' smartphones. That was a pity, but he could still trade and collect the cards! The next day, he took the cards with him and showed all his friends. They also had some cards, but Kees could not trade yet because he did not have any double cards yet. He went to his parents and asked to get more. His parents laughed and said, we will make sure that you will get more cards.

5.3 CONCLUSION

The concluding part of this chapter is the complete system requirements list. The requirements are based on the interviews and the research earlier in this report. This list will be used to perform a functionality test within the evaluation phase.

TABLE 6: FINAL REQUIREMENTS LIST

Card system requirements	
Functional	**Non-functional**
MUST	
The subject has to be on the card	The material should be made from 300 g/m2 paper
There must be a picture on the front of the card	Each category must have its own colour
The Twents text must explain the picture on the front	The text must be at least 10 px and the font must by in Nunito or Futura Md BT
There must be a unique code on the card	The card must be 6.3 by 8.8cm (based on Pokémon cards (Instructables, 2019)
There must be an explanation of the app on the card	The content of the text must be understandable
The name of the app must be on the card	The user must feel motivated to scan the QR code
There must be a QR code on the card that leads to the audio	
SHOULD	
All cards should have a number	Each card should be in a package so the user cannot see beforehand which card they receive and to protect the card
	The cards should be collected at local stores
COULD	
A physical book to save the cards in could be made	
Application requirements	
Functional	**Non-functional**
MUST	
There must be a page with an overview of all the cards collected	The texts must be understandable
There must be a page to add new cards	The text must be at least 10 px and the font must by in Nunito or Futura Md BT
There must be a menu for easy navigation	The colours must match and support the understandability of the application
There must always be a go-back button	The app must be made for a tablet of 9.7 inch

There must be a way to get more information on the card	
The user must be able to make an account so they can switch devices and save the collection of cards	
SHOULD	
There should be a tutorial when the user first uses the app	
The app should have a page with the cooperating stores	
A video should be shown for some cards that gives interesting information	
An audio fragment should be available to hear the right pronunciation of Twents	
There should be a recipe for the food category	

Besides the system requirements mentioned, there are also developer- and user requirements.

The developer requirements are:

- The whole project should be concluded within 10 weeks
- During the research, the COVID-19 guidelines must be followed
- The design of the system should be concluded within 2 weeks
- All participants must voluntarily participate

The user requirements are:

- The design must be made such that the user can trade with other users
- The design must be stigma free; do not focus on the typical image of Twents
- The design should use easy language
- The design must teach the user something about Twents/Twente

6. REALISATION PHASE

Within the realisation phase, the actual prototype will be made. The information and requirements form previous chapters will be used to explain design decisions and to present the final design. First, the software was used to create the prototype will be explained. Second, the cards and application design choices are discussed, and the final prototype is showed. Lastly, the idea of how to distribute the cards, by making it a collection campaign, is explained. A name was chosen for the application: Rap Plat. Rap means quick and Plat means flat, which stands for speaking a dialect.

6.1 SOFTWARE USED

To be able to create the prototype, two different software programs were used. First, for designing the cards, Adobe InDesign 2021 (Adobe InDesign (Version 2021), 2021) was used. This is a software program for designing printed matter. The application was made with the web-based software Figma (Figma: the collaborative interface design tool, 2011), which is a UI and UX design application and prototyping-tool. Thirdly, when designing, colours need to match. The website coolors.co (Coolors - The super fast color schemes generator!, z.d.) is a colour scheme generator which generates colours. One can save colours and have the generator add colours that match the saved colour. This is how the colour scheme for the cards and application was created. Lastly, the website app.qr-code-generator.com (QR Code Generator PRO, z.d.) was used to create the QR codes on the cards that lead to the audio fragment.

6.2 CREATING THE PROTOTYPE

6.2.1 THE CARDS

As the cards are the main component of the system, this is the main part of the prototype. The size of the cards was based on the measurements of Pokémon cards, since these are popular cards that is being played with by the future user. The cards are divided into 6 categories: words (woorden), events (evenementen), food (eten), trips (uitjes), influencers and popular places (bekende plekken). All of these categories have their own colour. Figures 19 shows an example of a Word card, figure 20 shows an example of a Food card. Appendix C shows all the cards that have been designed. Figure 21 shows the page where the user goes when they scan the QR code.

FIGURE 19: REPPELKOONTE CARD, FINAL DESIGN

FIGURE 20: ARRETJESCAKE CARD, FINAL DESIGN

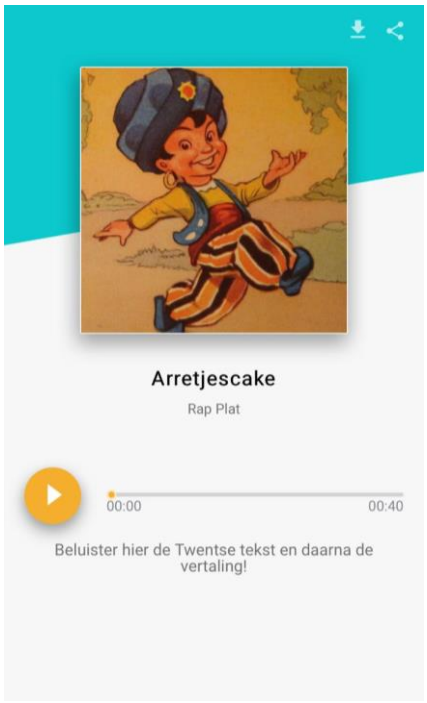

FIGURE 21: PAGE WITH THE AUDIO FRAGMENT OF ARRETJESCAKE

COMPONENTS

Figure 22 shows numbers of the components of the card. Number one represents the number of the card. Number two is the subject of the card and number three shows a suitable picture for the subject. Number four shows the unique numeric code that the user can enter into the application to add the card. Lastly for the front, the category is explained with number five.

For the backside, number six shows the Twents' text and number seven shows the QR code that the user can scan. Lastly, number eight shows a text that says to fill in the numeric code into the app Rap Plat to get extra's.

FIGURE 22: COMPONENTS OF THE CARDS

DESIGN DECISIONS

During the process of designing the cards, there were some design decisions made. First, the colour choice (see figure 21). Vibrant colors were chosen because it was found that children spend more time looking at bright colours than looking at pastels or muted shades (Pancare, 2018). In order to make it clear to what category which card belongs, each category has their own color. This way, it is expected that the user will be able to easily match the cards of the same category.

FIGURE 23: COLOUR PALETTE USED

Secondly, the text on the backside of the card had to be in a specific font, font size and length. The font that was chosen for the cards was Futura Md BT. This font was chosen since it has been proven to be a easy font for children to read (J, 2020). The font size was based on readability. The minimum font size were 10px since this is still very readable. There was no research found on how many words or lines would be perfect for the children to read, but at least it must not be too long since then the user would probably not be motivated to read the entire text. The text now consists of 9 lines maximum.

6.2.2 THE APPLICATION

The application prototype was made with Figma. This means that the prototype app was not coded but only designed. The idea of incorporating audio and video into the app was not possible within Figma. The application prototype functions as an addition to the cards. The app was made for a tablet because it was found that most parents do not find it appropriate for a child under the age of 12 to have their own smartphone (Auxier et al, 2020).

COMPONENTS

The application consists of 5 main pages: add a card (kaart toevoegen), my cards (mijn kaarten), my account (mijn account), information (informatie), a page where you get more info on the Arretjescake card. Especially the last page is the one that provides the extra's that is mentioned on the cards and what the user would want to see (see figure 24).

FIGURE 27: APP PAGE: EXPLANATION WHERE THE UNIQUE CODE IS

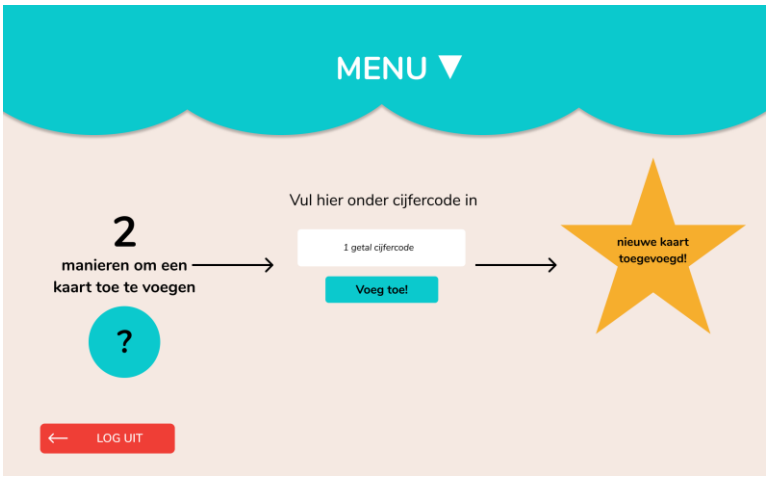

FIGURE 26: APP PAGE: KAART TOEVOEGEN

FIGURE 24: APP PAGE: EXTRA FOR GROSCH VESTE CARD

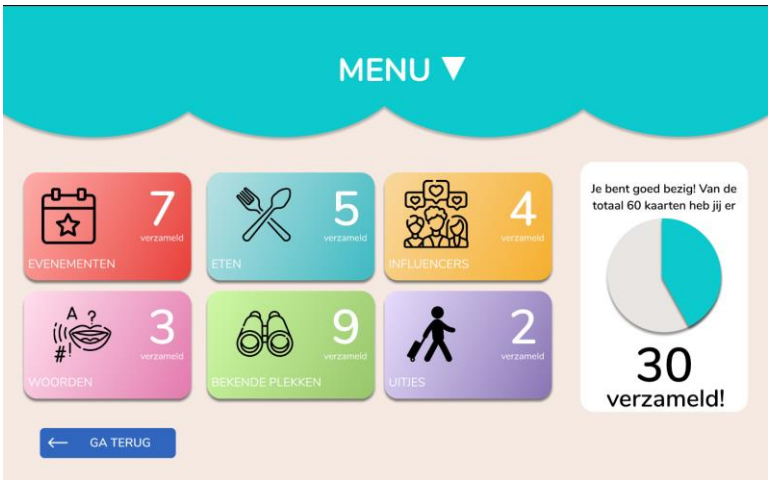

FIGURE 25: APP PAGE: 'MIJN KAARTEN'

There are some frames that need extra explanation. For example, the page where one can add a new card. The user can do this by inserting the unique numeric code into the app, see figure 26. By clicking on 'Voeg toe', the user will get a confirmation that the card is added. When the user cannot find the code, they can click on the question mark and the app will show where they can find the code (figure 27). Since the application is made in Figma, one can find the application following this link to try it out themselves, or in Appendix E there is a pdf file with all the pages.

6.2.3 LOCAL STORES

The idea for distributing the cards is to let local stores cooperate with the collecting campaign. Normally, the big brands such as Albert Heijn, Jumbo and Lidl have large collection campaigns and they are often a great success. However, local stores normally do not have these kinds of actions. Local stores can cooperate with Rap Plat. Customers would receive a card when they spend a minimum amount of euros. The amount of euros is not yet determined since from the ethical reflection on this subject, it was found that more research needs to be done with stakeholders in order to determine a reasonable value. When the local stores cooperate, they get advertisement through the app and it is expected that more people will come to their stores to retrieve more cards.

7. EVALUATION

The aim of the evaluation is to determine whether the functional requirements and user-expectations are met. First, before the actual usability test, the prototype should be tested on functionality; is the prototype sufficient for doing a usability test, points for improvement prior to the usability test will be determined. Secondly, the usability test will uncover issues and points where the design could be improved.

7.1 FUNCTIONAL TEST

For the functional test, the functionality list is reviewed whether all the functional requirements that are within the Must category are met. As can be seen in table 7, all the requirements are met which makes it possible to perform a user test.

TABLE 7: FUNCTIONALITY TEST ON MUST REQUIREMENTS

Card system requirements	
Functional	
MUST	
The subject has to be on the card	YES
There must be a picture on the front of the card	YES
The Twents text must explain the picture on the front	YES
There must be an unique code on the card	YES
There must be an explanation of the app on the card	YES
The name of the app must be on the card	YES
There must be a QR code on the card that leads to the audio	YES
Application requirements	
Functional	
MUST	
There must be a page with an overview of all the cards collected	YES
There must be a page to add new cards	YES
There must be a menu for easy navigation	YES
There must always be a go-back button	YES
There must be a way to get more information on the card	YES
The user must be able to make an account so they can switch devices and save the collection of cards	YES

7.2 TEST PROTOCOL

A user test protocol needs to be set up beforehand to make sure that the test will run smoothly. In addition, by creating a test protocol, the same conditions will be present for each participant to avoid biased results. The purpose of this test is to determine several things 1) where the design could be improved and 2) what the user thinks of the product. The results will be used to form a conclusion and to answer the research question "*What system can make the youth (8-12yrs) appreciate Twents more?".* The main questions that need to be answered through this evaluation are:

1. Are the cards understandable?
2. Is the trading/collecting campaign aspect of the cards clear?
3. Does the user learn anything about Twente?
4. Is the information that the user receives interesting?
5. Is the app easy to navigate through?
6. Would the user use the app?

7. TEST SETUP

The user test was at the houses of the participants and would take between 30 to 60 minutes. In all cases the COVID-19 restrictions were considered and respected. The user was sitting at a table together with one parent. The observer was sitting in front of the user and the tablet was placed on top of the table, facing upwards so that the observer could clearly see what the participant was doing on the tablet. This setup was chosen because it allowed to keep 1.5m distance and to be able to see as much as possible.

7.2.1 PARTICIPANTS

The future users of the system are children between the age of 8-12 years old from the region Twente. Accordingly, the evaluation was also performed with these users. The participants were recruited through a message on Twitter by Dr. Femke Nijboer. There were 5 responses which led to 5 participants for the evaluation. Table 8 shows the demographics of the participants: age, gender, knowledge of Twents and speaker or non-speaker.

TABLE 8: EVALUATION PARTICIPANTS OVERVIEW

P1	9 years old	Boy	Knows about Twents	Non-speaker with speaking father and grandparents
P2	9 years old	Girl	Knows that Twents exists but knows nothing further	Non-speaker
P3	10 years old	Boy	Does not know Twents exists	Non-speaker
P4	8 years old	Girl	Knows about Twents	Non-speaker
P5	9 years old	Girl	Knows about Twents	Non-speaker

7.2.2 METHOD

The methods that are used are the think aloud method and observation. Prior to the beginning of the test, the observer explains the think aloud method by giving an example: "Suppose I am doing this test with my phone, I will pick up the phone and for example say oh I like the way it lies in my hand; the

colours are pretty and so on. Is that clear for you like this?" Next the user will be handed the cards first and is allowed to play with them freely. Lastly, the application is also tested and the observer takes notes.

The observer is allowed to remind the user of thinking aloud when he or she is not giving much feedback. However, the observer is not allowed to interrupt the user in case he or she is making a mistake. Lastly, the observer is allowed to give the user tasks when a specific interaction is not performed by the user themselves but needs to be investigated. The user is allowed to ask questions during the user test, these need to be noted down by the observer and the observer is allowed to help when the question is necessary to be able to continue with the test.

After the observation, an interview with 11 open questions will be conducted. The following questions will be asked verbally (these are in Dutch):

1. *Wat was je eerste indruk van de kaartjes?*
2. *Vond je iets niet duidelijk aan de kaartjes?*
3. *Wanneer had je door dat de tekst op de kaartjes Twents was?*
4. *Vond je het leuk dat je een QR code kon scannen?*
5. *Wat vond je van de manier dat je de vertaling van de tekst kreeg?*
6. *Wat zou je met deze kaarten doen? Zou je ze willen verzamelen en ruilen?*
7. *Heb je nu iets nieuws geleerd?*
8. *Wat vond je van het Twents? Kon je er wat van begrijpen?*
9. *Vond je het makkelijk om te vinden wat je wilde in de app?*
10. *Zou je zelf de app downloaden? Of zou je het houden bij de kaartjes?*
11. *Wat voor categorie zou je zelf willen zien bij de kaartjes?*

Secondly, the participant is asked to fill in System Usability Scale questions in a Google Forms. The System Usability Scale is a short and simple questionnaire wherein participants can define whether they found the device pleasant to use (Brooke, 1986). Every question is answered through a Likert-scale. Eventually, the SUS gives a score (SUS-score) between 0 and 100 which represents the usability of the system where a score of 68 is considered as the average score (Brooke, 1996). There is no validated Dutch translation of the questionnaire, so for this research the Dutch translation of Wever et al. (2012) is used.

System Usability Scale (SUS) score questions:

1. *Ik denk dat ik dit product frequent zou willen gebruiken.*
2. *Ik vond het onnodig ingewikkeld.*
3. *Ik vond het product makkelijk te gebruiken.*
4. *Ik denk dat ik technische hulp nodig heb om het product te gebruiken.*
5. *Ik vond de verschillende functies van het product goed met elkaar geïntegreerd.*
6. *Ik vond dat er te veel tegenstrijdigheden in het product zaten.*
7. *Ik kan me voorstellen dat de meeste mensen snel met het product overweg kunnen.*
8. *Ik vond het product omslachtig in gebruik.*

9. *Ik voelde me zelfverzekerd tijdens het gebruik van het product.*
10. *Ik moest veel over het product leren voordat ik het goed kon gebruiken.*

DATA COLLECTION METHOD

Through the test, the observer is taking notes based on observation and the thinking aloud method. These notes are qualitative. Qualitative data will be on the user experience and will include quotes from the user. Lastly, the System Usability Scale (SUS) score will be filled in through a Google Forms and the data will be exported to a Google Sheet where the score will be calculated.

7.3 RESULTS

7.3.1 OBSERVATIONS

During the user tests, there were some functionalities that worked very well and others that need improvements. The following observations show positive aspects of the system:

- The colours that were used for a specific category were soon recognised. They could link the cards together and in the app, the category was easily found.
- After the user had scanned one QR code, the others needed to be scanned as well.
- When the user played the audio, there was really a lot of focus on what was being told.
- During the audio, all the users read along with the Twents text on the card.
- There were subjects that the user recognised, but also some that they did not know but were curious about.
- The subjects that they recognised triggered enthusiasm.
- The user did not know that Twents was that different from Dutch.

There were also observations made that indicate points of improvement:

- Scanning the QR code is hard for the user, they can do it with help from a parent.
- Within the app: it was not clear that the user could click on the category to find the individual cards.
- Within the app: it was not clear which individual card was which.
- Most users were very focussed on the picture that was on the card, instead of the other parts of the card.
- The backside of the card was often forgotten.
- Within the app: not clear that they could click on a picture that leads to a different page.
- The user did not understand the connection between the numeric code on the card and the way to add a card in the app.

Some other remarkable observations were made on what the user found of Twents:

- The Twents text is unreadable at first, but some try to translate it and they come further than they anticipated.
- Hearing the Twents text makes it clearer that to reading it.
- Some of the words are recognisable and there are some letters that the user does not know.
- There were two participants who wanted to listen to the audio again to find out the translations of specific words. They compared the audio in Twents and in Dutch.

These observations can be used to make some improvements. Mainly in the application there were some interactions not clear for the user; they did not always know where they could click.

7.3.2 System Usability Scale

However, a System Usability Scale score was also made. Table 9 shows the scores per participant and the average score. As can be seen in the table, the application scored high and thus can be considered usable.

Table 9: System Usability Scale scores

P1	87.5
P2	80
P3	87.5
P4	85
P5	72.5
Average	**82.5**

7.3.3 Interviews

Lastly, an interview was also conducted. Per question, interesting answers are discussed. Everything is in Dutch, so the answers are accurate.

1. Wat was je eerste indruk van de kaartjes?

P2: "Ik vroeg me af wat het zou zijn".

P3: "Dat degene met de QR codes een hele verwarrende taal waren. De Twentse teksten waren met veel tekst".

P4: "He, zijn die woorden Twents of gewoon Nederlands? Volgens mij zijn ze Twents, maar toch ook Nederlands".

2. Vond je iets niet duidelijk aan de kaartjes?

P1: "Nee ik vond alles wel een beetje duidelijk".

P2: "Nee alles was wel duidelijk, alleen de tekst in het Twents niet".

P3: "Niks. Ik ging lezen, kijken en uitvinden wat het was".

3. Wanneer had je door dat de tekst op de kaartjes Twents was?

P1:"Ik had niet zo snel door dat de teksten Twents waren, ik kijk vooral naar de voorkant naar de plaatjes".

P2: "Toen ik die vreemde namen en woorden zag. Ik dacht gewoon dit is een andere taal".

P4: "Ik wist het wel snel, want het was niet Nederlands. Dat zou er anders uitzien. Het was wel leuk dat het Twens was".

4.Vond je het leuk dat je een QR code kon scannen?

P1: "Ik vind het wel een beetje ingewikkeld, ik heb nog nooit een QR code gescand".

P2: "Het voelde een beetje raar, omdat ik dat volgens mij nog nooit had gedaan. Ik vond het wel leuk om de QR code te scannen".

P3: "Ik vond het leuk om te scannen; het erop richten en dan zien dat het werkt".

P5: "Ja, ook wel heel vet".

5.Wat vond je van de manier dat je de vertaling van de tekst kreeg?

P2: "Ik las bij een ook wel mee tijdens het Twents en toen dacht ik echt gewoon van: nu begrijp ik het meer. Ik vond het horen wel fijn, omdat ik het dan beter kon begrijpen".

P3: "Lezen en luisteren zou fijn zijn, dan kan je beiden tegelijk doen en dan begrijp je het misschien wat meer".

P5: "Ja, horen herken je sneller dan met lezen".

6.Wat zou je met deze kaarten doen? Zou je ze willen verzamelen en ruilen?

P1: "Als mijn vrienden het doen wel, maar als ik de eerste was niet".

P2: "Als ik weet wat het is dan wel en als mijn vrienden het doen sowieso".

P3: "Weet ik niet, als mijn vrienden het doen misschien".

P4: "Ja ik vind het wel leuk om ermee te ruilen want dan kan je ook nieuwe plaatjes verzamelen. Nieuwe dingen zijn ook leuk".

P5: "Ja, want het is leuk om naar de plaatjes te kijken En de plaatjes zijn ook grappig en leuk en de QR codes zijn ook leuk".

7. Heb je nu iets nieuws geleerd?

P1: "Een paar woorden en ik wist niet dat ik zo goed Twents kon lezen".

P2: "Een heel klein beetje Twents".

P3: "Dat Twents toch wel heel andere woorden heeft dan verwacht. Ik dacht dat het veel simpeler zou zijn".

P4: "Dat sommige woorden niet hetzelfde zijn. Want ik probeer wel eens plat te praten, maar dit zijn hele andere woorden".

8. Wat vond je van het Twents? Kon je er wat van begrijpen?

P2: "Met audio kon ik het wel beter begrijpen, ik weet niet wat ik van het Twents vind".

9. Vond je het makkelijk om te vinden wat je wilde in de app?

P1: "Niet heel erg, als ik ergens anders op wilde klikken. Het menu wil ik liever altijd zichtbaar hebben".

P3: "Best wel".

P5: "Ja ik vond het wel leuk. Soms klikte ik op het verkeerde en dan was het nog de vraag of het het goede was. Het was een soort mysterie".

10. Zou je zelf de app downloaden? Of zou je het houden bij de kaartjes?

P2: "Wel de app erbij, zodat als mijn kaartjes weggegooid worden ik ze nog wel in de app heb".

P5: "Ja ik zou de app ook downloaden want die is leuk. Je kunt ook zien wat de kleur betekent (over categorieën)".

11. Wat voor categorie zou je zelf willen zien bij de kaartjes?

P1: "Dieren".

P2: "Sporten".

P4: "Katten".

P5: "Nog meer Twentse woorden en zinnen".

7.4 CONCLUSION

It can be concluded from the SUS score that the application is usable for children because the SUS score was 82.5. In addition, some questions were set up for the evaluation. The answers to these questions are based on the observations and interviews.

Question	**Conclusion**
Are the cards understandable?	All aspects of the card were clear, except the numeric code. This part needs some clarification.
Is the trading/collecting campaign aspect of the cards clear?	Yes, the user also indicated that they would trade and collect the cards when their friend would do so, but that they might not start trading and collecting them when they would be the first ones to have them.
Does the user learn anything of Twente?	The users learned something of Twente; they learned new words, what Twents sounds like and how it is written. They also pointed out that it is very different from what they thought and P1 also found out that reading the text was easier than anticipated.
Is the information that the user receives interesting?	The subjects that the user recognised triggered enthusiasm. In addition, they all wanted to scan all the QR codes which indicates that they found it interesting.
Is the app easy to navigate through?	The SUS score indicates that it is usable. However, there are improvements possible.
Would the user use the app?	All users indicated that they would use the application.

8. CONCLUSION

This final chapter, the conclusion serves as a reflection of the work done during this research. This will be done by discussing the key findings and answering the research question. Second, a discussion will follow with implications, strengths, limitations and future work.

8.1 KEY FINDINGS

The goal of this project was to come up with a system to increase the popularity of Twents by introducing children within primary education to the dialect. During this research, several steps were taken to be able to reach this goal and to answer the research question: *What system can make the youth (8-12yrs) appreciate Twents more?*

First, literature research was performed for the state of the art to define what existing works there are for promoting or learning Low Saxon and other languages. It was found that there are a few existing works for promoting Low Saxon, but most of them were not user friendly for children or did not have an optimal approach for teaching children Twents. In addition, the importance of providing the right pronunciation of Twents to the user was identified. Second, the sub research question '*What technical system works best for children in order to learn?'* was answered by comparing different kinds of technologies and classroom education. It could be concluded that an application would be the best technical system for children to use. The application was then further defined as a tablet application since parents do not find it responsible for their children to have their own phone, so a tablet application was therefore made.

After the state of the art, the ideation phase began. Interviews with five experts revealed important aspects of the system: introduce Twents in small steps, playfully and do not integrate the system into an educational program. In addition, by making something that children can trade and collect, the popularity of the system's popularity would therefore spread because of the children themselves. Brainstorms were conducted with two groups: seven students and three experts, many ideas got generated and five ideas with the most votes then got compared based on aspects defined through interviews and research. The final idea that came out to be the best way for promoting Twents were cards that children can collect at local stores. The cards have Twents subjects and an explanation on the subject in Twents. A QR code leads to an audio fragment that reads aloud the Twents text and gives the translation. In addition to the cards, children can download an app where they can digitally save their cards.

Lastly, the evaluation showed that the children liked the idea of the cards and that they learned different things of Twents: what Twents is, some Twents words and that their expectations of Twents were not always right. In addition, the application was found to be usable for children and it was found that if they were to collect the cards, the app would be downloaded and used. There is still room for improvement of the design, but overall the main functionalities were well designed.

The research question of this thesis was. *What system can make the youth (8-12yrs) appreciate Twents more?* Since the users were positive about the system and because they learned some things about Twente and Twents, it is expected that they will have a more positive attitude towards Twents in the future.

8.2 DISCUSSION

In the final chapter, the implications, strengths, and limitations of this research will be discussed with suggestions for future work.

8.2.1 Implications and strengths

There are not many papers on increasing the popularity of a dialect, let alone of Twents. This research is therefore important since it addresses a subject that has not much been investigated on. This can be considered a strength of my research, because this thesis is the first scientific approach that makes a system that has been user tested with children. In addition, during this project I really investigated the characteristics and abilities of children between the age of 8 and 12 years. This was important to adjust the methods and design to the user group; to determine what kind of evaluation worked best and what design decisions had to be made for the system to be usable and makes this research stronger.

8.2.2 Limitations and future work

Within this research, there have been limitations that could influence the results and suggestions for future work are made. First, the evaluation was performed with children which brings considerations whether the results are reliable. According to Edwards and Benedyk (2007) child participants often require intervention from the experimenter: they expect guidance when asked to use something and they need encouragement when they are losing motivation. This influences the interaction of the user with the product and therefore the results of the user experience. During the evaluation, I often had to help which makes this reasoning applicable. However, it was considered to also do an evaluation with proxy users, but these results would not be accurate; the experience of the child and the usability is most important, and a proxy user would not be able to give accurate results.

The second suggestion for future research is about generalization. It is a fact that not all people and therefore not all children are the same. Within this research, five children tested the prototype, and the results are generalized as representable for all children between the age of 8 and 12 years old. This is of course not true, there will be children who have different thoughts of the product and this must be considered. Thus, in the future more evaluations must be performed with more children and with different demographics to be able to get more valid results.

Third, it has not yet been researched whether there are local stores that were interested in cooperating. This was not a focus within the research (it was in the Should category on the requirements list) and therefore this was not investigated. In the future, to be able to put the cards on the market, this should be researched. In addition, from the ethical reflection that was performed for this project, the best option for action was to perform interviews with local stores and customers (parents, grandparents) to determine a price for the cards.

Fourth, the goal of this research is to make the youth appreciate Twents more. An application and cards were developed that could potentially improve the attitude towards Twents. This provides the opportunity for future pilot testing to verify this hypothesis.

Lastly, Concordia showed interest in Rap Plat; especially the idea of incorporating local stores to promote buying more locally. It would be a very nice chance to work together with Concordia in the future to be able to eventually put Rap Plat on the market.

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CODES: Interviews Make Twents Great Again

❶ QUOTES

Design it so they learn in a playful way	children like everything that makes sounds or that they can 'interact' with	When you don't play, you are missing	Learn while collecting and	Many children dont know twents exists	Existing works are not user friendly	The status of countrified and dum are Pading	Know the existence of Twente
My son knows english words because of	Make the children enthousiastic	Let it match a a Familiar environment	When there is something to trade, you want to join	existing works are badly designed for children	I like the idalect renaissance	My children need to know about regional languages	Start with small things
let its popularity increase though the children instead of	Do not introduce a new course	Integrate Twents into a course or make it a possibility	don't make it part of a course	connect offline and online	Children first need to know the basics of Dutch	My children don't need to be able to speak Twents	From 5th grade, students can learn an extra
For immigrants, the region connects them to the other students	Be careful with Forcing Twents onto children	Twente is a region with much character- it intensifies an identity	Do not focus too much on 'we are a bubble, we snoek eachother' etc	I like that Twents is getting more attention	Start with words and small sentences	Make sure that you do not need to speak Twents to use it	You need to let the children speak Twents
Don't Focus on 'you are From Twente so you should speak Twents'	Create a Feeling of pride	An accent is unique	Focus on unique aspects	Teach them without them knowing	Teach specific sentences	Don't Focus on only Funny things, creatie more	

❶ Clustering

Playful learning

Design it so they learn in a playful way
children like everything that makes sounds or that they can 'interact' with
When you don't play, you are missing out
Learn while collecting and
My son knows english words because of
Make the children enthousiastic
Let it match a a Familiar environment
When there is something to trade, you want to join
let its popularity increase though the children instead of

Implementation

Do not introduce a new course
Integrate Twents into a course or make it a possibility
don't make it part of a course
connect offline and online
Twents

Status

Many children dont know twents exists
Existing works are not user friendly
The status of countrified and dum are Pading
I like that Twents is getting more attention
existing works are badly designed for children
I like the idalect renaissance

How to teach

Children First need to know the basics of Dutch
My children need to know about regional languages
Know the existence of Twente
From 5th grade, students can learn an extra
Start with words and small sentences
My children don't need to be able to speak Twents
Start with small things
You need to let the children speak Twents
Teach them without them knowing
Teach specific sentences
Don't Focus on only Funny things, creatie more
Make sure that you do not need to speak Twents to use it

How to convey

For immigrants, the region connects them to the other students
Be careful with Forcing Twents onto children
Twente is a region with much character- it intensifies an identity
Do not focus too much on 'we are a bubble, we snoek eachother' etc
Don't Focus on 'you are From Twente so you should speak Twents'
Create a Feeling of pride
An accent is unique
Focus on unique aspects

April 2021

Facilitator:
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Participants:
- Eline Harleman (Saxion)
- Willemijn Zwart (KomvoorTaal)
- Wiro Kuipers (Zin in de Zaak)
- Veronique de Tier (University Gent)
- Adrie Hemmink (Twentehoes)

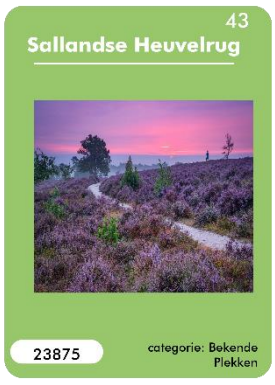
UNIVERSITY OF TWENTE.

APPENDIX B

Middle Years Grades 2-3 (7-9 years)		
Physical	**Social-Emotional**	**Cognitive**
• Enthusiastic about games • Experiencing improvement in both gross and fine motor skills • Possess a high activity level • Practice to mast variations of movement for physical activities • Enjoy games that allow for comparison of skills • Enjoy games that allow for self-improvement	• Have a strong drive toward independence • Develop a strong sense of loyalty to friends • Need to belong to a group • Play with and are friends with same-sex peers • Like to take on responsibility • Live in a world of games, rituals and humor inhabited only by children • Like to have a best friend • Have a rigid sense of right and wrong • Need help accepting peers who are different or left out of a group	• Like to talk; use language to express feelings/tell stories • Developing a sense of time • Enjoy collecting things • Enjoy problem-solving games like treasure hunts • Can plan and carry out projects with adult support • Becoming more self-directed in activities • Better able to understand and appreciate differences of opinion

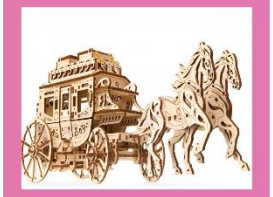
Pre-Adolescent Years Grades 4-6 (10-12 years)		
Physical	**Social-Emotional**	**Cognitive**
• May be careless about their clothes, room and body cleanliness • Girls may have a sudden growth spurt and beginning signs of puberty • Enjoy physical activities that master specific skills • Enjoy competitive games • Possess a high activity level • Enjoy games that allow for comparison of skills • Enjoy games that allow for self-improvement	• Enjoy small, peer-dominated group discussions • Like to join organized groups • Are anxious to grow up • Are intensely loyal to their peer group • Form a close one-on-one friendship • Have a growing desire to assert individuality and independence • Can be daring and competitive • Can be critical of peers and adults • Are self-conscious of their abilities	• Ask many questions and want thoughtful answers • Can often understand other points of view • Developing strong interests, hobbies and collections • Engage in daydreaming • Enjoy problem-solving games and puzzles, etc. • Enjoy rule-based games • Are beginning to develop view about social/global issues • Beginning to enjoy humor by telling jokes and understanding sarcasm

APPENDIX C



39

Koetse



74345 categorie: Woorden

Een koetse, dat klinkt als iets van vroeger. Toch zit jij waarschijnlijk hier meerdere keren in de week in. Een koetse is in het Nederlands namelijk gewoon een auto!

Vul de cijfercode in bij de app 'Rap Plat' voor extra's!

1

Proef Eet

19238 categorie: Evenementen

De Proef Eet is een jaarlijks evenement in Enschede. Allemaal restaurants maken kleine hapjes die je kunt kopen met muntjes. De Proef Eet is altijd in begin September.

Vul de cijfercode in bij de app 'Rap Plat' voor extra's!

51

The Game Box

13993 categorie: Uitjes

Houd jij van spelletjes spelen en je high score verbeteren? Dan is The Game Box misschien wel het perfecte uitje voor jou! The Game Box is te vinden in het centrum van Enschede.

Vul de cijfercode in bij de app 'Rap Plat' voor extra's!

32

Reppelkoonte

12345 categorie: Woorden

Ken iej dit woord a? En weet iej wat 't betekent? Mag wean da'j 't nich kent mar da'j 't wal bint. He'j d'r wil an um 'n gaanzn dag te kuiern zol können dat zee oe mangs 'n Reppelkoonte neumt. In 't Hollands bedoolt zee met Reppelkoonte namelik Babbelkous, ene den laank an de kuier is. 't Is natuurlik ok omeunig gemeudlik um te doon!

Vul de cijfercode in bij de app 'Rap Plat' voor extra's!

21

Suzan&Freek

57344 categorie: Influencers

Goud, Als het Avond is en De Overkant. Deze nummers zijn allemaal van Suzan en Freek. Maar wist jij dat Suzan en Freek uit de Achterhoek komen? De Overkant, die ze samen met Snelle hebben gezongen gaat ook over het leven in het Oosten, luister maar eens goed!

Vul de cijfercode in bij de app 'Rap Plat' voor extra's!

41

Grolsch Veste

63422 categorie: Bekende Plekken

De Grolsch Veste is een van de bekendste stean van Eanske en mischiene wal van gaans Twente. Seend 2008 spölt FC Twente in de Grolsch Veste. Daarvuur zat FC Twente in 't Stadion 't Diekman en 't Arke Stadion. Grolsch Veste is 't greutste stadion dat zee hebt had. D'r könt wal 30.000 supporters kommen kieken!

Vul de cijfercode in bij de app 'Rap Plat' voor extra's!

5

Gogbot

87235 categorie: Evenementen

Gogbot is een kunst-techniek evenement in het centrum van Enschede. Hier kan je altijd de gekste dingen vinden; zingende robots, een bewegend skelet. Gogbot is altijd in het begin van September.

Vul de cijfercode in bij de app 'NAAM' voor extra's!

11

Arretjescake

12345 categorie: Eten

Arretjescake he'j mischiene a wal 'n moal getten. 't Is koale cake van sokker, ei, botter, melmöpkes en kakou. De naam Arretjescake kump van 't stripfiguur Arretje Nof, den ku'j zeen op de vuurkant van 't kaartje. In Limburg broekt zee wier nen aandern naam. Namelik pletskeskoek.

Vul de cijfercode in bij de app 'Rap Plat' voor extra's!

APPENDIX D

Interview questions (Dutch) with experts.

- Toestemming voor het opnemen van het gesprek
- Introductie tot het onderwerp: Make Twents Great Again; het populair maken van het Nedersaksisch, maar als voorbeeld nemen we het Twents. Onderzoek→ kinderen basisschool.

Vragen:

- Wat is jouw affiniteit met het Twents?
- Wat vindt jij van de status van het Twents?
- Hoe denk jij dat we de jeugd haar visie op het Twents kunnen veranderen?
- Welke aspecten van het Twents zijn volgens jou de grootste motivatie om het Twents te behouden (denk aan cultuur, taal, saamhorigheid).

- Introduceren van het dreamteam; rond eind april/begin mei

APPENDIX E

APP Tablet version (1).pdf