MASTER'S THESIS

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Podcasts for education: Can podcasts give girls at risk of dropping out of school in India the flexibility to continue their education?

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Abstract

This design thesis explores the intersection of education, technology, and social justice with a focus on improving the educational opportunities for girls in secondary schools in India. Motivated by the persistent challenges faced by girls in the country, such as high dropout rates due to child marriage and domestic responsibilities, the aim of the study is to create a web resource for teachers working with girls at risk of dropping out and explore whether it can address the issues found in the literature.

The thesis is grounded in the belief that podcasting, as a flexible and accessible medium, has the potential to address these challenges. The central question guiding this research is whether podcasts can provide flexibility for girls at risk of dropping out, enabling them to continue their education. The goal is to develop a user-friendly, responsive website offering teachers guidance on creating educational audio content. The design of this is heavily influenced by literature and research on the topics of girls' education, technology in India, and the various practical and linguistic barriers and limitations faced by users in this demographic.

The thesis includes a literature review, providing an academic foundation for the research, followed by chapters detailing the design methodology and insight into design science as a research approach, description of the design process, and evaluation of the prototype. It concludes with insights into the project's potential contribution to the field and suggests points for further research and development.

The prototype is made using the design thinking method, but unfortunately, real users weren't available during the process. The conclusion is that the web resource that has been made has the potential to be beneficial for teachers, but that further testing with a user-base would be ideal. Either way the work hopes to represent a step towards leveraging technology to bridge educational gaps and contribute to the broader global agenda of sustainable development.

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1. Introduction

My passion for girls education was sparked in 2012 after learning about Malala Yousafzai and her bravery standing up for girls' rights to education in Pakistan. Ever since then I have been learning as much as I can about the topic, and eventually I decided to change direction from media production to teaching. Today, I work in a position where I combine these fields to create digital learning tools for a range of different subjects and user groups. I want to use my background to create a resource that could be useful for girls everywhere, but as a first step I will tailor it to girls in India. The reason why I am choosing to focus on India first is that I have been able to spend some time in India during the last couple of years, and have been learning about Indian society and their educational system through my husband and his family (a few of whom are teachers themselves).

India is a beautiful, diverse country with a rich history, but unfortunately it still struggles with massive social inequality that affects a wide range of people across caste, religion, and gender (Jha and Nagar 2015). One of the effects of this social inequality is that many teenage girls are dropping out or being taken out of school due to child marriage or participating in household chores. The education of all women and girls should be a priority, but research on the Indian education system shows that the girls with the highest risk of dropping out, or being removed from school, are in the age group 14-18 years (Pande 2006), which is the reason why my thesis will focus mainly on teachers of girls in secondary education.

The goal of this thesis is to research and develop a resource that teachers who work with girls at risk of dropping out can use to create audio lessons/podcasts. It will include a page about advantages of podcasting for teachers, a training program for how to technically follow through with a recording, inspiration for themes, and advice on how to publish and distribute podcasts. The resource should be a light, responsive website that can easily be used on a simple mobile device with little data. All instructional pages should be downloadable for offline use. Instructions should be clearly written out in English, Hindi and Marathi, as per Van Dijk: *"They*

should be framed in the local language, as few people in the third world speak the official language of their country, let alone English" (van Dijk 2005). Hopefully this work can contribute to answering the question:

Can podcasts give girls at risk of dropping out of school in India the flexibility to continue their education?(India 2023)

If successful, the resource I make can provide teachers with the basic knowledge and tools needed to create podcasts that will continue to educate girls wherever they are, as long as they have a basic smartphone. By doing this they will not only address the issues raised in the literature, but they will also be taking part in helping India reach two of the UN's 17 Sustainable Development Goals: Quality education for all (4) and gender equality (5) (United Nations India 2023)

The reason I am researching podcasting is because of the flexibility the medium offers. With audio lessons girls can learn from anywhere at their own pace, and by using audio instead of written language the content will be available to girls with lower literacy levels as well. In addition to the potential benefits for the girls receiving the podcasts, podcasting may also benefit the teachers as it is a low-cost alternative for producing educational content, and from a technical standpoint it's fairly easy to produce.

There is an organisation in Mumbai, Sakhi, which has tried the concept of "Girls Audio School" during the pandemic and found it to be very useful (https://sakhiforgirlseducation.org/girls-audio-school/). They had girls create podcasts for other girls, and shared the audio via YouTube and their own website. I found this to be inspirational, and hope my project can also be a helpful contribution to already ongoing work such as theirs.

1.1 Thesis structure

The introduction has given some background and context for the project. Chapter two contains the literature review that was done as preliminary research into the field of ICT in Indian education and girls' education. Chapter three presents the design methodology for the prototype that was designed and includes the design criteria. This is followed by a description of the design process and different iterations in chapter four. The fifth chapter presents the evaluation of the prototype, as well as a discussion around how it contributes to the field of study. In the sixth chapter there is a conclusion, with some points for further research and development of the prototype.

2. Literature review

In this literature review I have looked at literature related to girls´ education in India, and the role that educational technology may play in helping girls complete their secondary education. The thesis project is a resource aimed at teachers, but it's important to first understand what challenges their students face, and how using this resource may help them reach these students who dropout of school early.

Whilst girls' access to education in India has been improving the last few decades a lot of progress was lost due to the pandemic, which saw more than 136 million girls subject to school closures (Ferris, Clarke et al. 2022). Many of those girls will not return to school (Yousafzai 2020). In this review I will first present some background information on girls´ education in India, then I will present literature that provides an insight into the current state of girls´ education. In the next part I will present literature relating to specific technology that may play a part in resolving some of the issues girls are faced with in the educational context.

My search terms were “girls education”, “india'', “education technology”, “digital divide”, “secondary education”, and in some searches I included “covid-19”. The search strings ended up looking like this:

S3: (girls or women or females) AND india AND (secondary school or high school or secondary education) AND digital AND (covid-19 or coronavirus)

S2: (girls or women or females) AND india AND (secondary school or high school or secondary education) AND technology AND (low-income or poverty or low socioeconomic status)

S1: (girls or women or females) AND india AND (education or school or learning or teaching or classroom or education system) AND technology AND (secondary school or high school or secondary education)

EBSCO host returned only 118 hits for S1 (no more than 6 for S2 & S3), whilst a Google Scholar search for the same terms returned more than 8.000 hits. I have chosen to exclude literature that is too old and at risk of being outdated (before 2002), articles encompassing mainly primary or adult education, articles not relating to India, and non-english literature. Many articles were found as citations in other work, and on the topic related to covid-19 closures there is a lot of recent material in the form of news articles and reports from organisations within India, such as the Pratham Foundation (ASER) and Malala Fund. In this literature review I have tried to limit the number of references to news articles and reports and such, but it was somewhat difficult to find relevant up-to-date academic articles on the subject.

I have chosen to structure the next chapter by theme: girls´ education and technology. There is some overlap within these two, but the latter does look at some useful literature about technology that does not exclusively relate to secondary education as well.

2.1 Girls´ education in India

There is quite a lot of information about girls´ education in India, so I have chosen a few relevant articles that span from 2006 until 2022. The older article by Pande from 2006 does a good job of covering some historical background, which was very helpful to my research. The article may be a bit old, but after more research I have found a variety of reports and news articles confirming the continued relevance of Pande´s findings, but as none of these are peer-reviewed academic texts I am choosing to refer to the 2006 article instead. Pande writes that the debate on girls´ education began in the 19th century, as education was seen as an important way to increase the social status of women. She also explains how from the very beginning there were discussions about whether girls and boys should have an equal education, taking into account the prevalent view of women as future mothers and wives above all else.

Several other obstacles to girls´ access to education are mentioned; child marriage, indifference of parents, attitude to western education system, financial pressures, lack of curricula and girls schools (Pande 2006) and these points are also repeated across other articles on the topic, including that of Ferris et al. (2022). Ferris et al. touch on similar points to those of Pande, such as the low numbers of girls enrolled in secondary education due to gender biases. Whilst things seem to have improved somewhat since 2006, it is clear from Ferris´ that the problem persists many years later. In their article they focus on school closures during the pandemic, which saw more than 136 million girls out of school in India. They touch on the ideas that digital tools need to support sustainable development in girls' education. The Indian government has made promises to aid digital development in education but many places are without internet, and there exist several divides that act as obstacles, such as the rich-poor digital divide, urban-rural digital divide, and educated-uneducated digital divide.

Ferris et al quote UN numbers saying only 29% of India's internet users are female, which further reflects a highly patriarchal society. Centre for Global Development report that 69% of survey respondents believe covid have affected girls´ education more than that of boys. The study by Ferris et al. showed that access to both internet and technology varied greatly from urban schools to rural schools, but that mobile phones (and specifically WhatsApp) were being used a lot. The mobile phone aspect is further emphasised in the 2018 report *Bridging the digital gender divide. Include, upskill, innovate,* by OECD. The report shows that mobile phones with voice recognition are helping to decrease illiteracy in women in rural India, and that there is an initiative to launch the world's cheapest phone with support for voice input with an aim to cover 99% of India's population (OECD 2018). As much of the literature seems to back up the notion that mobile technology could be a solution to help girls receive their education I will delve further into specific literature on this point in the next chapter.

The OECD also mentions girls' education in general, as there is still a worldwide issue of less girls completing their education. Interestingly, we can read in the report that women are less likely

to participate in MOOCs than men (OECD 2018) but at the same time they write that girls may benefit disproportionately from digital technology, as they may gain access to educational material in the form of podcasts, videos, and how-to tutorials (OECD 2018).

The education of all women and girls should be a priority, but research on the Indian education system shows that the girls with the highest risk of dropping out, or being removed from school, are in the age group 14-18 years (Pande 2006), which is the reason why my thesis project will focus mainly on teachers of girls in secondary education. It is this group, teachers, that will be best able to prevent girls from dropping out of school completely.

2.2 Technology in Indian education

On the topic of educational technology in Indian education there is little specific information about the application for secondary school girls in low-income or rural schools. Sahoo (2016) outlines some challenges of girls´ education, along with some suggestions to overcome said challenges. Two of her suggestions are equal access to education, and flexible schooling hours, which could both be aided by good quality ICT solutions (Sahoo 2016).

Ferris et al. (2022) mention a rich-poor and urban-rural digital divide in addition to the gender digital divide, which means that information about educational technology in urban secondary schools will not be transferable to low-income schools, which is where most of the girls drop out. However, as we saw in the above chapter there is a lot of indication that mobile technology could play a part in aiding the girls most at risk of dropping out.

The ASER centre´s 2017 report on the status of Indian youth in the 14-18 age group reveals that mobile phone usage in this age group is widespread, however, the rate of girls (22%) who have never had a mobile phone is still higher than that of boys (12%) (ASER 2018). It's worth noting that in the ASER 2020 report it is shown that there was an overall increase in smartphone

ownership due to the pandemic, with 1 in 10 households purchasing a smartphone to support their children's education after school closures (ASER 2021), but in an article in The New Indian Express the same year we can also read that many kids in Delhi still lost out on learning due to lack of access to technology and to the internet (Mani 2020). This shows that we are headed in the right direction, but there is still a long way to go before everyone can reap the benefits of digital learning.

In ASER 2017 we read that 59% of youths have never used a computer, which is another strong indicator that mobile technology still has a farther reach than computers in the demographic I am most interested in. Van Dijk backs this up in his 2005 publication, stating that "*Third world countries can leapfrog development stages and go directly to production of ICT. A technical infrastructure could be built very quickly using wireless technologies and cheap terminal devices*" (p 202). He further explains that usage of mobile phones spread faster in these countries than computers and internet access. It must be noted that there is a notable difference in access to the internet between girls and boys, with 49% of boys reporting to have never accessed the internet versus a staggering 79% of girls (ASER 2018). This means that if I´m designing learning materials for secondary girls I would need to make it usable offline to reach as far as possible.

Potnis delves deeper into the topic of women and mobile technology, and emphasises that access to technology is simply not enough in itself (Potnis 2016). The users must have some digital literacy and insight into *what* and *why* they are doing. Chatterjee et al. conducted a study to identify the factors that can impact the adoption of mobile apps for learning in rural Indian schools in their article. They concluded similarly to Potnis that the usefulness of mobile applications is tied to behaviour and digital literacy (Chatterjee, Majumdar et al. 2020). This means that the teacher will play an important role in guiding girls' technology usage in a pedagogical way. Warschauwer (2003) also writes about the social and cultural context as a potential barrier to access to digital education, and the importance of stimulating teachers and students, and motivating family and the community as a whole (Warschauer 2003). The

importance of the teacher is clear, and there is no doubt that the work to help girls stay in school begins with them.

Potnis (2016) also talks to women who experienced barriers in terms of access to electricity for charging, linguistic barriers, design and interface barriers. These elements must be taken into consideration when developing any kind of digital learning material.

A lot of research has been done on the topic of why many girls in India are unable to complete their education, but much of the progress made earlier seems to have been lost due to covid-19 closures (Yousafzai 2020). The literature suggests that digital technology could disproportionately affect girls' ability to stay in school, but I could not find much about specific pedagogical strategies for its use in existing literature as of now. From the literature on the subject of technology in Indian education it's clear to me that mobile technology is the most accessible way forward if we hope to reach the girls that are most at risk of not completing their education for whatever reason. Because of this, the resource I make must be primarily designed for use on smartphones, not only for the sake of the girls, but for the teachers as well.

2.3 Basis for further research

On the basis of this literature review I can conclude that girls education in India has been a topic of discussion for many years, and that there are still gender specific barriers preventing many from completing their education, especially as they get older. Some of these barriers include having to help in the home or child marriage (despite it being illegal in India) (Pande 2006). I have also found that girls were disproportionately affected by the school shutdowns during covid-19 (Ferris, Clarke et al. 2022), meaning that some progress made in the last few years may have been lost (Yousafzai 2020). This is all the more reason why teachers should focus on this demographic and look into creating digital alternatives to traditional lectures. These findings show that simple, flexible mediums, such as podcasts, could make a real difference to potentially millions of young girls who might be unable to leave their homes to go to school, and

who have limited access to computers (Sahoo 2016). As mentioned in the introduction (chapter 1), the UN has set several sustainable development goals, with two of them pertaining to gender equality and equal access to education (United Nations India 2023). From the literature review its fair to conclude that there are still many challenges to face before India can fully reach those goals. Even though a lot of work needs to be done at government level to develop policies and provide economic help to poorer schools, the literature shows that the role of the teacher in making a difference to their students is not to be underestimated (Warschauer 2003). Providing teachers in especially affected areas with the knowledge of how to create more flexible teaching alternatives may be a small contribution to this work, so with this in mind we can continue to the next chapter to look at the design methodology for the development of the prototype.

3. Methodology

This master's thesis will be completed as a design project, so in this chapter I will give some background on what design methods I have chosen to use. Before moving onto the next chapter detailing the design process, it's important to have an overview of what it means to carry out a design project in general, and the theoretical basis for the choices I have made in my project. Therefore, I will first present the design science approach, followed by the design thinking method. These formed the basis for my approach to the design process in general. I will finish off by explaining prototyping, which will be my most important design tool, and then presenting the design criteria, against which my project should be evaluated.

3.1 Design science

The article that best explains different research approaches in design science is *Design and natural research on information technology* by March and Smith (1995). They write about both natural science and design science in IT. The main difference between the sciences that we need to know for this project is that design scientists develop methods and artefacts aimed at solving tasks in a particular environment, rather than trying to understand reality. In the case of this project, I am trying to solve a problem for teachers in a very specific situation, so I must apply my knowledge of the user's environment to the artefact (prototype). Design science consists of two activities, building and evaluating, which will both be covered in this project in the form of a report, and a prototype. Further on, they introduce four kinds of research outputs: constructs, models, methods, and implementations. These are presented in a suggested framework along with four research activities: build, evaluate, theorise, and justify.

Research Activities

Research Outputs	Build	Evaluate	Theorize	Justify
Constructs				
Model				
Method				
Instantiation				

Fig. 1. A research framework.

(Figure 1: March, Smith, 1995, p. 255)

My research output will fall under *instantiation,* which refers to the realisation of an artefact that demonstrates feasibility. When building an instantiation (which will be the prototype) the research contribution is based on the value or utility to the users, and/or the novelty of the artefact. The artefact I am creating will not be tested on an actual user group for this project, but March and Smith do write that an instantiation may be made from intuition and experience before the completion of the three other research outputs (p. 258). The artefact will be a high fidelity prototype of a web resource/website built in Adobe XD, which is a vector design tool for creating user interfaces and wireframes. Fidelity refers to how closely the prototype corresponds to the final product (Camere and Bordegoni 2016), and "high" or "low" describes the degree of correspondence. A prototype can be defined as a "*concrete representation of part or all of an interactive system*" (Beaudouin-Lafon and Mackay 2002). Early prototypes (often low fidelity) can be helpful as visualisations to stimulate reflection and discussion, and at later stages the high fidelity prototypes can test technical and social feasibility. Ideally, the prototype would

be succeeded by a finished product, but with the constraints of this thesis the final prototype will be the end result.

After the building activity comes evaluation. When evaluating an instantiation we must have set some criteria against which to evaluate the effectiveness, efficiency, and impact of the artefact on its intended users and environment (March and Smith 1995). For this project I have done a lot of research into my user group and the environment in which my finished product could be used. This has led to the development of some very concrete criteria against which to measure its effectiveness and usability. Designing is an iterative process, so each iteration of the prototype should be evaluated against the set criteria to ensure that the end design does not deviate from the specific needs of the users.

3.2 Design thinking method

The intended design methodology for this project was participatory design, in collaboration with a user group. Prior to arriving in India I had contacted approximately 8 different organisations working with teacher education in slum areas, with one organisation agreeing to meet me upon arrival. The process of contacting these people and organisations was quite challenging, as many had outdated contact information and websites (several emails were returned automatically) or simply just did not reply. I planned a two month stay in India to hold three workshops, but despite my best efforts to set up a meeting with the organisation who I had been in contact with, nothing came of those plans. I continued to attempt to find other potential users whilst back in Norway, but unfortunately to no avail. I therefore chose to continue with my project without users. With the research I had done prior to my departure to India, combined with my practical experience with design thinking in my professional life, I decided to create a web resource where I could share the same instructional material I would´ve used in a physical workshop with teachers in India, using the design thinking method instead.

Design thinking is closely related to several design methodologies, such as participatory design (PD), human-centred design (HCD), and user-centred design (UCD). They are all approaches to design that prioritise the needs and experiences of the users, but they differ in their methods in doing so.

Participatory design is a democratic methodology that involves the users throughout the entire design process. There is a strong emphasis on the importance of users having a real say in each stage of the process and giving them the power to directly influence the design (Simonsen and Robertson 2013). This was the process I originally planned for this project, but due to the lack of a user group to collaborate with I unfortunately could not take a participatory design approach this time.

Designers working with user-centered design believe that the purpose of a system is to, first and foremost, serve the user. The technology is secondary. They interview and observe users from the very beginning of the process, until after the release of the product (Still and Crane 2017). However, the users do necessarily not have as much power over the design as in participatory design projects.

Design thinking is used to develop new solutions to problems by learning about users needs and goals, whilst also considering viability and feasibility (IDEO 2023). It gives designers an opportunity to identify challenges and needs, and draws on their ability to empathise with users, as well as their creative mindset. This methodology is very well suited to my project, both practically and ideologically. Tim Brown, head of IDEO, said that *"designers should be more involved with the big picture of socially innovative design, beyond the economic bottom line"* and talks about design as a collaborative process characterised by human-centeredness, empathy and optimism (Simonsen and Robertson 2013). The design thinking process is iterative; however, the process is also non-linear, and steps can be taken in parallel, or completed and then repeated. Learning is one of the main focuses of the design thinking process, and this

learning can happen in many ways, such as through working with a diverse team, creating user stories, prototypes, and learning from the failures and successes of the product (Liedtka 2013).

While design thinking highly values user input, it´s not a requirement from the beginning stages of the process, like with PD and UCD. This gives me the opportunity to start a design process without a user base, with potential for user feedback at some later point. With the research I have done for this project, and my previous experience with similar users in the past, I can empathise with my intended users and use that as a starting off point for my design. Through the research for the literature review, and the initial planning of the work with the teachers in the Mumbai-based organisation, I have a strong idea of who my user is and what their needs are. Although I was not able to visit the organisation I did spend two months in the same area, and spoke to various people about their experiences. This has also given me a sense of the environment in which my resource would function.

In my job as a podcast producer at a Norwegian university I have helped train teachers and students from several countries in production and use of podcasts for education (simuleringsbasert-helseutdanning, cuba-trening-uis). The feedback from the teachers after the training, and the experience with various practical challenges we faced in these training processes have affected my approach to the design of my resource. Based on previous sessions with teachers from Cuba, Tanzania and Malawi some recurring challenges across all countries are access to quality recording equipment, knowledge of how to use said equipment, knowledge of how to structure and prepare a podcast recording, and tools for distribution. The challenge pertaining to access to quality recording equipment is usually the greatest concern. For that reason I chose to address this first in the teacher's instructions, as I normally do in physical workshops. It was important to me that the teachers who do not have access to expensive microphones understood that it's possible to make very decent quality recordings with minimal equipment with the right technique. From previous experience, this misconception can be a huge barrier for many who want to try their hand at podcast

production. This particular challenge is also relevant for schools in poor areas of India, so in this way the teaching approach will be similar to what I used for the Cuban and African teachers.

In one collaborative project with teachers from Cuba we had the challenge of figuring out how to maximise the reach of the podcast, in an area with generally poor internet connection, when unable to use any of our standard publishing platforms (Spotify, Apple) due to embargos. Using an LMS (learning management system) was also not an option in the case of Cuba, and is equally challenging for my Indian students in low-income schools. Whilst there are no embargos affecting India's access to various software or platforms, the intended demographic shares a similar challenge of poor internet connection and very limited knowledge of how platforms such as Spotify and Apple Podcasts work. We also saw in the literature review that girls are less likely to access MOOCs (OECD 2018), so I would choose not focus on LMS platforms either.

All of these professional experiences, combined with the research and literature review I have done into the subject and user group has formed the basis of my choice of design methodology for this project. The final product will be a prototype that can, hopefully, be tested and developed further in the future.

3.3 Prototyping

Prototyping is an essential part of the design thinking process, not just an end result. For this project I will develop at least two iterations of the prototype. At least one will be a low-fidelity prototype, to function as an early visualisation of the project, and the final prototype will be a high-fidelity prototype that can be tested and assessed by a user group in the future.

Beaudouin-Lafon and Mackay (2003) describe four dimensions along which we can analyse our prototypes: Representation, precision, interactivity, and evolution. **Representation** refers to the different ways in which a prototype can explore the design space and has two basic forms:

online and offline. Both have their advantages and disadvantages. Offline prototypes often come in the form of pen and paper sketches or videos, whilst online prototypes are software-based. Beaudouin-Lafon and Mackay (2003) argue that early prototypes are more efficient when made as offline prototypes. They write that offline prototypes allow for more creativity, in addition to being cheaper and faster than their online counterparts. My initial prototype was made using a digital whiteboard, with no options for interactions, but I would argue that it still falls in under the category of online prototype. I do not disagree with Beaudouin-Lafon and Mackay on the value of an offline prototype, but there has been significant development in technology since 2003 which makes it easier to create digital sketches just as inexpensively and rapidly as with pen and paper. I do, however, also recognise that an analogue method could be preferential when working in a team with varied digital competence. When it comes to later iterations of the prototype there is full agreement on the advantages of an online prototype.

Precision is a term that is closely related to fidelity when talking about prototypes, but Beaudouin-Lafon and Mackay (2003) prefer the term precision, as it´s more closely related to the content of the prototype, rather than the final system. In design thinking methodology its more common to talk about fidelity, so that is the term I will continue using moving forward.

Interactivity refers to how the user interacts with the system, and opposite. Prototypes may have various levels of interaction and are divided into a few different groups depending on how much interaction they support. My final prototype can be defined as an *open prototype,* according to Beaudouin-Lafon and Mackay, which means that is supports a large number of interactions, but still contains some limitations.

The final dimension described by Beaudouin-Lafon and Mackay is **evolution**. Prototypes can be defined as rapid or iterative. Rapid prototypes are designed for a specific purpose, and then discarded in the early stages of the design process. Iterative prototypes reflect the design process, as it continuously evolves throughout a series of design iterations towards the final design. Design thinking is an iterative process, which means the prototype created using this

method will be an iterative prototype. For this project the design process is equally important to the result, which means that the different iterations should reflect the evolution of the design so that we can learn from both successes and failures in the process.

3.4 Design criteria

In chapter 3.1 we read that March and Smith specify the need to set criteria which the artefact can be measured against (March and Smith 1995). These will also guide the designer in the work towards creating a product that will be successful in the environment in which it should function and will be especially helpful in this project where there is no possibility of user feedback. The following criteria have been formulated with a basis in the findings in the literature review and will be important when the time comes to evaluate the prototype. Three of the criteria are quite technical in nature, and the fourth is slightly more pedagogical.

1. Must be designed for optimal use on small smartphones

Findings in the literature review suggest that the resource I create will mainly be accessed via smartphones, and often in areas with poor connection quality (ASER 2018, OECD 2018, ASER 2021, Ferris, Clarke et al. 2022). These factors heavily influence how the final product will look and function. The resource will be created as a website rather than an app, as it is easier to share and does not require any downloading of software. This means that the intended final website will be responsive and function on all devices, but in the design process I will focus mostly on making it ideal for smaller, basic smartphones.

2. Accessibility

This criterion can be seen somewhat as a continuity of the first criterion. Regarding the design itself it's important that it be as simple and accessible as possible, so as not to alienate any user groups. WCAG (web content accessibility guidelines) is an international standard for accessibility, although not mentioned by law in India, but the design should adhere to these guidelines as far as possible. There should be neutral colours with sufficient contrast and the

graphics should be kept to the absolute minimum to avoid long downloading times. The contents will be mostly text-based, and I will make all technical information downloadable for those who wish to save it for offline use. These files have to be small and only contain the actual instructions, no text or images that are not strictly relevant for the context of the information. One of the goals of the resource is for it to be available to any teacher at any time, so my proposed solution is to provide these downloadable elements so that they only need to access the actual site once if they have poor access to the internet where they live.

3. Content should be available in English and the local language

Van Dijk mentions how people designing resources for global south countries often alienate users with choice of language: "*They should be framed in the local language, as few people in the third world speak the official language of their country, let alone English" (van Dijk 2005).* As my originally intended user group was based in Mumbai, I would like to make a point of creating all the resources in the regional language there, which is Marathi. For the translation from English to Marathi I have enlisted the help of a Marathi speaker from Mumbai. Since I do not personally speak the language it's too risky to rely on translation apps, since I would be unable to spot inaccuracies myself.

4. The content must be tailored to fit the needs of the intended demographic: teachers who want to reach at-risk girls

While some of the technical instructions will be general enough to be useful for any interested person to understand, my main goal is to provide some help to teachers who teach girls who are at risk of dropping out of school. This will be reflected in the page about the benefits of podcasts for education and in the suggested themes for podcasts. As mentioned in the literature review earlier; the OECD 2018 report states that girls' rates of digital literacy and experience with using the internet is less than that of the boys, and that girls may disproportionately benefit from materials such as podcasts. Girls are much less likely to participate in MOOCs, so if teachers want to ensure the continued education of these girls they need to try other options. Another finding in the literature review from Potnis (2016) is that

some women in rural communities experienced certain barriers preventing them from fully utilising technology, including linguistic barriers. Unfortunately, the literacy rate in India is lower for women than for men, so providing girls specifically with educational material in the form of audio recordings could potentially benefit many students whom the teachers may struggle to teach in a traditional classroom with books.

In the methodology chapter I have given a presentation of design science as a research approach, and how it has influenced the design process ahead. Further on, my choice of design thinking methodology as method of choice for this project has been presented in context of its relevancy to my project and previous experience. Finally, the design criteria have been formulated and explained. The next step is to move on to the actual design process to develop a prototype. This will be presented in the next chapter.

4. The design process

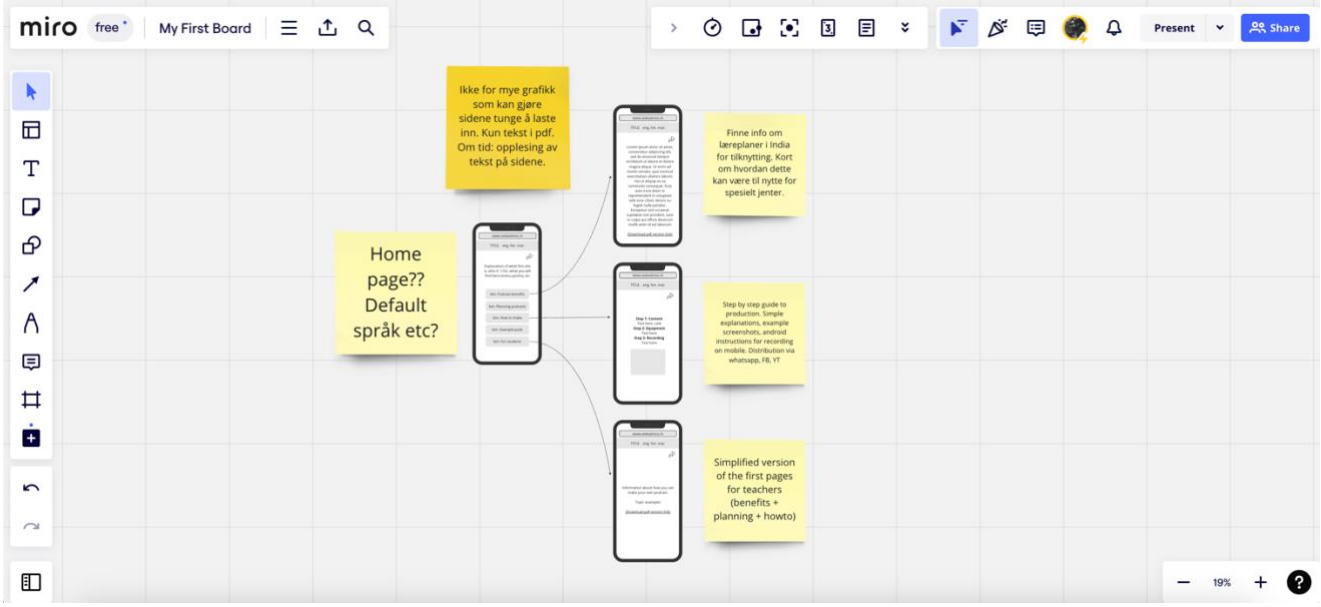
Here I will present the three iterations of the design process in this project. All iterations resulted in the development of a prototype and led to new learning. Even though the main evaluation activity comes after the design process, the evolving prototype has been somewhat evaluated throughout the different iterations to make sure I stay on the right track, since I lack a user group to consult after each iteration.

4.1 First iteration

The starting point for the design process was to empathise with my user, as per the design thinking methodology. As such, I created a backstory for a suggested user based on the information I have gathered: Her name is Zara, and she is a secondary school teacher in a slum area in Mumbai. In her class there are several girls who have poor attendance due to reasons such as having to help in the home, or the parents prioritising her brother's education above hers. Zara wants to help these girls complete their education from their home, but they do not have access to a computer, only mobile phones. Zara herself lives in the area and has limited access to a computer at home.

The first step in developing the prototype for the online podcast resource was creating a sketch/low-fidelity prototype. The benefits of creating a low-fidelity prototype are several. For the resource to be of value to my user it is important to ensure that the design is simple enough to function as a mainly mobile website, and that the use of heavy graphics is kept to a minimum, so a low-fidelity prototype allowed me visualise this, which again helps in the planning of the content that needs to go on the website. In keeping with the guidelines on low-fidelity prototyping for UX designers I created everything in grayscale and focused mainly on creating a skeleton for my website where I could map out the content and user flows.

The first prototype is an online prototype created digitally with Miro, which functions as a kind of digital whiteboard (prototype 1.1). The app includes some basic pre-made elements that allows me to very easily create visualisations of how my resource could look, but also allows for drawing on the board directly as to not create restraints at this early design stage, like digital sketching. This was helpful to gain insight into what basic elements are needed to create the final product I am after. I chose to do this before finishing the work with the content to make sure that my idea can actually be realised. With the Miro prototype I created a few "sketches" of what the interface could look like, with post-it notes next to them with comments.

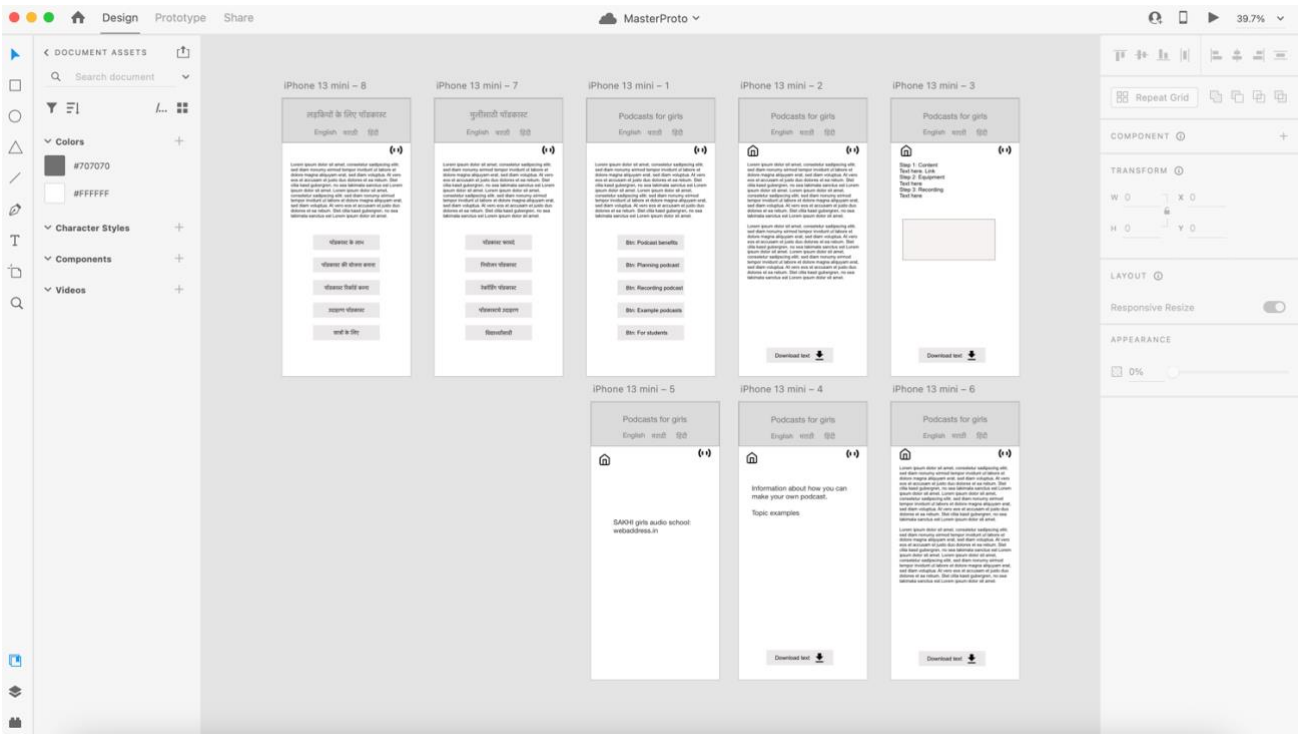


(Figure 2: Development of the first prototype in Miro)

Despite falling into the category for a software prototype, this iteration features no interaction. In this first step of the process, I focussed solely on the initial two design criteria, which concerned functionality for small screens and accessibility. For me, these elements had to be clarified before continuing the work with the second half of the criteria, because it´s vital for the success of the project that the prototype functions within the environment where my users operate. After ensuring that these criteria are met, I plan to move on to the next iteration of the prototype.

4.2 Second iteration

This first iteration was extremely simplified and the elements were not clickable, so as a next step in the prototyping process I decided to further develop this prototype in Adobe XD to make a selection of functions clickable (prototype 1.2). Being able to click through all the planned pages helped me realise that maybe I need to somewhat limit the planned amount of content going into the final prototype. For example, I was initially planning to add three languages to this prototype, but seeing how many pages this requires in practice has made me realise that it is much more feasible, given the constraints of this project, to only add two. The remaining language option (Hindi) will be kept as a “nice to have '' criteria, rather than a “needs to have”.



(Figure 3: The Adobe Xd workspace during the second iteration)

In addition to the realisation that I need to rethink the scale of the prototype, the second iteration also showed me that some of the buttons I was planning on implementing would not be practical on very small screens, such as the button intended for audio playback. Additionally, adding an audio feature would go somewhat against the concept of a small, light website fit for

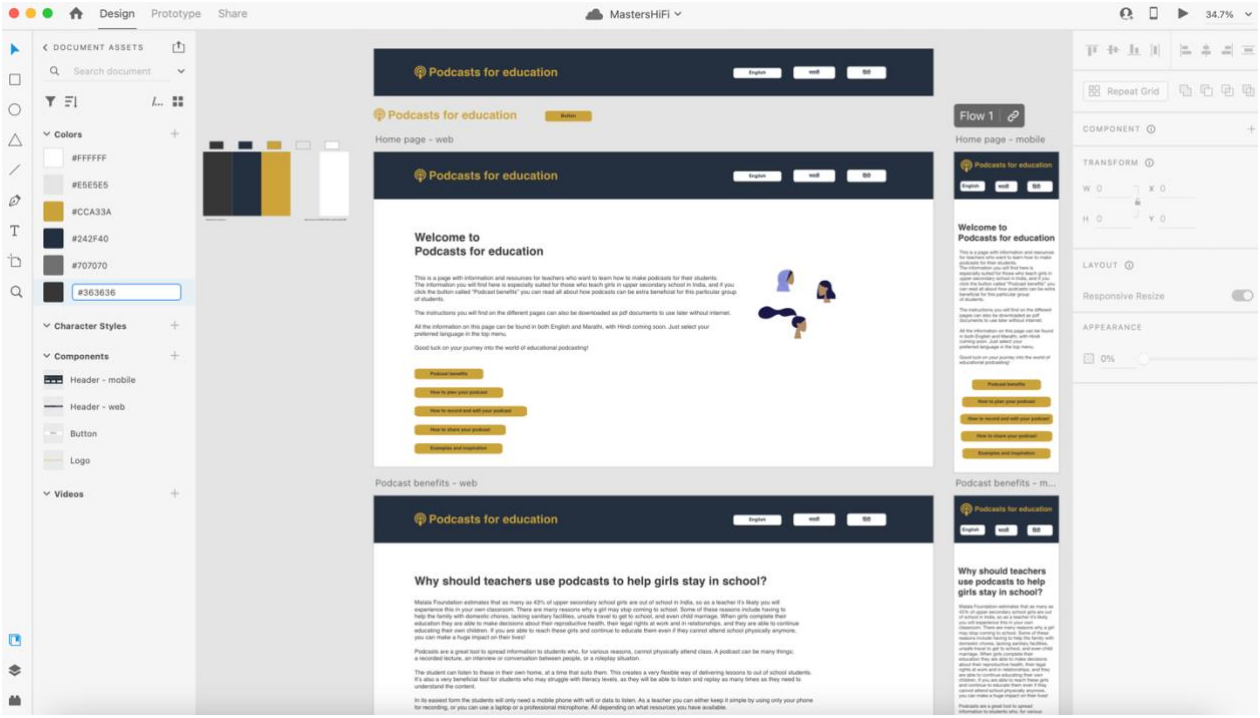
limited internet connection. When going over my research into the users once more it occurred to me that, even though many of the girls I am hoping to help may have low literacy level and would benefit from the pages being read aloud, the teachers who will ultimately be creating the podcasts for them won´t have this issue. Therefore, I have decided to remove this button in the final iteration, and instead focus on adding the information in clearly written, easy to understand language.

As part of this iteration, I have also developed the content to go on the website. The final two design criteria I formulated focus more on content than the technical solution, but with a stronger idea of the technical solution now in place I can work on adapting the content to fit the context. The instructions are written in a very clear and concise manner, as to avoid any potential confusion or unneeded problems when it comes to understanding the instructions. As part of this thesis, I also had to present my project to my peers. I received feedback that the resource can be useful for a much larger group of people than just the users I chose to focus on. This brought both challenges and opportunity for me. On one hand I had to spend more time working out how to represent my user group specifically in the project, but on the other hand I also wanted to find a way to not alienate other potential users in the future.

4.3 Final prototype

The third iteration of the prototype will serve as the result for this project. As with the second iteration, I developed it using Adobe XD. The software does not let users create responsive prototypes, so I have had to develop two parallel versions: one desktop version and one mobile version. The desktop version was new to this iteration. That is because the focus has been mobile, but it still needs to run smoothly on computers as well. This version includes a small graphic on the homepage but it´s otherwise identical to the mobile version. The desktop version is designed for a standard 1920x1080 screen, whilst the mobile version is designed for a Samsung S10, which is the smallest size screen Adobe XD provides as an option. Due to the simplicity of the design in the mobile prototype it would not be a problem to run it on an even

smaller phone. My proposed user from the first iteration should be able to access the mobile website with little to no problems, even with a slower data plan.



(Figure 4: The Adobe Xd workspace during the final iteration, now with colours and simple graphic)

The prototype now has a colour palette, which was chosen with accessibility requirements in mind. The header is dark blue, the navigational buttons and logo is a mustard yellow with dark grey text, and the text colour is a dark grey. Use of colours in design is always intentional, and I chose blue and yellow in my design not only for the aesthetic value, but also to avoid any semblance of religious or political affiliation. The contrast ratio has been double checked with an external tool, and the rest of the prototype has also been sent through various accessibility checkers to confirm compliance in accordance with both WCAG 3, and my own set design criteria.

Other developments from the previous iteration include the removal of the audio button, the change of "home" button from an icon to a text-based button (due to accessibility suggestions), and the change of name from "*Podcasts for girls*" to "*Podcasts for education*". The latter was a choice rooted in the feedback from the peer feedback session. A download button has been

added to the pages that could include a downloadable version of the content, but due to the technical constraints of the software the button is non-functional in the prototype. In a live version of the resource the download button would allow the user to download a pdf version of the text. Links are also not clickable; therefore, the most important ones are posted in their entirety throughout the prototype.

Adobe XD falls into the category of User Interface Builders, according to Beaudouin-Lafon and Mackay (2003), which means that the software allows the users to easily explore and test user interface designs but there is no coding involved for the UI designers. However, implementing this prototype into a functional site would require a significant amount of programming. I have only basic knowledge of programming, so I would probably not be able to build the website myself without help, but I have used the knowledge I have to ensure that the functions I have described would all be feasible to implement on a real website.

The design process has been educational, despite working alone. I have had to consistently refer to the literature and design criteria to keep myself on track, and I have drawn upon all the practical work experience I have with making prototypes and working with the design thinking method. I have given some colleagues and fellow students access to the third iteration of the prototype, to ensure that the navigation structure is intuitive for users who are not familiar with the prototype already. I found this helpful, as I have able to make minor changes to purely technical aspects (such as button placements) because of these external user's feedback. When it comes to the main evaluation, this will be done in the next chapter.

5. Evaluation

The second design activity in design science is evaluation (March and Smith 1995), and the prototype will be evaluated against the design criteria I formulated in chapter 3.4. Design thinking method does not include evaluation as a step in its process, but it becomes a part of the final stage, which is testing. In the test stage the designer will observe the users interact with the prototype and collect feedback. The goal of this is to collect information about potential flaws that need to be addressed before the product is complete. Since design thinking method is non-linear, the feedback may require the designer to revisit an earlier stage of the design process. In this chapter I will evaluate the prototype as per March and Smith, and then briefly outline what changes I would choose to make, if given the time, in the spirit of the design thinking method. Lastly, I will discuss how my prototype could contribute to the field of education in India.

5.1 Evaluating the prototype against the design criteria

According to March and Smith (1995), when evaluating an instantiation, we must have set criteria against which to evaluate the effectiveness, efficiency, and impact of the artefact on its intended users and environment. I have set four such criteria for this project and will now go through them one by one.

5.1.1 Must be designed for optimal use on small smartphones

The literature showed that any digital, online resource meant for India must be accessible on a mobile phone, due to that being the technology of choice for most people (van Dijk 2005). For that reason, I began designing from small screens from the get-go. The result of this is a prototype that is adapted for these devices and will have no issue running on even the smallest smart phone screen. I made the choice to have very little graphics on the site, and other than the download text options there is nothing that would require a particularly fast or high-quality internet connection. Most of the content is pure text. A downside to this is that the amount of

text on the smaller screens may seem a bit much at first glance, but adding more buttons and interactions to reveal text section by section would go against the idea of making it run as smoothly as possible with poorer connections.

All in all, I feel the prototype meets this criterion quite well. Based on the literature findings this was the most essential technical criterion, and it was therefore always at the forefront of my mind when designing. I did, however, also create a parallel desktop version for the site, and if it was operational as a real website, one would be able to open the desktop version and shrink it to mobile size as a responsive website to see the difference. Because of limitations within Adobe XD, it had to be made as separate links.

5.1.2 Accessibility

Although WCAG 3 is not law in India, it was important the prototype adhere to accessibility guidelines as much as possible. This choice was made because these guidelines were created to make content as inclusive as possible, regardless of disabilities and challenges. According to these guidelines content should use clear language, logical order, and be easy to navigate. The design should be consistent and have sufficient colour and contrast (https://www.w3.org/TR/wcag-3.0/#about-wcag-3). There are some online resources available that allows users to input a web address into an accessibility checker, which will then return information about whether the website is compliant with WCAG.

I was unfortunately not able to make the content downloadable in the prototype, due to software restraints. I added the button to download the text, and created separate pdf files, but could not make the download button functional in the third iteration. This would be very easy to do with a real website, so even though it wasn´t possible at this point, I would still argue that my prototype meets the criterion I originally formulated.

5.1.3 Content should be available in both English and the local language

This criterion is very important to me, as it was very clear from the literature that language can be a significant barrier preventing the intended demographic from being able to use my resource (van Dijk 2005) (Potnis 2016). I have created an English version as a default, but with the option to access every page in Marathi with the click of a button in the header. The translation has been done by a Marathi speaker, to ensure that it´s correct. Even though I cannot contribute to the translation directly, there was a lot of discussion with the translator about wording and how to convey the same information in the simplest way. When directly translated the content that seemed simplified in English became quite heavy in Marathi, so the process took slightly longer than originally anticipated.

5.1.4 Content must be tailored to fit the needs of the intended demographic: teachers who want to teach at-risk girls

Of the four criteria I formulated I find this one to be the most challenging to both develop and evaluate. I wanted to include one criterion that was not a purely technical, but that had more of a pedagogical aspect. There are a lot of instructions on how to record podcasts online already, but the point of my resource is that I want it to be used by a very specific group of people. I have written a lot of instructional material for podcast production before, but this time I spent a lot of time researching what tools are available in India for free, and what topics being taught there are most suitable for the podcast format. For the examples page I have chosen Indian podcasts, or podcasts relevant to Indian teachers. I also included an introduction page with information about why these specific teachers should use podcasts. The content structure is as follows:

- A presentation on the benefits of podcasting (based on my literature review)
- How to plan and structure a podcast
- How to record and edit a podcast

- How to publish and distribute podcasts
- Examples and inspiration

To really be able to properly evaluate how well the content fits the criterion I feel like I would need access to a group of Indian teachers who could provide me with feedback on the relevancy of the content. This is especially relevant for the pages about planning and distribution. I did investigate the curriculum being taught to secondary school students in India and found a policy paper encouraging teachers to focus on sex education for girls at this level. All of this has been reflected in the suggested topics on the planning page. As far as recording and editing instructions, I did research into the most common type of smartphone and software available to Indians and based the instructions on that information. The publishing and distribution instructions are the shortest and are based on what other groups are doing with their content.

Ideally, I would do a workshop with some teachers pertaining to the content and then return to an earlier design stage to adapt it better. Whilst I feel the prototype does meet the criterion, I also recognise that there is some room for improvement here.

5.2 Discussion

There are many potential benefits to an educational resource like this aimed at teachers. In secondary schools in poor, rural, or slum areas there is a higher chance of girls leaving school early and less resources available to provide flexible learning methods (Pande 2006, Ferris, Clarke et al. 2022). Many teachers who want to help prevent high drop-out rates may not be aware of all the possibilities available or may feel overwhelmed by the amount of ICT solutions that exist. There has been less research into the use of podcasts as a flexible alternative to traditional classes than MOOCs, but some studies mention it as a very real option to reach these girls (Sahoo 2016, OECD 2018). When some of the major obstacles keeping girls from participating in classes are related to lack of time, linguistic barriers/lower literacy levels, or lack of facilities, podcasts is a potential solution to remove these obstacles.

To be able to help these girls continue their education we must focus on the teachers first. The teachers must have the tools and the know-how to provide the students with viable alternatives to traditional classes. The goal of this resource is to provide the teachers with the knowledge and inspiration to be able to create something that could have significant benefits for their students. The research done for this project shows that the teachers (and community in general) must be motivated in order to bring change (Warschauer 2003), and this prototype is meant as a contribution to that work.

By simplifying and adapting the information and instructions needed to create podcasts I hope to inspire teachers to try something new. Much research has gone into making the prototype as accessible in possible, both regarding the actual tech and the contents of the resource. The idea is that the teachers should be able to access this information easily, on their preferred device, in their own language. The research of Van Dijk on was essential to many of the choices made in the process, from language to device. The main point of teachers creating podcasts for girls is to reach the girls where they are, at their level, and in their time, and the strength of this prototype is that it was made with the same intention in mind for the teachers. It is an effort to remove as many barriers as possible standing in the way of teachers being able to access the resources they need to create podcasts.

6. Conclusion and further research

For this thesis I have designed and built a prototype of an online resource to help teach teachers how to use podcasts as a tool to make education more accessible. The research shows that girls of a certain age group in India dropped out of school at a high rate, and that there is a complex array of reasons why this happens. Some of these reasons could potentially be addressed through the development and implementation of ICT solutions that allow girls to learn in a more flexible way. One of the proposed ICT solutions that could benefit this group of students is educational material in podcast form. For this solution to be viable its important to stimulate the teachers to use this solution in a way that is sustainable for all parties. My aim with the resource I have created is to show these teachers that 1) it's possible to create podcasts with minimal equipment and low costs and that 2) the creation of these podcasts can reach girls outside the physical classroom and continue their education. The research question I started with was: "*Can podcasts give girls at risk of dropping out of school in India the flexibility to continue their education*?", and I believe that this thesis shows that the answer to this is largely yes. Until significant political and economic changes are made on government level there will always be groups that lack access to internet, mobile phones, and other such resources, but the proposed solution in this thesis may still help *many* girls.

6.1 Further research

The next step in the development process would be to test the prototype with real users. Ideally, teachers should use the prototype to record actual podcasts, and then test those podcasts on a group of students. If this is successful there are several other features I would like to add to the resource in the future. It would be useful to translate the content into other languages, such as Hindi, Urdu, Bangla or other regional languages spoken in India. After that, it could very well be translated for use outside of India. Another feature I want to add is a page with instructions and inspirations for girls to record their own podcasts that they can share with each other. Having students record for each other provides great practice when it comes to

learning the material, but it also has great linguistic benefits. This was not prioritised in this project since similar material for students already exists other places.

A resource like this has a lot of potential, and it would be very interesting to complete the work on it, if given the chance. For this project I had a specific focus on girls' education in India, but much of the content is transferable to other groups and demographics. Perhaps it could be of benefit to teachers with students in other situations as well, such as those displaced because of war or environmental factors.

References

ASER (2018). Beyond Basics.

ASER (2021). Did Technology Enable Inclusive Education in Rural India in a Year of Lockdown?

Beaudouin-Lafon, M. and W. Mackay (2002). Prototyping tools and techniques. The human-computer interaction handbook: fundamentals, evolving technologies and emerging applications, L. Erlbaum Associates Inc.**:** 1006–1031.

Camere, S. and M. Bordegoni (2016). A lens on future products: an expanded notion of prototyping practice. DESIGN2016. S. M. Marjanovic Dorian, Pavkovic Neven, Bojcetic Nenad, Skec Stanko**:** 155-164.

Chatterjee, S., et al. (2020). "Adoption of mobile applications for teaching-learning process in rural girls' schools in India: an empirical study." Education and Information Technologies **25**(5): 4057-4076.

Ferris, R., et al. (2022). "Digital poverty in a country that is digitally powerful: some insights into leadership of girls' schooling in India under Covid-19 restrictions." Asia Pacific Journal of Education **42**(sup1): 34-51.

IDEO (2023). "Design Thinking."

India, U. N. (2023). "Our Work on the Sustainable Development Goals in India." from https://india.un.org/en/sdgs.

Jha, P. and N. Nagar (2015). "A Study of Gender and Inequality in India." International Journal of Indian Psychology **2**(3).

Mani, G. (2020). Online classes: Poor students in Delhi struggle due to lack of internet connections. The New Indian Express.

March, S. T. and G. F. Smith (1995). "Design and natural science research on information technology." Decis. Support Syst. **15**(4): 251–266.

OECD (2018). Bridging the Digital Gender Divide. Include, Upskill, Innovate.

Pande, R. (2006). Digital divide, gender and the India experience in IT. Encyclopaedia of Gender and Information Technology. E. M. Trauth, Idea Group Publishing. **1:** 191-199.

Potnis, D. (2016). "Inequalities creating economic barriers to owning mobile phones in India:Factors responsible for the gender digital divide." Information Development **32**(5): 1332-1342.

Sahoo, S. (2016). "Girls' Education in India: Status and Challenges." **6**: 130-141.

Simonsen, J. and T. Robertson (2013). Routledge International Handbook of Participatory Design, Routledge.

Still, B. and K. Crane (2017). Fundamentals of User-Centered Design. Boca Raton, CRC Press.

van Dijk, J. (2005). The Deepening Divide: Inequality in the Information Society. Thousand Oaks, California.

Warschauer, M. (2003). Technology and Social Inclusion: Rethinking the Digital Divide, The MIT Press.

Yousafzai, M. (2020). After Covid-19, millions of girls may not return to the classroom. We can help them. The Guardian.

https://www.w3.org/TR/wcag-3.0/#about-wcag-3

Attachments

Prototype iteration 1 link: https://miro.com/app/board/uXjVM-x4Od4=/?share_link_id=782492652018

Prototype iteration 2 link: https://xd.adobe.com/view/28da2a34-d008-4f0d-8254-2b6593ac4dec-7d89/?fullscreen&hints=off

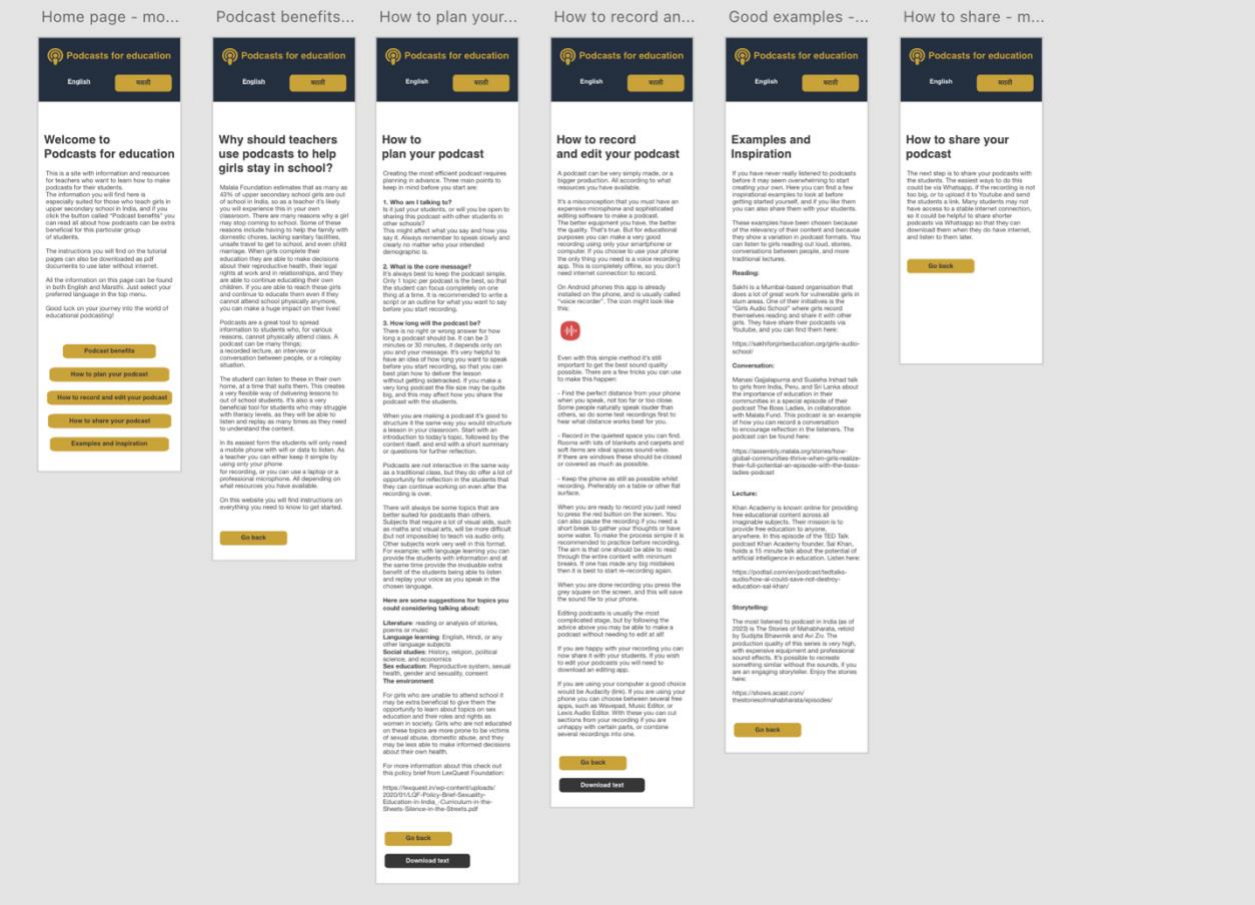
Prototype iteration 3 links:

Desktop link https://xd.adobe.com/view/d89b1aae-6d05-4978-b7da-844d4f5450f8-8dc8/?fullscreen

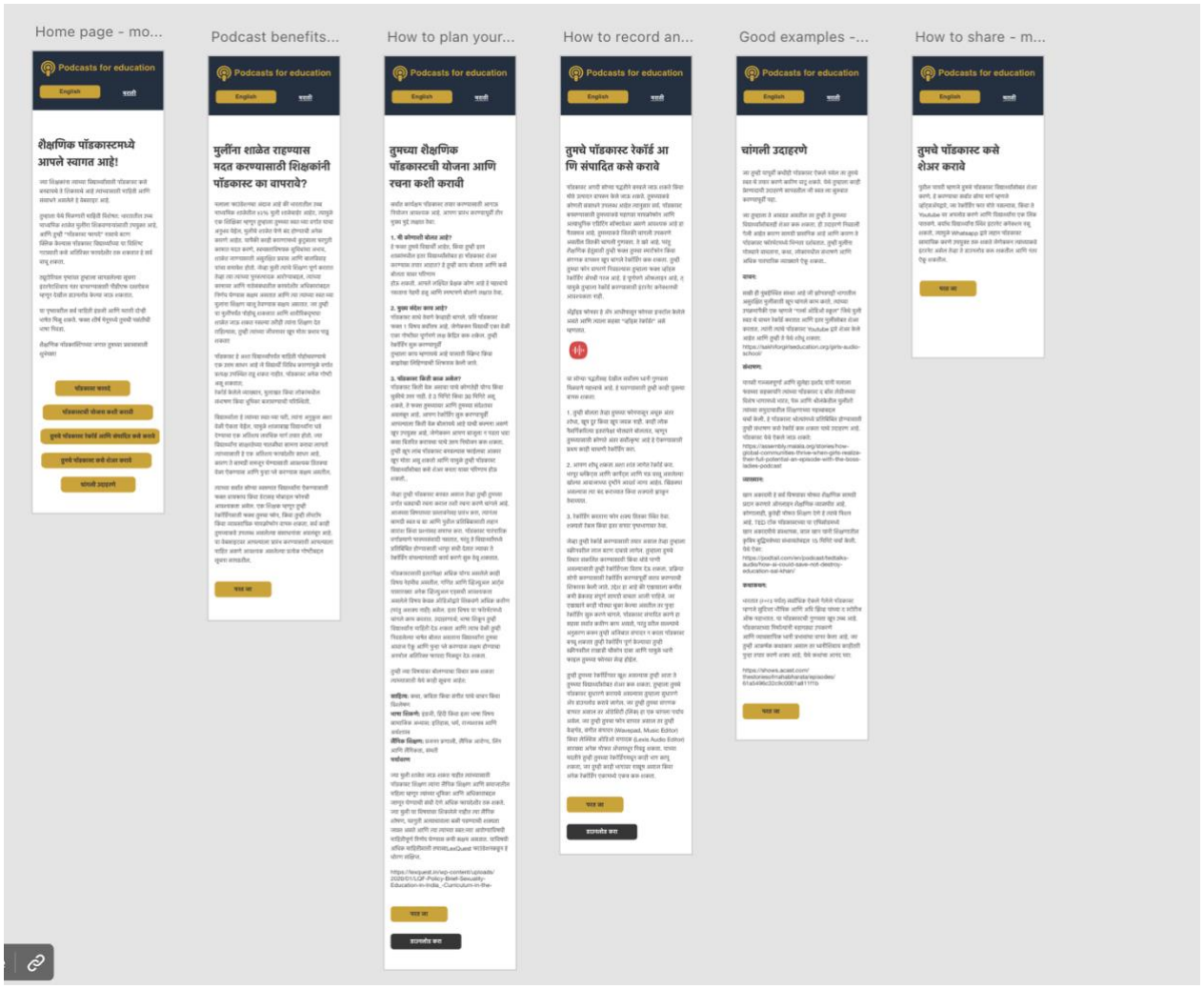
Mobile link https://xd.adobe.com/view/0fa0fbc8-2d32-4d39-b99a-604fb5e0e6d7-5af3/?fullscreen

Screenshots of the prototype for smart phone screens:

English



Marathi


Home page - mo...
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English
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शैक्षणिक पॉडकास्टमध्ये आपले स्वागत आहे!
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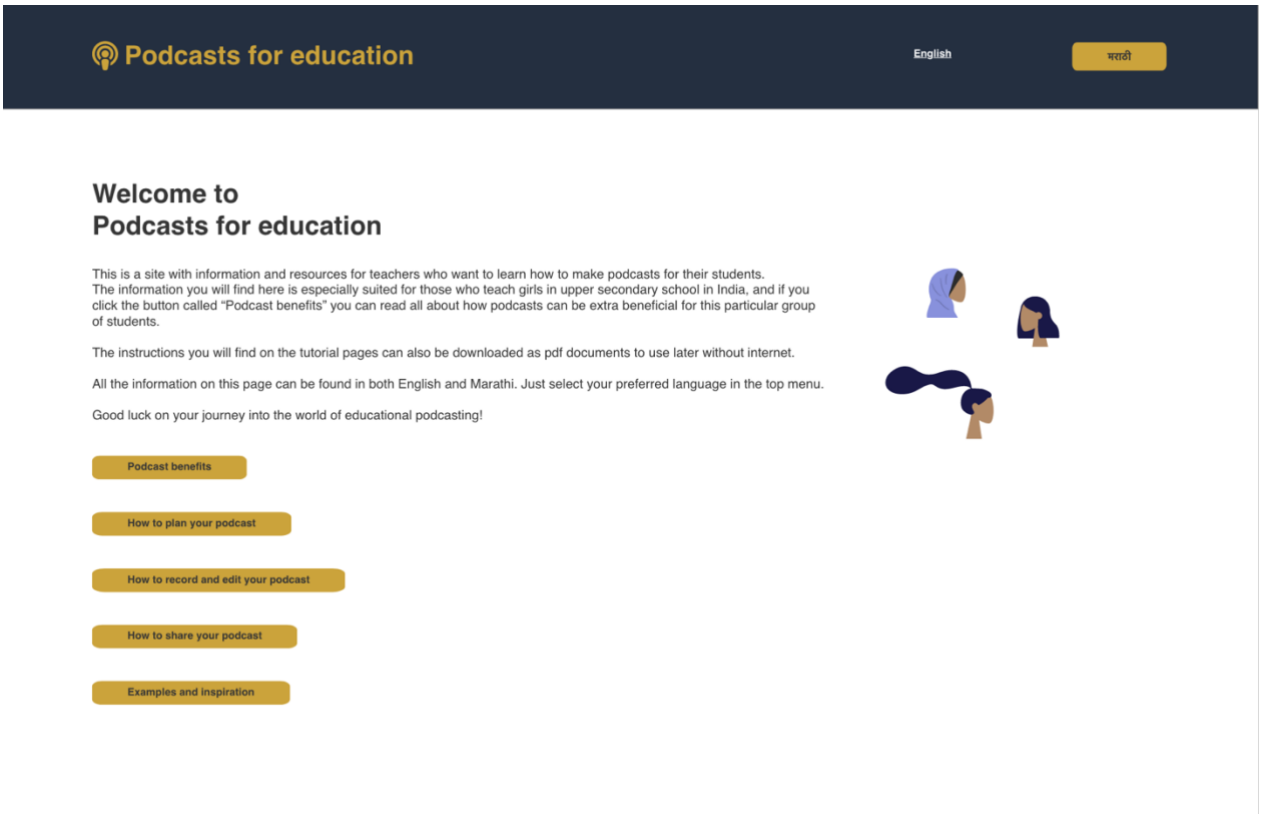
मुलींना शाळेत राहण्यास मदत करण्यासाठी शिक्षकांनी पॉडकास्ट का वापरावे?
How to plan your...
Podcasts for education
English
मराठी
तुमच्या शैक्षणिक पॉडकास्टची योजना आणि रचना कशी करावी
How to record an...
Podcasts for education
English
मराठी
तुमचे पॉडकास्ट रेकॉर्ड आणि संपादित कसे करावे
Good examples -...
Podcasts for education
English
मराठी
चांगली उदाहरणे
How to share - m...
Podcasts for education
English
मराठी
तुमचे पॉडकास्ट कसे शेअर करावे

Screenshots of the (English) prototype for desktop screens:



Podcasts for education

English | मराठी

How to plan your podcast

Creating the most efficient podcast requires planning in advance. Three main points to keep in mind before you start are:

Who am I talking to?
Is it just your students, or will you be open to sharing this podcast with other students in other schools?
This might affect what you say and how you say it.
Always remember to speak slowly and clearly no matter who your intended demographic is.

What is the core message?
It's always best to keep the podcast simple. Only 1 topic per podcast is the best, so that the student can focus completely on one thing at a time.
I recommend writing a script or an outline for what you want to say before you start recording.

How long will the podcast be?
There is no right or wrong answer for how long a podcast should be. It can be 3 minutes or 30 minutes, it depends only on you and your message.
It's very helpful to have an idea of how long you want to speak before you start recording, so that you can best plan how to deliver the lesson without getting sidetracked. If you make a very long podcast the file size may be quite big, and this may affect how you share the podcast with the students.

When you are making a podcast it's good to structure it the same way you would structure a lesson in your classroom.
Start with an introduction to today's topic, followed by the content itself, and end with a short summary or questions for further reflection.
Podcasts are not interactive in the same way as a traditional class, but they do offer a lot of opportunity for reflection in the students that they can continue working on even after the recording is over.

There will always be some topics that are better suited for podcasts than others. Subjects that require a lot of visual aids, such as maths and visual arts, will be more difficult (but not impossible) to teach via audio only. Other subjects work very well in this format. For example; with language learning you can provide the students with information and at the same time provide the invaluable extra benefit of the students being able to listen and replay your voice as you speak in the chosen language.

Here are some suggestions for topics you could considering talking about:

Literature: reading or analysis of stories, poems or music
Language learning: English, Hindi, or any other language subjects
Social studies: History, religion, political science, and economics
Sex education: Reproductive system, sexual health, gender and sexuality, consent
The environment

For girls who are unable to attend school it may be extra beneficial to give them the opportunity to learn about topics on sex education and their roles and rights as women in society. Girls who are not educated on these topics are more prone to be victims of sexual abuse, domestic abuse, and they may be less able to make informed decisions about their own health.

For more information about this check out this policy brief from LexQuest Foundation:
https://lexquest.in/wp-content/uploads/2020/01/LQF-Policy-Brief-Sexuality-Education-in-India_-Curriculum-in-the-Sheets-Silence-in-the-Streets.pdf

Go back | Download text

Podcasts for education

English मराठी

How to record and edit your podcast

A podcast can be very simply made, or a bigger production. All according to what resources you have available.

It's a misconception that you must have an expensive microphone and sophisticated editing software to make a podcast.
The better equipment you have, the better the quality. That's true. But for educational purposes you can make a very good recording using only your smartphone or computer. If you choose to use your phone the only thing you need is a voice recording app. This is completely offline, so you don't need internet connection to record.

On Android phones this app is already installed on the phone, and is usually called "voice recorder". The icon might look like this:

Even with this simple method it's still important to get the best sound quality possible. There are a few tricks you can use to make this happen:

- Find the perfect distance from your phone when you speak, not too far or too close. Some people naturally speak louder than others, so do some test recordings first to hear what distance works best for you.

- Record in the quietest space you can find. Rooms with lots of blankets and carpets and soft items are ideal spaces sound-wise. If there are windows these should be closed or covered as much as possible.

- Keep the phone as still as possible whilst recording. Preferably on a table or other flat surface.

When you are ready to record you just need to press the red button on the screen. You can also pause the recording if you need a short break to gather your thoughts or have some water. To make the process simple it is recommended to practice before recording. The aim is that one should be able to read through the entire content with minimum breaks. If one has made any big mistakes then it is best to start re-recording again.

When you are done recording you press the grey square on the screen, and this will save the sound file to your phone.

Editing podcasts is usually the most complicated stage, but by following the advice above you may be able to make a podcast without needing to edit at all!

If you are happy with your recording you can now share it with your students. If you wish to edit your podcasts you will need to download an editing app.

If you are using your computer a good choice would be Audacity (link). If you are using your phone you can choose between several free apps, such as Wavepad, Music Editor, or Lexis Audio Editor. With these you can cut sections from your recording if you are unhappy with certain parts, or combine several recordings into one.

Go back Download text

Podcasts for education

English मराठी

How to share your podcast

The next step is to share your podcasts with the students. The easiest ways to do this could be via Whatsapp, if the recording is not too big, or to upload it to Youtube and send the students a link. Many students may not have access to a stable internet connection, so it could be helpful to share shorter podcasts via Whatsapp so that they can download them when they do have internet, and listen to them later.

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Podcasts for education

English मराठी

Examples and inspiration

If you have never really listened to podcasts before it may seem overwhelming to start creating your own. Here you can find a few inspirational examples to look at before getting started yourself, and if you like them you can also share them with your students.

These examples have been chosen because of the relevancy of their content and because they show a variation in podcast formats. You can listen to girls reading out loud, stories, conversations between people, and more traditional lectures.

Reading:

Sakhi is a Mumbai-based organisation that does a lot of great work for vulnerable girls in slum areas. One of their initiatives is the "Girls Audio School" where girls record themselves reading and share it with other girls. They have share their podcasts via Youtube, and you can find them here: https://sakhiforgirlseducation.org/girls-audio-school/

Conversation:

Manasi Gajjalapurna and Sualeha Irshad talk to girls from India, Peru, and Sri Lanka about the importance of education in their communities in a special episode of their podcast The Boss Ladies, in collaboration with Malala Fund. This podcast is an example of how you can record a conversation to encourage reflection in the listeners. The podcast can be found here: https://assembly.malala.org/stories/how-global-communities-thrive-when-girls-realize-their-full-potential-an-episode-with-the-boss-ladies-podcast

Lecture:

Khan Academy is known online for providing free educational content across all imaginable subjects. Their mission is to provide free education to anyone, anywhere. In this episode of the TED Talk podcast Khan Academy founder, Sal Khan, holds a 15 minute talk about the potential of artificial intelligence in education. Listen here: https://podtail.com/en/podcast/tedtalks-audio/how-ai-could-save-not-destroy-education-sal-khan/

Storytelling:

The most listened to podcast in India (as of 2023) is The Stories of Mahabharata, retold by Sudipta Bhawmik and Avi Ziv. The production quality of this series is very high, with expensive equipment and professional sound effects. It's possible to recreate something similar without the sounds, if you are an engaging storyteller. Enjoy the stories here: https://shows.acast.com/thestoriesofmahabharata/episodes/61a5496c32c9c0001a811f1b

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