UiO : Department of Informatics
University of Oslo

Doing Participatory Design in a school setting

Ida Braaten

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1 Summary

This master thesis report from a project where I have been doing Participatory Design in four different classes. The background area is taxes as many youths have problems understanding why this is relevant for them. I have also given an introduction about automation in the background section as this is relevant for the communication with the public sector and tasks that might need to be solved manually and does not fit into the digital system from the tax-administration.

My main theory have been Participatory Design, but I have also included elements from persuasive technologies (captology) to look at how they can complement each other, but with the most focus on how Captology can be used to enrich Participatory Design.

Participatory Design is a theory which focus on democracy and power relations

During this process I have used four techniques: Tax-question, Future Workshop, Inspiration Cards and Sketching. Together these techniques have made it possible for the students I visited to both learn and become a little more engaged about doing taxes and how it is relevant for them.

I have analysed my data from the workshops using Activity Theory, Actor Network Theory in addition to various principles from Participatory Design. I also have a small discussion about the design excluded.

Most of my discussions have been circling around my main research question:
Explore how it works to do Participatory Design in a school setting.

I found that doing Participatory Design in a school setting worked well, but that there are challenges. These challenges consist of supporting the democracy if you divide the class into groups and also how to do the techniques in a group.

Based on my experience I made five advices that can be used when doing Participatory Design in a school setting. These are:

1. Give clear and concise tasks
2. Students are motivated by numbers
3. Have back-up plans and be open minded
4. Start with safe/familiar techniques
5. Choose your techniques with care so they are adapted to the class

I also developed three secondary research questions:

a) *Explore how persuasive technologies may contribute to the field of Participatory Design:* In the work by Janet Davis (2009) (2010), she used Participatory Design and captology together with a group of university students to enhance recycling at campus. We also did this by cooperating with the students and encourage them to make solutions that would have changed their behaviour towards taxes and how they care about it. In addition to this we also used Foggs behaviour model (Fogg, 2009) to increase *ability and motivation* in addition to our *triggers* in the workshop.

b) *Explore if Participatory Design methods can be used to engage the unengaged:*
During the workshops I found that that the students in my workshop became more engaged in the topic during the workshops. Participatory Designs focus on democracy and ownership to the solution seemed to boost the students to give more of them and show engagement towards what they made. This corresponds to the article by Nicholas et.al (2012) which also saw an increase in engagement towards mental health issues during their workshops.

c) *Design a prototype based on the students suggestions*
The workshops gave me a good foundation for making a prototype. The result became "Skappen" – an app based on students wishes of features and design. In the prototype I could also include my knowledge about information architecture and incorporate this in the solution.

All together I have learned a lot about how to do Participatory Design in a different setting than those described in the books and articles. In addition to writing this thesis my supervisor and I also wrote a short paper, "participation for the unengaged", based on the workshops held in relation to this thesis. The article was accepted to the Participatory Design Conference 2014 in Namibia and is attached in the appendix.

2 Acknowledgement

I would like to give my heartfelt thanks to all those helping me finishing this thesis.

Thanks to the two schools being open and letting me into their classes without knowing much of participatory design and the techniques being used.

Thanks to Joakim for all the support, proofreading and encouragement.

Thanks to all my friends and family, especially Atle, Kristine, Mum and Dad for being supportive and tolerable during the work on this thesis and answering all my messages, snaps and phonecalls with cheering and encouragement!

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Thank you!

Table of content

3 Introduction

This master-thesis will report from a project using Participatory Design in a school setting. After trying several ways of designing solutions during the courses given at the department of informatics (IFI) I caught great interest for the democracy and high ethical standards in Participatory Design. I also wanted to write a thesis in cooperation with the design group here at IFI and they have taxes as one of their problem areas. I also have great interest in doing something for youth, so the combination of these tree; youth, taxes and participatory design formed the basis of this thesis.

3.1 Chapter walkthrough

- Background and motivation:
  This chapter is mostly about my initial work on this thesis. It will elaborate on different aspects that explain why I have chosen this domain area, target group and field of expertise.

- Research Question:
  Here I tell about the work that led up to the research questions. The chapter also outlines the final research questions and how they contribute to research.

- Literature and theory:
  In this chapter the focus is on different literature relevant for better understanding the thesis and the theory it is built on. Most of the literature is based on Participatory Design as it is the main theory. In addition to this I will also in this chapter present some notes on the design excluded and captology. The last part of the chapter is a presentation of the analytical concepts I will use in the discussion.

- Methodology:
  This chapter is about my workshops and all things related to them. I start with an outline of important aspects to consider, such as law and ethics before I move on to what kind of techniques I choose and why. The second half of this chapter will be a detailed report of my contact with the schools and the workshops I held there. The chapter also gives a short summary on how I worked with the data, both before and after the workshops.

- Analysis and discussion:
  In this chapter I highlight and discuss different aspects from the workshop. The chapter starts with an analysis based on all the workshops and different findings from them. Based on this analysis I present my design suggestion, Skappen, and elaborate on how it works and important aspects while designing it. After that I move on to analysis based on different analytical perspectives and concepts that were presented in the literature chapter. I am also discussing other important aspects that I noted during the workshops and the development of Skappen. .

- Conclusion:
  The conclusion sums up my work in regard to the research questions. It will elaborate on these questions and say how it contributed to research. The chapter ends by summing up possible fields of future research I have not been able to answer during the work on this thesis.

4 Background and motivation

This chapter will go through different aspects that motivated to work on this thesis. The first part will be about doing taxes in Norway and the automation happening in this sector – this is mostly the background. The second part will be about different co-factors that forms the thesis and worked as motivation.

4.1 Doing taxes in Norway

Today, in 2014/15, most of what concerns your tax and tax returns have been moved from being paper-based to computer-based, the tax-administration have made a system that make sure your tax-return form delivers itself automatically and that your tax-card is ready for download for your employer in January. This means that if you do not care too much for your personal economy or do not think you have any tax-deductions or any other posts to edit you can be completely passive regarding your own tax.

Tax has been gradually automated in Norway. It started in 1991/1992 when a trial period using a simplified tax-return form became permanent (Stortinget, 1993) . This simplification meant that basis-data, like your income and some other posts were pre-filled before you received it in your mail for editing. In 2005 you could for the first time edit and deliver your tax-return form on the internet (Evalueringsportalen, 2005). The next big leap happened in 2008 when the tax administration started with "silent accept", meaning that if you do not have any changes your tax-return form will be treated as delivered after the due date. The next year, 2009, they also removed the possibility to submit through SMS and phone (Kaspersen, 2009) as the use of these services had gradually decreased after moving the tax-return form to the internet.
In 2014 the Norwegian tax administration made the tax-card electronic so your employer can download it instantly. This means that you have very little knowledge about your own tax-card and story unless you log in to the tax-administration web-pages and look at or edit it. This means that in the extreme, doing taxes can be just about the same as doing nothing.

Even though these automatic solutions make it generally easier for the average person, there might be some problems related to them. There are worries regarding the learning effect of getting the tax-return in paper form and having to read and understand it before it is delivered. At the beginning of this digitalization I believe one had more of this learning effect as very few deductions were pre-entered, unlike now where most of your data are entered. As mentioned, most things are now filled out for you in your tax-return form, so if you have some special tax deductions you have to fill it in yourself, and many people risk losing money when they do not check their tax-returns and/or don't know what tax deductions they are entitled to.

In addition the digitalization of the tax-cards may lead to bigger uncertainty about what you are paying taxes for, how much, and which employers who got access to your tax-card. Even though you almost never notice it, as your employer deducts your tax before they pay you, tax takes quite a lot of your income. Therefore I believe it should be treated with more care, and that the easiest solution may not be the best solution.

According to Kahnemans book "thinking, fast and slow" (2011) we roughly have two modes of thought. One mode is the fast, instinctive and emotional way and the second mode is a slower, more deliberative and logical way of thinking (Kahneman, 2011). Even though we have to think fast in order to survive and to some extent get things done, there are some things that should not be decided

in a rush. I believe tax returns could be one of these things. So even though the system is made so that you do not have to think, this is one of the things you perhaps should think of. If you have to pay tax-arrears and are not prepared for it, it might give rise to economic problems that could have been avoided if you had a bit more knowledge about the tax-system.

It should be mentioned that we do not know for certain that this decrease in understanding is actually happening or are only something we believe after observing and thinking back. Most of the reports provided by the tax agency are about the users' experience of their services rather than their understanding of the tax return system and the other services. The latest survey about tax-returns were conducted in 2005 , the first year it was possible to deliver online and were mostly about how the users experienced it, not how the content was presented and how the different posts were understood by the user. Many things have happened with the digitalization over the last 10 years and as such it would have been interesting to see some newer data about the tax-return and how it is perceived and understood, not only how many uses it.

Paying taxes is something we all do when we grow up. Being able to participate in the democracy and understand your part as a citizen is an important part of the welfare state. This comes to everything from attending the elections and other civic responsibilities. Paying taxes is one of these civic responsibilities and are one of the cogwheels that make it possible to live in a welfare state with public driven schools, hospitals, roads and other services making our life better.

Studies from the tax administration conducted in 2011 (Berset & Stenehjem, 2011), states that the youngest users' preferable way of getting tax-information and get in touch with the tax administration is via electronic services and the phone. Young people around 20 years old are the group makes the most calls to the tax administrations service centre. The same report also concludes that the tax-agency have a lot to work to do to get the general population use the web-pages more to get answers to their questions. SSB (Statistic central bureau) also have statistics that shows an increase of 10% in use of the electronic services from 2010. In their newest report from 2014, which are based on the numbers from 2013, the use of electronic tax-return form has increased with 54%. This is an increase in over 240.000 users and in total almost 700.000 taxpayers did not receive their tax-return form on paper in 2013 (Statistisk sentralbyrå, 2014).

4.2 Automation

The digitalization leads to automation in parts of the tax-system. According to Bainbridge (Bainbridge, 1983), automation aims to replace human manual control, planning and problem solving by using automatic systems and computers. In the article cited Bainbridge also points out some of the ironies of automation. Even though most of the system is automated there will be some pieces left to humans and these pieces of work might be something the developers have not thought of. The boundaries of automation are determined by rules and algorithms, and not all people/systems/situations etc. will fit into these rules. Verne (Verne, 2014) illustrates this in the model below by showing the system itself in the background and has then made a square on top of it to illustrate the automated solution. The problem is that even though most of the solution will work and fit into the boundaries there will in most cases be some leftovers. It is these residual tasks that need to be handled manually to make the system work as expected and the leftovers will perhaps give rise to new and possibly unknown tasks that needs to be handled manually. If we look at this related to taxes one can say that most salaried employees in a stable employment will not need to do many changes from year to year, but if you suddenly are going to move house, lose your job or any

other major life event happen you may have to do changes to your tax-card or to your tax-return form.

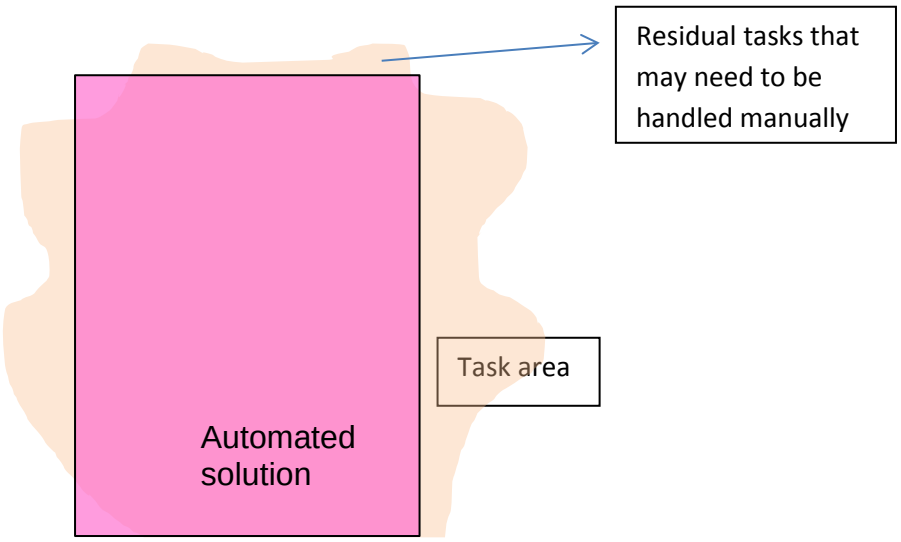


Illustration 1: Automation (Verne, 2014)

4.3 Digital communication within the public sector

Another interesting aspect that forms the background of this thesis is that the government has presented and decided that digital communication will be default when communicating with inhabitants from 2016. According to the government this will make the communication with the government faster, safer and simpler than it is today. The communication will be made through safe digital post-boxes offered by two different contractors (moderniseringsdepartementet, 2014). It is also emphasized by the government that it will be easier for everyone to keep track of the correspondence from the public sector (moderniseringsdepartementet, 2014). It will be possible to reserve oneself from digital mail and continue to receive the correspondence in the mail-box, but they aim to transfer most of the population to digital mailboxes.

For young people this digitalization is probably a good thing, as they have grown up with the internet and are both used to and prefer using digital solutions for most things. There might be more difficulties for those being a bit older and other groups that may not check their e-mails or use other digital communication methods especially often.

4.4 Youth

Even though my main background for this thesis about tax, I have chosen to work with it in combination with youth. I could have picked many other user groups, but my reasons to choose youth were many. First of all they have not been part of the transition from the paper-based to the computer-based tax system and this gives me an interesting angle as I can look at how they perceive tax-information. Another reason for working with youth is that they are the ones who will take over when we grow old, and I believe it is extremely important to activate and inspire youths in different

aspects of the democracy. Numbers from 2013 (LNU, 2013) shows that the number of youth in children- and youth-organizations is slowly rising and I believe it's important to support this increase in participation. I also want to show the youth that it is possible to have an influence on systems they might have thought were beyond their reach. In addition to this I have experience in working with youth from different organizations, and I feel very confident working and collaborating with this age group.

4.5 The unengaged

Coming from socialist background I personally believe in the importance of giving everyone a voice and a chance to be heard. Participatory design supports this group and emphasises its importance during projects. I will look at how these groups have been previously involved in project, and also discuss their importance and my experience working with this group.

4.6 Disciplines of interest in informatics and design

This thesis is connected to the design group of department of informatics. They focus on several different disciplines related to design of information systems. This includes, but is not limited to, User Centred Design (UCD), Participatory Design (PD), Information Architecture and User Experience (UX).

After trying and being introduced to several of these theories during the initial courses on the master program I became most interested in Participatory design. It was especially the democratic view on the process and its high user involvement that caught my interest.

On another project I also came across Persuasive design, also called captology. This is about design meant to change behaviour. This is not much used together with Participatory Design and I believe my thesis could bring some new thoughts into the use of this theory. Tax is also mostly thought of as boring and a behaviour change making both youth and others more interested or motivated in keeping track of their own tax would be preferable from my point of view.

I am also very interested in the early stages of the design process. Especially the idea generation phases and how the participant work their way towards a solution is something I believe is important. I believe it will be very interesting to analyse the workshops in regard to the work process.

5 Research Questions

This chapter will go through the approach to find the research questions and then the final research questions and its contribution to research.

5.1 Approach

Based on the background information presented earlier I started to look at how I could combine these interests into relevant research questions. It was important for me to do something that could contribute to research and to do something different than User Centred Design as I wanted to challenge myself into doing something different.

From earlier I knew that I liked Participatory Design and I started the process reading several research papers and abstracts that could be linked to the aspects presented in the background and motivation chapter. I also spent a lot of time searching through relevant databases like IEEE and ACM in search for relevant keywords and combinations, like Participatory Design and Captology (to be presented). I also spent time going through previous conference notes, especially from PDC2012, to be updated on the field and try to find relevant challenges I could work with. The relevant literature and a presentation of important theories will be presented in the next chapter.

Based on this work I have made one main research question and two secondary questions.

5.2 Research questions

Main research question:

1. Explore how it works to do Participatory Design in a school setting.

Secondary questions

a) Explore how the design of persuasive technologies may contribute to the field of Participatory Design.
b) Explore if Participatory Design methods can be used to engage the unengaged.
c) Design a prototype based on the students suggestions

5.3 Contribution to research

My main contribution to research is the use of participatory design in a school-setting. I believe it will be interesting to look at how students solve participatory design tasks different than designers and more involved stakeholders. What are the similarities, what the differences are and what is my experience from working with these users? During my theory-gathering phase I have not found any papers talking about Participatory Design in a school setting lower than university so I believe there are need of more experience on this. Most of the discussion will also circle around this and I will try to enlighten it using various theories that are used to analyse different processes.

I also hope to contribute to the research about participants that are possibly uninterested. I will discuss if these participants also are design excluded and if participatory design may be a way to engage users not knowing if their contribution would be worth anything in the future.

During my literature search I have found that Participatory design and the theory for design of persuasive technologies have not been used much together. I believe that Persuasive Technologies, even though it has a somewhat sketchy ethical background can provide some interesting aspects and contribute to Participatory Design.

My last research question is not new to research, but including a design in this thesis is natural as it gives rise to further work and it works as a manifestation of the solutions made by the students during the workshop.

6 Literature and theory

6.1 Participatory design

Participatory Design started in the 60's and 70's and had its start in various civil rights movements as the workers at the time started to demand more influence in the decision making process (Robertson & Simonsen, 2013). Participatory design for information technology is often called the Scandinavian approach, as it was a part of the workplace democracy movement that had its roots there during the 1970's (Robertson & Simonsen, 2013). Even though participatory design has evolved since the beginning, the basis is still the same; those who will use the solution should play a critical role in the design process.

Participatory design can be explained as a way of developing information technology together with the end users and different stakeholders interested in the system, one can say that participation is at its heart (Brandt, Binder, & Sanders, Tools and techniques, 2013). A typical Participatory Design-project group may consist of someone with a design background, an end user, a boss, and maybe some investors. Democracy is an important aspect in Participatory Design and it always aims at involving those voices that may not be strongest in the organisation (Kensing & Greenbaum, 2013). The authors suggest that the main focus when putting together a project group is to involve enough people and the right people. When making a project groups one aims to make sure all voices can be heard and every perspective will be thoroughly illuminated during the process. This is not only regarding the specific design, but also things as functionality, economy and how it can be realized and implemented.

6.2 Participatory mind-set

In addition to the guiding principles that will be presented below it is vital to get into the work with a participatory mind-set. Without this mind-set the techniques used in Participatory Design is perceived as creative but it is not necessarily participatory design. The designer has to approach the project with a clear understanding of the principles and theories of participatory design and be able to conduct research with high ethical standard and through the process support democratic practices.

6.2.1 Guiding principles

Based on Participatory designs heritage there have been developed guiding principles for conducting Participatory Design (Kensing & Greenbaum, 2013). These are:

- Equalizing power relations
- Democratic practices
- Situation-based actions
- Mutual learning
- Tools and techniques
- Alternative visions about technology

All of these work together and are related to each other.
Equalizing power relation means finding a way of giving a voice to those who normally don't have any influence or who may be invisible in organisational power structures.
This is an integral part of the *democratic practices* which implements the practices and role models for equality and also includes the process of project building. It is important the designer takes an active role making this happen and it requires educated and engaged people to make this principle of

democracy work at its full potential.
This democracy is rooted in *Situation-based actions* where you work directly with people in their workplace or homes to understand actions and technologies in actual settings, rather than through formal abstractions.
These actions give rise to *mutual learning* which encourage and enhance the understanding of the different actors by finding a common ground and ways of working. This is important so that workers, technical experts and other stakeholders can learn from each other.
This process can give rise to *Tools and techniques* which are made for helping the different actors express their needs and visions. These tools can be everything from mock-ups to workshops and training programmes.
Tools are also important for helping people develop *alternative visions about technology* – ideas that can generate expressions of equality and democratic practices.

The sum of all these principles ensures that everyone gets heard and has a possibility to affect the project. Understanding these principles also give you the foundation of understanding the participatory mind-set required to make the process fruitful for all those involved.

6.2.2 Telling, making and enacting

When you are conducting methods, tools and techniques in participatory design there have been developed three important aspects to think about. These are telling, making and enacting (Brandt, Binder, & Sanders, Tools and techniques, 2013). The aim is to use these principles while choosing and developing tools for Participatory Design. The principles of telling-making-enacting must not be confused with the guiding principles presented above which are more general. Telling-making-enacting are more specified to work with methods and tools. The use of these three aspects/activities while conducting workshops during the design process will help support participation (Brandt, Binder, & Sanders, Tools and techniques, 2013).

Telling is mostly about existing practices and the telling of needs and dreams. It's about what is and what could be in the future. E.g. Future workshop (Müllert & Jungk, 1987) is a technique that builds upon the telling principle. Many directions in informatics uses these kinds of activities one way or the other, they can be study circles, interviews and other typical information gathering purposes. The most important is that the participant is heard and that it gives the user a sense of commitment and a feeling of participation. It is also important to make activities that can close the gap between the separate knowledge and domains (Brandt, Binder, & Sanders, Tools and techniques, 2013). Many of the telling activities were games that use visual material to assists the participants in communicating their demands, needs and dreams. These activities and games also encouraged and invited to discussion that were grounded in their everyday experiences.

Making activities are activities that often make use of physical artefacts and can roughly be divided into three categories: participatory prototyping, probes and use of generative tools. All these may describe future objects or provide different views on future ways of living. We also embody the thoughts and ideas to physical artefacts (Brandt, Binder, & Sanders, Tools and techniques, 2013). Participatory prototyping may be mock ups or paper prototypes. When used in an early stage of the design process they can be compared to what one would call low-fidelity prototypes in the field of UCD (User Centred Design) (Rogers, Sharp, & Preece, 2011). Just like prototyping in UCD, participatory prototyping have a broad variety of use and can be used for many purposes. Probes are

an example of a making activity and works as a means of exploring experience. It is a design-led approach that invites people to reflect on and experience their feelings and attitudes in formats that provide information for the designer (Brandt, Binder, & Sanders, Tools and techniques, 2013). Generative tools are used to help non-designers to imagine and express their own ideas about how they want to live and work in the future (Sanders & Stappers, 2008) Using this technique the designers give the users different tools to help them think, vision, feel, etc. about a given subject or theme.

Enacting refer to activities where one imagines and acts out possible futures. These can be based on scenarios or be based on improvisation and experimentation in the situation being improvised (Brandt, Binder, & Sanders, 2013). One of the aims with enacting is to develop knowledge through practical exercises. One can say that through enacting one can present or develop and explore ideas through embodiment. Ideas can also be generated through acting and then again experienced through improvisation. Many designers working with Participatory Design have found inspiration from drama and theatre techniques to help with the enacting principle. Examples of techniques used are "frozen image", "magic if" and "role-play (Brandt, Binder, & Sanders, 2013). Scenarios are also closely related to the enacting principle and this technique is also widespread in HCI and related disciplines (Brandt, Binder, & Sanders, 2013). Through scenarios you get to imagine and/or experience how the future can be different from today. Scenarios are also valuable for reflecting and learning. One can also use professional actors to enact scenarios and then conduct telling activities for the participants based on these scenarios.

As we can see in the diagram below (illustration 2), all the actions are connected and may vary during the workshop or even the process itself. It also indicates that the design process go both ways around the circle (Brandt, Binder, & Sanders, Tools and techniques, 2013) .This is important so that the designer don't think it only goes one round or that the process has to go only one way. The telling-making-enacting diagram helps the designer understand the importance of using all these different aspects during the workshops as all of these have different qualities which helps you get the right design, by giving the participants many possibilities for idea generation, making of solutions and acting them out. Doing the development this in iterations and be able to go back and forth during the work, will in theory give good results from the process and end-result.

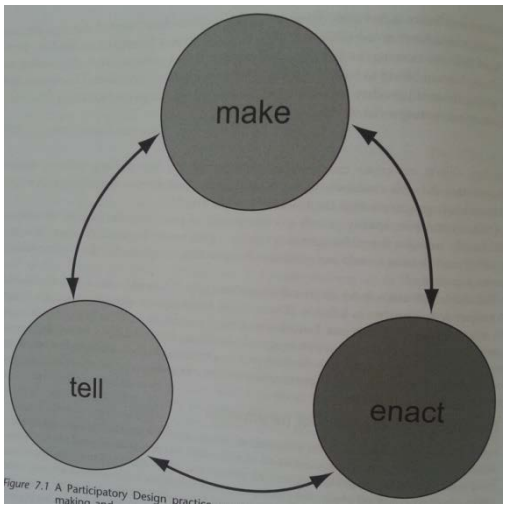


Illustration 2, tell-make-enact diagram. (Brandt et.al 2013, p150)

6.2.3 Having a say, mutual learning and co-realisation

There are many methods, tools and techniques that can be used in participatory design as long as they follow the principles and general guidelines for Participatory design projects (Bratteteig, Bødker, Dittrich, Mogensen, & Simonsen, 2013). These principles and guidelines must not be confused with those presented above, as these are more general. The principles are:

- Having a say
- Mutual learning
- Co-realisation

These principles correspond to and are based on the guiding principles presented earlier in this thesis. The guidelines and principles emphasizes the importance of the collaborative decision making and the sharing and understanding of information.

Having a say is one of the basic perspectives in Participatory Design. Bratteteig et al. (2013) says that having a say means "having something to say as well as affecting the outcome of an activity with what you say". To have an influence on the project the users/participants need information, they need to have a chance to form and express their opinions and they need to be given power to influence in the decision making (Bratteteig, Bødker, Dittrich, Mogensen, & Simonsen, 2013). The book says that to ensure this to happen one both have to choose methods that takes this into consideration, and in addition the project leader has to make sure everyone has the chance to be heard and that everyone in the group got a common ground where they have a consensus about the decision-making power in the group. It is also important to note that having a voice does not mean having a say (Bratteteig, Bødker, Dittrich, Mogensen, & Simonsen, 2013). A big challenge in Participatory Design is to recognise that decision-making in some contexts requires several competences; everything from programming to design and use-oriented knowledge is needed about how the solution should support the user's activities. It is important that the group acknowledges that all of these competences are important to build the best possible solution for everyone involved.

Mutual learning is another important principle and is at the core of Participatory Design. According to Bratteteig et.al (2013) the commitment to mutual learning and guidance on how to achieve this is one of the distinguishing elements of Participatory Design methods. It is vital that the different groups of people in the Participatory Design-project learn from each other and understands the different ways of reasoning within the group. In Participatory Design there are an agreement about the users being the experts on their own situation and their own activities that are to be used with the system. The designers will need to familiarize themselves with the user's activities and to solve this they have borrowed elements from ethnographies. Another aim with mutual learning is to build trust between the designer and the stakeholders. Using time to gain knowledge provides a basis for trusting the co-participants opinions and trusts their reasoning based on the different backgrounds within the group. This leads to mutual respect opens up into sharing the power of making decisions concerning identifying problems and finding solutions (Bratteteig, Bødker, Dittrich, Mogensen, & Simonsen, 2013).

Co-realisation or involvement in design is the third basic perspective in conducting Participatory Design methods. It is often difficult for users to imagine technical possibilities. Participatory Design

emphasises different ways of visualising possible solutions with prototyping as the most important technique (Bratteteig, Bødker, Dittrich, Mogensen, & Simonsen, 2013). Using tangible artefacts to enable co-construction and learning through sharing concrete experiences of a new imagined artefact became an early branding of Participatory Design. Pretending to be in a setting similar to the usual context of the user makes it easier to imagine the consequences of a design suggestion rather than with an abstract description. With a tangible or visual object the user can use their expertise and experience in evaluating the design suggestion. This can be both as an artefact in their work, but also as a possibility for doing their work differently. It is also important to note that these artefacts are not limited to physical objects (Bratteteig, Bødker, Dittrich, Mogensen, & Simonsen, 2013).

Like the guiding principles presented earlier in this chapter these three perspectives also work together and are dependent on each other to work in the best possible way. The perspectives aim to help the users understand and learn from each other to be able to make the best possible decisions. It also aims for the participants being able to address their needs for what needs to be done and made to make the situation better or easier.

All the principles I have now presented work together in different levels while conducting participatory design research. First of all the guiding principles from equalizing power relations to alternative visons about technology give you the framework on the participatory mind-set and what Participatory Design is about on a higher level. Further both telling-making-enacting and mutual learning, co realisation and having a say is more like qualities that needs to be implemented in the tools, techniques and methods one would like to use. It is then again important that the tools by using telling, making and enacting can support mutual learning, co-realisation and having a say when conducted.

6.2.4 Ethics

Participatory design aims to have an ethical motivation to support and enhance how people engage with others in shaping their world (Robertson & Wagner, 2013). This point of view is at Participatory Designs essence. Participatory Design cannot exist without this commitment to working together to shape a better future (Robertson & Wagner, 2013). As one can see out of this, ethics is not taken easy upon while conducting Participatory Design-projects and it is essential that the designer base the decisions on a solid ethical background.

In a Participatory Design practitioners work with users there are four key questions to consider (Robertson & Wagner, 2013):

1. Who do we engage within a participatory design project?
   It is important to find the right participants when conducting a project. It is important to find out who have the right to participate and that these are found. We also have to take into account who has the time to participate and if it is an acknowledged part of their work.
2. How do we engage with participants?
   In Participatory Design it has always been important to acknowledge participants as experts in their own work situation. Robertson & Wagner (2013) emphasise that it is important to build trust and share responsibilities in the process. If we work with vulnerable users we have to make sure that the weakest voices also are strong and that sensitive topics feel safe to test and/or discuss.

3. How do we represent participants and their work?
   This is about making the participants feel that their work shows in the (final) solution. It has to be clear that the users have contributed to the solution. This question also includes helping the participants feel that the designers understand the relation between the problems encountered and e.g. their current computer systems.
4. What can we offer participants?
   A usual problem in Participatory Design projects is that there is often not enough time to follow the process all the way into a well-functioning system (Robertson & Wagner, 2013). This means that we need to find something else to offer the participants. The ethics-chapter in the handbook of Participatory Design says we can offer participants the experience of participation as a creative, joyful and reflective activity.

Together these four questions give us a basis on how to solve ethical issues that may rise in a Participatory Design process in relation to the participants involved.

6.2.5 User Centred Design vs. Participatory Design

Sanders and Stappers (2008) draws out the current landscape of human-centred design research in their article "Co-creation and the new landscapes of design" (Sanders & Stappers, 2008) (Illustration 3). The most important thing to read from this illustration is the difference between user-centred design and the participatory design research. The axis is showing how participatory design appreciates the user as a partner and not only a test-subject or used as guidelines. The user-centred design approach isn't necessarily wrong, but this illustration shows two different ways of thinking and working with the user. Participatory design can often be both expensive and time consuming, and because of this some may have to use a user-centred design approach with developers using an expert mind-set where the designer rather looks into his or hers self, rather than going out to the users before the prototyping-stage.

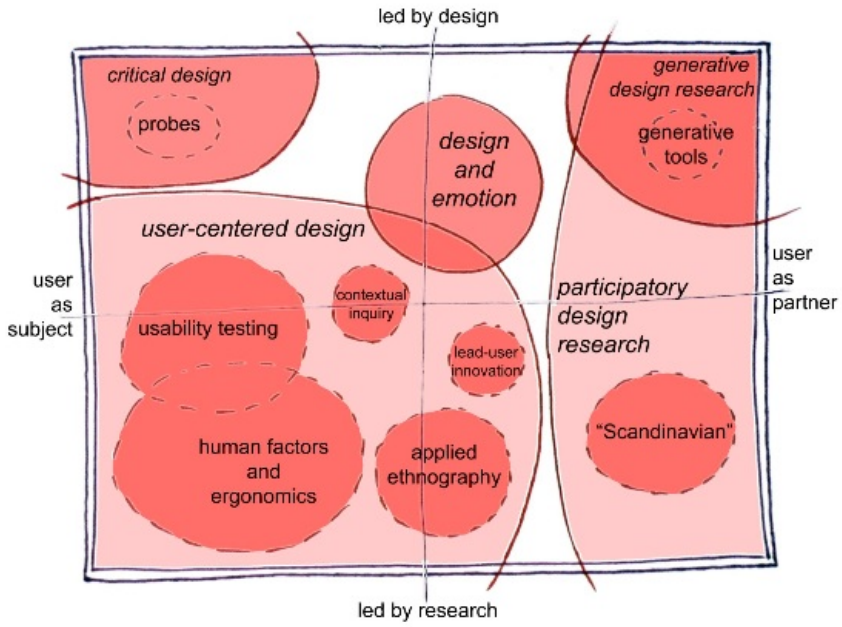


Illustration 3: The new landscape of design by Sanders and Stappers (2008).

6.2.6 Convergent/divergent

While talking about design we often use the words divergent and convergent approach. The ideal approach for experimental design is to start very divergent and then converge towards a solution. One often needs to widen it up again after the different iterations to make space for new ideas and other changes that hopefully will make the solution better (illustration 4). This illustration is also based on Buxtons illustration a design process and how it naturally moves between divergent and convergent stages throughout the process (Buxton, 2007). What often happens is that the designer gets an idea very early and dives into it at once, perhaps almost without considering other suggestions for solutions. In participatory design we aim at staying convergent for as long as possible or needed to open up for trust, mutual learning and establish the democracy and power sharing that Participatory Design is so well known for (Kensing & Greenbaum, 2013).

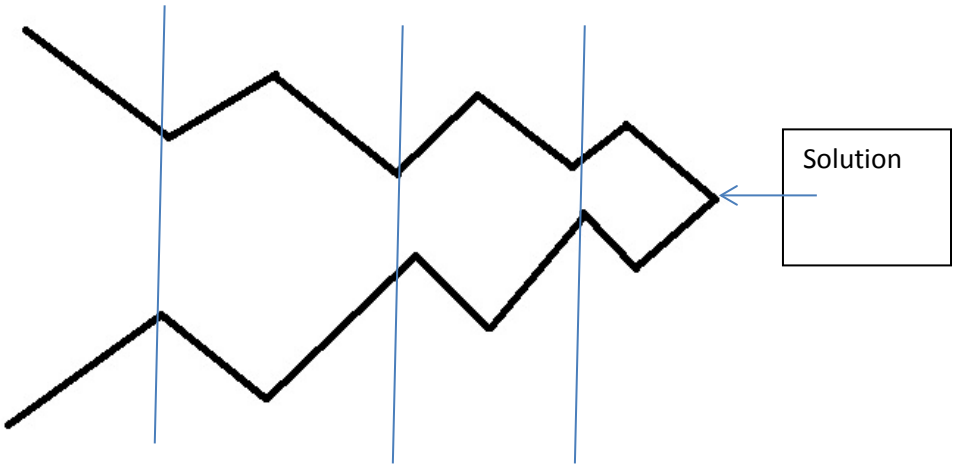


Illustration 4: suggestion for convergence and divergence in a participatory design project.

6.2.7 Fuzzy front-end

Sanders and Stappers (2008) also introduce the concept called *Fuzzy front-end (illustration 5)*. This is a concept which can be used in many situations regarding design. It shows how the beginning of the design process often can be a bit messy, before it gets closer to the final concept (Sanders & Stappers, 2008). I think the stage of the fuzzy front-end is especially important in participatory design as it sets the stage and is where most of the democratic issues and many of the tools is put to use. Participatory design is a lot about the process, and the product may be seen as an outcome of this process depending on what the project is all about. This concept can also be transferred to interaction design in general and this is the phase I have perceived that many thinks take too much time, even though this might be one of the most important phases as this is where on figure out what one actually wants.

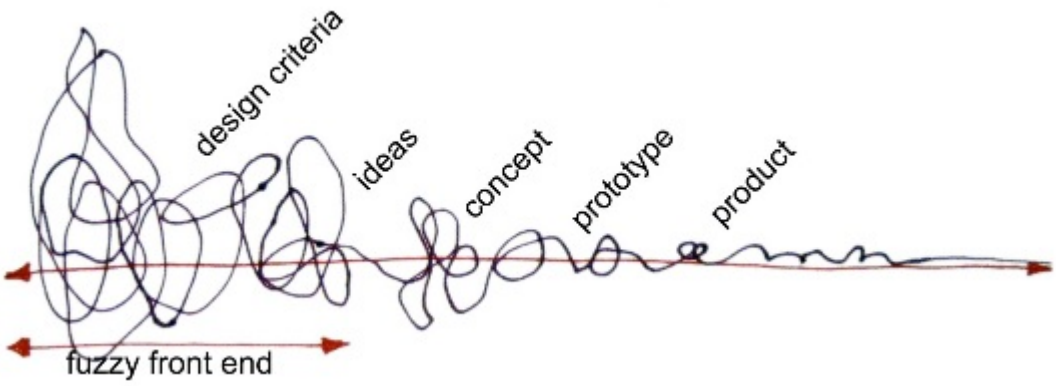


Illustration 5: fuzzy front end (Sanders & Stappers, 2008)

6.3 Persuasive technology / Captology

In this study I have used some elements from persuasive technology together with participatory design. Persuasive technologies are all about creating behaviour change and are defined as "any interactive computing system designed to change people's attitudes or behaviours" (Fogg, 2002). He also defines persuasion itself as "an attempt to change attitudes and behaviours or both (without using coercion or deception)" (Fogg, 2002). With this as a basis I will now present some key concepts from the field of captology, their implications will be discussed in the analysis and discussion chapter.

Intention

Fogg (Fogg, 2002) states that persuasion is based on intentions, not outcomes. It is important to differ between the planned effect of the technology/system and a side effect. Even though many systems have changed our behaviour (e.g. email) it was not intended as a behaviour change as such and captology does not include such unintended changes (Fogg, 2002). This was one of the reasons I believed it could work with my problem area and together with participatory design. I will discuss this further in the analysis and discussion chapter.

6.3.1 Macro- and microsuasion

. The behaviour changes in captology can take place on two levels. These are macro and micro. When persuasion and motivation is the only reason the product exists, and the overall intent is persuasion and behaviour change, it is called *macrosuasion* (Fogg, 2002).

Microsuasion on the other hand has incorporated smaller persuasive elements to achieve different goals. Examples of these can be icons or interaction patterns with different purposes but still aims you to do something. These can be to make the user stay longer within the program, build trust or motivate the user to continue

6.3.2 Behaviour model

Being very interested in human psychology Fogg have created a model to better understand how to change behaviour. Fogg named "Foggs behaviour model", abbreviated FBM ((Fogg, 2009). This model explains how behaviour is a result of three factors: Motivation, ability and triggers. Very briefly explained a person must have sufficient motivation, sufficient ability, and an effective trigger to do the wanted action (Fogg, 2009). The author also states that it is important to note that in this

model persuasion refers to trying to change behaviours not attitudes and that there are important differences between these two.

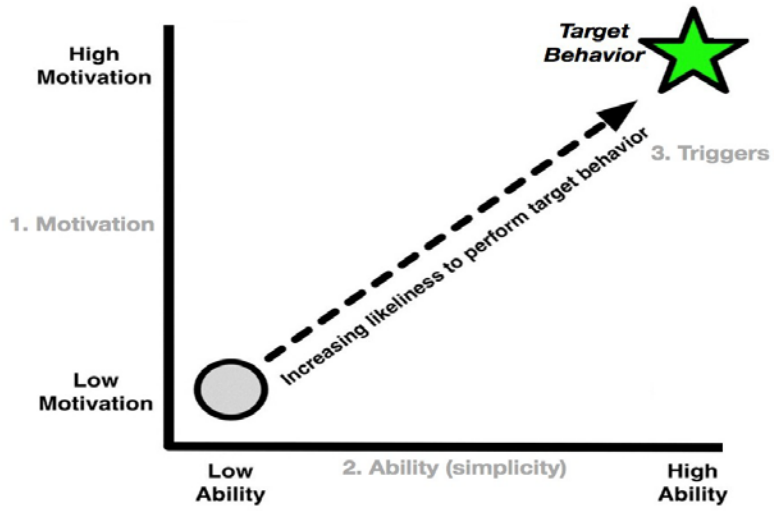


Illustration 6: Foggs behaviour model

As illustrated by the model we can see all the three factors are dependent on each other. But the target behaviour will never happen without a trigger, something that calls to action. But having sufficiently high ability and motivation will make the need for a big trigger lesser than if the target group have low ability and motivation.

These three factors also have several subcomponents that help understand how you can design to increase the possibility for behaviour change. I will now describe these three components.

6.3.2.1 Motivation:

We humans have different reasons to be motivated to do different things in life. According to Fogg there are especially three things that can be called core-motivators. These are:

- Pleasure / pain
  When this factor is involved in the decision process the reasons for what we choose are often immediate. Fogg believes that this response is pretty primitive and is often based on our basic instincts of self-preservation. When this is our motivator there is little thinking involved and we want to do what is the most pleasant for us (Fogg, 2009). Fogg himself questions the ethical bases of this motivator, but claims that it is important for us to acknowledge its existence and that it is an option that could be used.

- Hope / fear
  This is the second core motivator in the model and it is characterized by anticipation of an outcome – hope of something good, and fear of something bad (Fogg, 2009). This motivator is often evidenced in everyday behaviour. For example will people in some situations accept pain to overcome fear (and hence gain hope or pleasure). Foggs specific examples are that people are motivated by hope when joining a dating-site and motivated by fear when updating their virus software. Fogg also believes that this is the most ethical of the core motivators (Fogg, A behavior model for persuasive design, 2009).

- Social acceptance / rejection.
  This is the last of the core motivators presented in Foggs article. This motivator is based on our social behaviour with others and is present in a lot of choices, ranging from what we dress in to how we talk and behave. People seem to be motivated to avoid being socially rejected. Being banished from the community is a big fear for many of us as it lies deep in us that we want to be a part of the pack (Fogg, 2009). This feature is today best seen in the numerous social platforms on the internet. Especially by using a place like Facebooks many features many of us present ourselves and our achievement in a way that gives us likes and then again makes us feel socially accepted.

6.3.2.2 Ability and simplicity

Motivation alone is not enough to change behaviour. According to Fogg people are notoriously lazy and reluctant to learn new things as it requires them to make an effort. This makes persuasive design to rely very much to the power of simplicity. Trying to define simplicity Fogg developed a framework that includes six elements that work together like a chain – if one link fails, the whole chain falls apart (Fogg, 2009).

- Time – To do something we need time available. So if the target behaviour requires time we do not have the behaviour is not looked upon as simple.
- Money – If the wanted behaviour requires money it is not enough to convince those with limited financial resources.
- Physical effort – If getting to a place to do the required behaviour is difficult or strenuous it will not convince us.
- Brain cycles – If we have to think hard to do the wanted behaviour it may not be simple for us. This is especially true if we currently have lots of other things on our mind.
- Social deviance – With this Fogg means if something we do will go against norms and rules of the society. Just as we want to be socially accepted we do not want to break the rules in any way.
- Non-routine – People tend to like routines and if something is like they normal routines or remind them of one, the behaviour is often looked upon as simple.

6.3.2.3 Triggers

This is the last factor in the model. The general concept of triggers have many names; prompts, cue, calls to action, etc. What wanted is to make people do the target behaviour at once. Triggers are looked upon as a vital factor in persuasive design and for people that are already above the activation threshold, meaning they have sufficient motivation and ability, a trigger is what is required to make the target behaviour. The trigger factor consists of three types of triggers (Fogg, 2009).

- Spark
  According to Fogg a spark should be used together with an element of motivation. This could be highlighting fear or hope in a text, video or other medium.
- Facilitator

This type of trigger is aimed at users with high motivation but lack of ability. The goal is to trigger the behaviour and at the same time make the behaviour easier to do. It is important for an effective facilitator that it is easy to do and will not require resources the user do not inherit.

- Signal
  The main purpose of this third type of trigger is to serve as a reminder. The user have both the ability and motivation, but need some kind of reminder at the right time to tell you that now is the tame to do something.

6.3.3 Persuasive technology and participatory design

During my extensive literature search I have tried to find research papers combining the use captology and participatory design. This has not been easy and it seems that these are two fields rarely combined. I found a few however and most of them were written by Janet Davis. I have therefore chosen to use her work as a starting point.

The first article I have used is called “design methods for ethical persuasive computing” (Davis, 2009). In this paper Davis presents us for some of the ethical challenges in persuasive technologies and how they are not unique for the field of information technology. Further she presents Participatory Design and Value Sensitive Design as two methodological frameworks that set ethical issues high on the agenda throughout the whole design process (Davis, 2009). She also presents us with to cases studies on these methodologies to give more insight on how they work. At last she write about challenges and future work in this field and state that both Value Sensitive Design and Participatory Design have great potential for the design of persuasive technologies. At the same time it is important to remember that there are needs for more research on how to apply these ethical methodologies to information systems that are meant for some kind of behaviour change (Davis, 2009).

The second article is based upon her own fieldwork where she combined participatory design with persuasive technologies (Davis, 2010). In this article her main focus is about the early stages of the design process, where she uses an inspiration card workshop. She works together with a college EcoHouse that aims to both enact and promote an environmentally sustainable campus life. Together with the residents in the house she conducted workshops and evaluated how it worked out. She concludes that the inspiration card workshop had succeeded in several ways. The workshop had created a space for the participants to reflect upon desired behaviour changes and had also discussed means for how to achieve these changes. The participants had also used the technology cards as guides in how to use persuasive strategies in their own design. She also mentions possibilities on how to do participatory design in a more structured way and that this might help on making more persuasive technologies, but still without compromising the ethics of participatory design (Davis, 2010).

6.4 Design for design excluded (and uninterested)

In search for papers about this there were two articles that stood out from the rest and could easily be related to my work. These articles report from two different projects and are written by Nicholas et.al (2012) and Lee & Bichard (2008).

In the article by Nicholas et.al (2012) they report from a project in Australia were the project group aim to engage young people on issues relating to mental health. The project is generated by “the

inspire foundation" in cooperation with Penny Hagen, a researcher in interaction design at the university of Sidney. Even though the foundation had cooperated with youth for several years they choose a new approach to participation in this project as research had revealed that many of their activities attracted a very heterogeneous group. To make sure they represented the target audience they used a company to get users to the workshop. How they very deliberately tried to fetch users that otherwise would not been involved were one of the reason why I chose this article, in addition to that the target group were very similar to mine. They also made a definition about the uninterested being "those who feel no affinity with current mental health services, and who potentially hold negative views" (Nicholas, Hagen, Rahilly, & Swainston, 2012). I believe this view is very interesting and I have used it as a starting point in regard to the uninterested and it will be discussed later in the thesis.

They also looked at the approach to the workshops and found that they had to introduce the youth to the subject in a way that would not overwhelm them. Give the youth a sense of understanding and empathy for those suffering from mental health issues, and at last allows them to engage without having to reveal any personal experience on the matter. To do this they had two full days of workshops from Participatory Design with games, personas, scenarios and other activities. After analysing the workshop they found that it was very important to make sure all stood on common ground and had ownership to the issue to make useful contribution. They also learned that the youth enjoyed fast, playful methods that felt non-intimidating, even though the issue were serious (Nicholas, Hagen, Rahilly, & Swainston, 2012).

In the second article by Lee and Bichard (2008), they focus on the design participation and how that is about exploring ways to enable people to participate in the design process and got an aim to include everyone in the process. They talk about inclusive design as a methodology that aims at making products for the widest possible audience. This implies that potential customers should not be associated with negative perception of age and disabilities. Then again they believe it is the job of the designer to figure out who the design excluded are and then involve them in the design process (Lee & Bichard, 2008).

6.5 Analytical theory and concepts

I will use activity theory, actor network theory and concepts from participatory design to discuss my material. I have chosen these analytical concepts as I believe they give useful and diverse perspectives on my data. I will also look at the main findings and trends in the different workshops using different perspectives.

6.5.1 Actor Network theory

One analytical perspective I will use is Actor Network Theory (ANT). By using this theory I will look at how the cards in the inspiration card workshop mediated the workshop and how they were used as an actor in networking with the students. To do this I will first give a brief description of how ANT works.

There are several definitions of Actor Network Theory. I have chosen one written by (Aanestad, 2003) which is: An actor network is a heterogeneous network of human and non-human actors or actants where the relation between them is important, rather than their essential or inherent features. Actor Network Theory is often used when one would like to investigate the technologies

contribution, and when using ANT the technology would be acknowledged on line with other actors in the network (Aanestad, 2003).

This definition implies many things. One of the most important is that everything in the network has the same value. This means that not only human beings play a role in the interaction, but also things like computers, systems and other things around us. As mentioned the focus is on the relationship between the actors and I believe this is valuable in a thesis like this, because of the importance of looking at the process in Participatory Design. Latour (Latour, 2004) also says that ANT is useful to let the actors have room to express themselves and it can be used to follow the link the participants make between the elements (Latour, 2004). I believe this will make ANT go well together with Participatory Design because of the fields divergent and open mind-set in which the boundaries often are fuzzy and things might change and go in another direction than one predicted. Even though the task "making of an information system" is not new, I have made it different by using participatory design, concepts from persuasive design, and by using youth in a school setting to help me with the design and idea-generation. Another thing that supports my choice of analytical concept is how the theory argues that it is analytically fruitful to reject any a priori distinction between elements in the network. Differences between e.g. humans and non-humans are looked upon as an effect rather than pre-given (Aanestad, 2003). This aiming for alignment has created a lot of discussion, but in this thesis I believe it will be an interesting perspective following the process from "problem" to alignment.

In Actor Network Theory there are several concepts being used to describe the process towards an aligned network. The most important are:

Alignment: When all the actors in the network have different interests and when stability is obtained the network is aligned. This is achieved through a process with at least three steps of *translation, inscription, action* and *delegation* (Aanestad, 2003).

Translation: What happens when the actors' interests are changed/reformed/modified into more generally agreeable expression. Several actors may support this translation and make it turn into an inscription.

Inscription: The agreed translation may be inscribed into a medium or the artefact(s). This could be a rule, procedure, standard or something else.

Action: The inscription attempts to define a framework for a possible action. This action and inscription could be a dynamic and relational feature. It does not have to be static entity, as this may lead to the network not being aligned and the process could stop if it is not dynamic.

Delegation: This is when an actor stands in for, and represents, other actors and acts like them. As stated by Latour (2004) "all the actors we are going to deploy might be associated in such a way that they make others do things"

In addition to this all actors have and *agency* which is the ability to act, to do and to influence. It is this agency that makes the process possible.

6.5.1.1 *Activity theory*

In this thesis I will use Activity Theory (AT) as one of my analytical perspectives because of how it can be used to focus on tensions and relations between the different aspects of the system. I have mainly used this to discuss different observations during the workshops.

Activity theory provides a framework that focuses on the analysis around the concept of an activity and helps to identify tensions between the different elements of the system (Rogers, Sharp, & Preece, 2011). As the artifacts can be both physical and abstract this will be useful to analyze both the process as a whole and the workshops itself. Activity theory also gives us the aspect of what happens when one of the factors in the model suffers a breakdown of some sort and how this affects other factors in the model.

Activity theory is based on the notion of object relatedness of human activity (Hasu & Engeström, 2000) and is a product of Soviet Psychology that explains human behavior in terms of our practical activity with the world (Rogers, Sharp, & Preece, 2011). In Activity Theory there are two key models. One that constitutes an activity and one that models the mediating role of artifacts. My main focus will be on the latter, but I will also present the first as it can say something more general about the work and processes happening in the group.

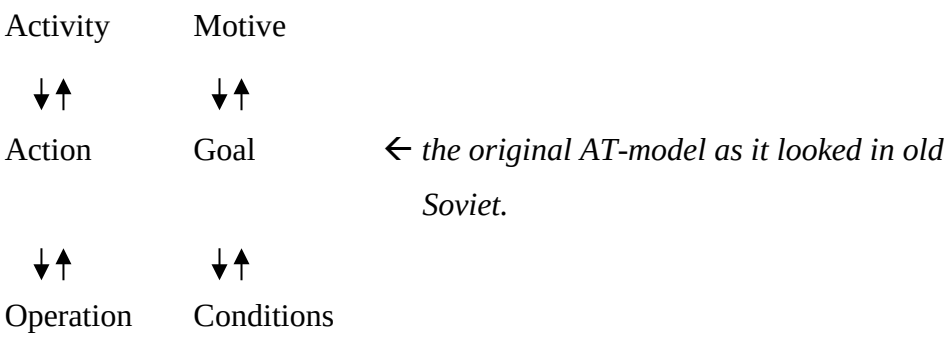
6.5.2 The individual model

The individual model were developed in the old Soviet Union and puts up the activity in a hierarchical way that starts at the bottom and you can describe the different levels in the model as follows:

- Operations: Routinized behaviors that require little conscious attention. This is work that is generally easy to do and necessary to complete the other aims. This can be typing, opening the right forms etc. They can be looked upon as the conditions necessary to attain the goals.

- Action: Behavior that is characterized by conscious planning and requires some research and background. E.g. writing a paragraph, gathering information and finding the right form for a customer. An action is based on the conscious goals that guide the activities.

- Activity: A minimum meaningful context for understanding the individual actions. This is the big picture and what you can look at as the bigger task and objective E.g. write a report, run a project. They can be identified on the basis of the motives that elicit them.



One of the things that are important to remember in this model is that the links between the levels are fluid and can change. For example an action can become and operation when they become more automatic. But it can also go the other way around, especially if the motive changes or there are some changes in the software that is used (Hasu & Engeström, 2000).

This model is also in close connection to learning new things and having a look at how it becomes easier and easier to use an artifact or understand tasks.

6.5.3 Engestrøms activity system (the roles of artifacts)

The second model is more based on the role of artifacts. Artifacts can be physical, such as a computer or a knife, or they can be more abstract, like a set of rules (both written and unwritten). The physical artifacts have the advantage that they cause humans to respond to them as direct objects to be acted upon. They also embody a set of social practices (e.g. how to use a knife). The abstract artifact is from the idea of mediation. It can be looked upon as the change from a direct mode of acting on the world to one that is mediated by something else, like a set of common practices (Rogers, Sharp, & Preece, 2011)

The key roles of the artifacts for the users is learning, identifying and participating in the activity appropriate to the artifact. Human activity is always mediated by artifacts in some way. The artifact does not present a clear methodical prescription and the activities are also distinguished from each other by their respective objects (Rogers, Sharp, & Preece, 2011)

The roles of different artifacts and mediation is connected to and tried explained by the Scandinavian activity system developed by Engeström (1987) see illustration 7. We see that it has widened from the original triangle of subject, object and community to include more supra-individual processes like the artifacts, the rules and the division of labor that is all dependent of each other. This also allows consideration of networks of interrelated activities, forming an activity (Hasu & Engeström, 2000).

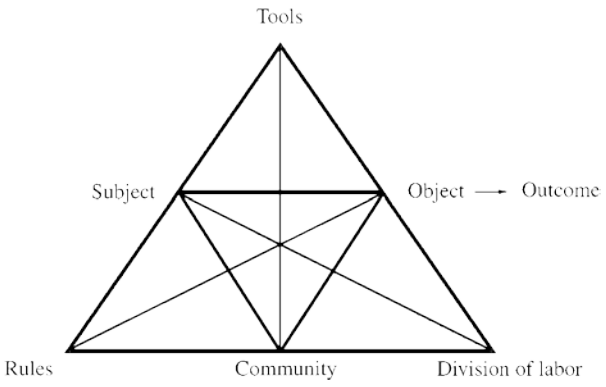


Illustration 7. The mediational structure of an activity system (Engeström, 1987).

AT describes cooperation as a *collaborative activity*. In which means they have one common objective but it is distributed onto several actors which is performing one or more actions according

to the overall and shared objectives of the work (Bardram, 1998). In cooperation with many actors it is important to look at how they can all work together on the common object, even though it may feel as if they are working alone.

AT also emphasizes the social context of an activity. Even when working alone an individual is still engaged in activities that are giving meaning to a wider set of practices (Rogers, Sharp, & Preece, 2011).

6.5.4 Participatory Design as analytical concept

One can also use participatory design as an analytical concept. One can use the design theory and the guiding principles as a basis for the analysis.

In my thesis I will mainly use the concepts of telling, making and enacting in the tools and techniques to look at how the youth performed and in what way I used the principles and how the principles worked. I will also look back to the guiding principles from Kensing and Greenbaum (2013), and analyse how I implemented and used these principles. This will hopefully give a valuable learning effect and show how the participatory design methods and mind-set had an influence on the result, being a prototype in the end.

7 Methodology

This chapter contains several aspects of what I have chosen to do, why and how. I will discuss law and ethics, my research paradigm, techniques chosen and the techniques considered. In addition to this the chapter will contain a detailed report of my fieldwork, how I worked with my data and challenges during data generation.

7.1 Short overview

During the work with this thesis I worked with two different high schools in Norway. One of the schools where located on the countryside, and another in a small suburban city just outside the capital. On both these schools I had two workshops and developed a good relationship with the school and the respective teachers for each of the classes. As I was present in their regular teaching environment and in their regular lessons it was important that I had a give and take-deal with the teachers. It is on this foundation I have chosen my methods and techniques that will be discussed further in this chapter.

7.2 Techniques

During the workshops I used several techniques. Mainly from participatory design, but also some more universal that are used in several design-theories. The latter were mostly used to set the stage. I used the following techniques for many reasons. Mainly because I am familiar with them, they are easy to understand and can be altered in many different ways. During the planning I also considered several alternative methods and these are described after the chosen methods.

7.2.1 Questions about tax

To start the thinking process all classes received a questionnaire with 10 open questions about taxes and five questions about how they perceived skatteeetaten.no (appendix 1). During the development of the questions I found it important to maintain a focus on youth relations to taxes and find questions relevant for them. To do this I used the page about youth on the tax-agencies web page in addition to looking at “spleiselagets” web-pages for inspiration. I also thought back to when I was a youth and what I would have wanted to know about.

I was also curious about how they perceived skatteetaten.no and if there was something in the design that could be changed for better understanding. Answering questions of their perception of the tax-agency will hopefully give a more honest opinion, as they have tried to use the web-page and are not to judge it by the looks of it alone.

Unfortunately I did not have the time for testing the questions on other young people, but I went through them with my supervisor and after some revising we had a set of 10 different questions covering the most basic things a young person or a student may come across.

This method where mostly used to set the stage and fulfil the teachers wish of teaching about taxes. These questions were also useful to let the students get a feeling about tax-related issues they might have to handle in the relatively near future. For example when they move out or start working more regularly.

7.2.2 Future workshop

A future workshop is a three-staged technique for brainstorming. The first stage is the critique-phase where you find things that are wrong or you would like to change in some way with the system or

concept at hand. Due to the lack of knowledge about youth doing taxes I also said that they could include questions about tax in this phase.

The second stage is the fantasy phase. Here there are no boundaries and no limits when it comes to available technologies and possible solutions. Everything is possible and it is this that someone find a bit hard to grasp while doing this method.

The third and last stage is the realisation phase. Based on the two previous phases you go more down to earth and one can look at different realistic solutions for the problem area. Here the technique goes from a brainstorming-session to actual solution one can work on with.

All the classes were also given three different coloured post-it cards for each stage. This made it easy to separate the different stages from each other during the workshop. An issue with this workshop is that it can be very leading if you don't know what it is all about and have some sense of what I might expect. Due to this I had to choose my words carefully not making them believe I wanted this or that, and that everything they said was equally important.

7.2.3 Inspiration card workshop

Inspiration cards are a method developed in Copenhagen by Halskov and Dalsgård (2006). This is a collaborative method for combining domain and technology cards. The purpose of the cards is to put together solutions and design concepts. One can use results from e.g. domain studies to make the domain cards (Halskov & Dalsgård, 2006). In my case these cards where built upon the suggestions from the future workshop in addition to assorted terms and services from skatteetaten. The technology cards are built upon applications of technology, e.g. web-page and app. It is also important to have some empty cards for the participants to fill in if they come up with new domains or technologies.

There are no restrictions on how many domain or technology cards you can use in one solution. This makes this method very flexible, and that is also the main "problem" with it, while designing and making concepts with participants that are not used to it. It seems like in a school setting, they are used to very clear messages and structures, and that very open tasks are difficult to grasp and understand.

There are also several ways to alter the technique. In my case I dropped the part about gluing it onto a poster and the presentation about the concept. I found it more important to have an idea generation and create several ideas they might want to develop further. This was also based on the experience about the youth getting tired very fast, so in this way I hoped to encourage their creativity by challenging them to make several solutions.

7.2.4 Sketching

As the name implies the purpose is to sketch possible solutions. This can be done in several ways, but in my case I provided the students with paper, colours, glue and different cut outs they could use to make their own design. I also emphasized that it did not have to be extremely pretty, the most important where to understand the functionality they wanted and to some extent they wanted it.

Bill Buxton (2007) refers to sketching and prototyping as instantiations of the design concept, but it serves different purposes. As sketches dominate the early ideation stages and suggests a lot of things a prototype are more concentrated to the stages where you start converging. Even though it can be

discussed whether it was prototyping or sketching we were doing I chose to call it prototyping to make the students feel that they were doing something more In the discussion I name it sketching as it was this we were actually doing according to Buxtons definition.

7.2.5 Alternative methods

7.2.5.1 Roleplaying

As one of the classes we were visiting where a music-dance-drama class I considered to do a role-play about taxes. One of the suggestions was that either I or my supervisor could play an employee at the tax-agency and that the students could pretend to either call or visit us at the tax-office. A role-play like this goes well with the principle of enacting (Robertson & Simonsen, 2013) in participatory design, and would as such be interesting to do.

After some consideration we decided to neglect this technique due to several reasons. One was that we were not sure if we had enough knowledge to play this supervisor at the tax-office. Another reason was that if we wanted to do it, it would have been a good exercise early in the process, and at that stage we didn't knew the students and had absolutely no clue about how they would react about an exercise like this. The last reason where that we were not sure whether they had enough knowledge about taxes to make this work.

7.2.5.2 Generative tools

Another technique considered where generative tools, meaning tools that can be given people so they can express themselves visually and verbally (Sanders E. , 2000). I considered several ways to this. The easiest way where to try them to send me things digitally, this could be via snapchat, Instagram direct, postcards, e-mail or text message. In case I did not get much time at the schools I also considered making a more extensive toolkit that could be used between the workshops.

The main problem with this method was timing. As my main period of workshops where between December and the end of February there was not many tax-related things going on. The only thing could be the house-savings account that you can get tax-credits for when you are under 34 years old (DNB, 2014), but most 16 and 17 year olds don't earn enough to save much on that account. So it would have been a lot more interesting to this in March/April when the tax-return forms are coming. Unfortunately I did not have the nerve to wait that long and also the schools are very busy with mock-exams and preparations for the exam-period in May. The answers would also needed analysis and preferably a follow-up I did not have the time for due to the deadline of thesis.

Another issue was that this would have to be done voluntarily and/or as a part of their homework in that subject. As I was very thankful for all I already got at the school I didn't want to ask them to do even more for me than I already had got. Also, as previously mentioned, the workload is very big at the schools and if these tasks where to be done voluntarily I believe it would be hard to get any answers because they are many to follow up and I am far away.

7.3 Paradigm

In this thesis I have chosen a combination of critical and interpretive research paradigm.

The critical research paradigm focuses on the oppositions, conflicts and contradictions in the society and seeks to be emancipatory (Myers M. D., 1997). In information systems it is concerned with social issues such as power, social control and values in the development (Myers & Klein, 2011).

Interpretive design research aims to understand phenomena through the meanings people assign to them (Myers M. D., 1997). This kind of research can help understand human thoughts and action in different contexts and it has the potential to provide deep insights (Myers & Klein, 1999).

Participatory design has been considered a critical research method, but I also believe it is important to include an interpretive paradigm because tax is a very loaded word with many meanings and emotions assigned to it. The paradigm has not been too important in the thesis as such, but it is useful as a framework telling where I place my work.

7.4 Report of the fieldwork / case

I conducted two workshops on two different high schools. One was located in a small village in a rural area and the other was located in a small suburban city in the vicinity of the capital. The reason for ending up at these two schools was because we had connections there. Also both of these schools have many different programs to choose from and therefore we thought our chances to get in where bigger as we could fulfill different things in the classes teaching plans. At the time of the workshops all the students were between 16-18 years old, and in their first or second year of high school. I had to alter the original plan of the use of the techniques and their duration during the workshop period. The reasons for this and its implications will be discussed in the analysis chapter.

7.4.1 Getting access

I started in mid-September 2013 the work to get access to two different schools. In case one of the schools said no, I and my supervisor decided that it would be wise to be in touch with both schools at the same time. I started by sending both schools an email where I briefly described my thesis and why it would be useful for both me, and hopefully for them to join in on my project. I also asked them for a meeting where we could discuss this further so we all were sure to be on common ground before I started using their students' time.

After about one week I received an answer from the school in the suburbs that said they would be interested, but were not completely sure when. I once again requested a meeting and we decided on having one in late October, after the autumn holidays when they knew more about how the rest of the school-year would look like.

After two weeks I still have not heard anything from the school on the countryside and sent them a new email asking whether they have got my previous email and whether or not this were something they could be interested in. The inspector told me that my first email had been forwarded to the different math-teachers and that she would also forward my reminder in case some of them had forgotten about my request.

Suddenly, after another two-three weeks I got an email from two of the math-teachers on the school on the countryside telling me that they were very interested in what I could offer and wondered when I would like to come and teach / have workshops with their classes. They were in fact so eager and trusted me so much that they did not quite saw the point of having a meeting. I insisted on that though as I found it important that we agreed on what I should teach, need for assistance etc. So at the beginning of December I finally had my first meeting with this school and one week later I was back for my first workshop.

7.4.2 The first meeting(s)

My first meeting were with the school just outside Oslo. In this meeting I was joined by my supervisor for support. This initial meeting is mostly for getting to know each other a little bit and present how we work for each other and how we could contribute to different learning goals in the teaching plan. Both me and my supervisor know that the schedule on the high schools are very tight and the workload is high so we tried to say in the nicest way possible that if it was possible to come and visit them twice we would be extremely happy. Luckily the teacher said that was a reasonable amount of time and that it would be possible to do. I would be given two sessions at 90 minutes each to do workshops and teach a little bit about taxes. We also spoke about an appropriate time to visit and the schedule showed that they would be working with personal economy in January and February, so it would be perfect if I could come visit them around that time. We decided upon two possible dates before and after the winter holidays and agreed to keep in touch if anything were to show up before that time.

As previously mentioned I also had my initial meeting with the school on the countryside at the beginning of December. My supervisor did not attend this meeting with me, but the content were mostly the same as on the other school. We started by getting to know each other a little bit and they were really positive about my work and how it fitted in to their learning goals. I was very fast invited to hold workshop and as it turned out they had a little bit of time left just before Christmas. I was therefore asked if it was possible for me to return already the next week as they had then finished their mock-exams. They were also going to work with personal economy and hence also taxes throughout January so we also planned for me to come back for round two of workshop at the end of January.

7.4.3 School 1

7.4.3.1 First visit:

At school one I conducted a future workshop (Müllert & Jungk, 1987) in three different classes. I had 90 minutes (one session) in every class. In every class I divided them into groups of 4-5 students and I used approximately 20-25 minutes on each part of the workshop. The rest of the time was used for a break and me talking about the project, my background and also why I was so happy that they would like to take part in my workshop and how much that meant for me.

Class 1:

I visited this class of 25 students at 8 o'clock on a Monday morning in mid-December. This was the first class I visited during this project, and even though I was well prepared I was a bit nervous about how it would work out, their reaction, the time schedule etc. The class was a practical math class from the first year in the program of general studies. Their regular teacher was also present and very helpful as she helped the students come up with things they might wonder about, but from my point of view not leading them too much in a special direction. This was the only class I had this first day and that gave me plenty of time to review the time-table of the task and if I should do any planned changes between the groups.

Class 2:

This class consisted of 14 students doing the second year economy class in the service, transport and security program. I visited them around noon in mid-December. Due to an accident on the ice their teacher could not be present, so I had to handle the class alone. Luckily they were very nice to me so

we had a very good time together and I went out from there being the cool substitute teacher that gave them gingerbreads and let them leave a bit early.

As I had a few hours between this workshop and the one at Class 1 I could also make some changes to the plan. One of the initiatives was to make a PowerPoint-presentation (appendix X) where I tried to explain what I "wanted" and provided some examples they could look at. Even though I saw that also in this class they finished faster than I thought I didn't want to add another method because I wasn't comfortable with conducting another method without being properly prepared and having discussed with my supervisor.

7.4.3.1.1 Class3:

I visited this class the day after class 1 and 2, around 10 o'clock in the morning. This is a first year electric engineering class, consisting of 14 students. I used the same PowerPoint as with class two but with minor changes.

According to the teacher this class could be challenging as they have a very strong common ground about mathematics not being ok, regardless of what they do in class. After meeting them and presenting the first tasks I saw that they were more uninterested than the other class and required a different approach with more follow-up. I tried my best to make them focus on themselves and their own issues, knowledge and experiences with taxes. Hopefully this helped a bit, and with a bit of challenging to make them come up with e.g. one more thing on each group the next five minutes I got quite a few tolerable answers. Also here their teacher was present and could help the students think and persuade them in coming up with some more answers. As with class 2, I also brought gingerbreads to this class, and I think that helped ease the tension in the room a bit.

7.4.3.2 Second visit:

I visited this school again in two consecutive days in January. Once again all classes did the same workshop at the same schedule. We started out with a set of tax-questions where they were encouraged to send their answers to me on email but did not had to as this is research and I cannot force them to do this. These tasks were done individually. Further we put them into groups of four and five and conducted an inspiration card workshop where we tried to put together solutions they wanted. As these classes were not comfortable with presenting for each other we just took pictures of the solutions they came up with.

Class 1:

I visited this class again at 8 o'clock on a Monday morning at the end of January. Once again this class where first out, but I had gained a lot of experience about them from the last visit and felt even better prepared this time. As their teacher was out travelling with another class I was alone with this class. This class was also very dedicated while working with the questions, and seemed to have livened up quite a bit since my visit in December.

During the inspiration card session they seemed to be very interested and where keen to show off the solutions they came up with. They were not especially keen on presenting so we agreed that they could tell me about the solution(s) and let me take pictures of them.

Class 2 and 3:

At the last workshop with these classes we decided to merge the classes due to one of their teachers travelling with another class. By doing this we avoided perhaps weeks of waiting to do the last workshop with the last class. In addition to the teacher of one the classes, my supervisor where also present at this workshop so we could give all the students feedback even though we were a big group.

It also helped for class 3 that they were together with some older students in this session. This made them more focused and they didn't dare to be as loud and cocky as they were in the first session. It could also be that this session was a bit more interesting for them, as they could do more practical tasks that they could relate to. As I had also learned quite a bit about them I also made the working periods-shorter and gave them the possibility of working more individually.

During this session I also noticed that these students were keener on the hands-on practice of the inspiration cards rather than answering questions. So it seems to be some kind of cultural difference between the general study-program and the vocational programs.

7.5 School 2

Here I had two visits and conducted four methods in one class. Both sessions were 90 minutes long. This is a first year class in the music, dance drama programme. I had learned a lot from the previous workshops and changed the plan slightly for these workshops. One of these things where that 90 minutes for a future workshop where way to long, and this gave me another 45 minutes to put in a fourth element in the workshop, sketching. As these students were used to play and enact different scenarios we considered to some role-playing, but as neither me nor my supervisor were comfortable with these methods we chose to go for safe methods we had tried before. A bit dull, maybe, but as this were the last workshops we thought it better to ensure a result we were able to analyse and use as much as possible. Both my supervisor and the class' math teacher where present at both workshops.

7.5.1 First visit

We visited them first in the middle of February, at eight o'clock in the morning.
As we were expected to teach the students a bit about taxes we started with the same tax-questions as on goodbye-land. In addition to the learning effect this also helped setting the stage for the future workshop. These students were also encouraged to send in their answers to me on email.

After a short break we conducted a future workshop where we used about 5-10 minutes per iteration followed by a short presentation from each of the group. All their notes where posted on several A3-posters. The session ended with me thanking for their attention and that I looked forward to work with their answers and plan my second visit.

7.5.2 Second visit

Our second workshop where conducted two weeks later, at the end of February, at two pm. At the first part of the session we split the class into groups and had an inspiration card workshop. In this class I both took pictures of the solutions and we also went through the groups making them all present shortly what they had made of the cards.

Then we had a break and at the second half of the sessions we asked the students to sketch and prototype one or more of the solutions they found at the inspiration card-part. We ended the workshop with a small presentation from all the groups about their design, and I thanked them for taking part in my studies.

7.6 Law and ethics

While doing research it is always important with consent from the participants. I quickly experienced that there would be difficulties with using a consent form and finding a way to gather consents in a setting like this. There are several reasons for this but it is mainly because the youth cannot choose to do something else, unless they want absence from class. Also we did not want to make more work for the teachers if any of the students would not like to participate. This extra work for the teachers could have been that they had to make an alternative session just because of our principles of informed consent. Here there is also a question of space, as most classrooms are constantly in use and it would have been difficult to find a place for those not participating. Then the last alternative would have been to give them the chance to have a session off, and then probably no one would show up at the workshops. Based on these implications we ended up with telling about what we were doing and why to the students and teacher. It was also important to emphasize that everything where to be anonymized and nothing could be tracked back to them as persons when the thesis where finished. We also asked them in plenary if it was okay for them that we took pictures that did not show their faces and there were no complaints to that.

During the data-generation the only thing that could be tracked back to the students where the emails where they sent their answers on the tax-related questions we gave them. We therefore said that it was voluntary to send them in, but that we would be very happy if they wanted to do so. Also here we emphasized that our focus where to look at what they knew and could find, not that their answers where correct or that someone were better than the other. In the final thesis there are also impossible to see what came from who as the answered have been generalised and analysed.

I also considered filming the sessions but I quickly got off that thought for several reasons. First of all it might have felt intimidating for the youth and they perhaps would not have trusted me in the same way. Filming them could also have caused the students to be more aware of the tasks and perhaps be scared of saying anything wrong. In addition to this I would have needed a thorough consent form and I would have had to report my study to the data protection authority.

I also looked at it as consent that the teachers let us into their classes. I talked to the teachers about this and they agreed that letting me into their classes were a consent from them, and we also emphasized that participating and sending in answers were sort of volonuteerly, they had to be present, but we could not force anyone to do anything, only encourage them. It is also important to remember that in addition to gathering data to this thesis, another part of the deal where that we would talk to the youth about tax in different ways and make them reflect about the topic and how they related themselves to it. It is an important part of the teaching plan in maths that they can relate to the topic, not only do calculations.

7.7 Working with data

I have worked with the data in several ways. The main working periods with the data were between and after the workshops.

7.7.1 Between the workshops

Between the workshops my main focus where to prepare for the next workshop. This meaning that my main focus at this stage of the analysis where to find things that could be reused and be taken to the next workshop. This included picking up relevant words from the future workshop and making cards to the inspiration card workshop.

Further I looked at and digitalized all their words from the future workshop and took notes of the reactions and other issues I remembered. These notes where taken up again after I had finished the workshops.

Another thing I did was to edit my program for the next visit according to how they behaved the first time. Even though I did the same techniques at each visit I planned small twists in the schedule regarding breaks, time to each tasks, hints that could be given and extra small tasks if they finished fast.

7.7.2 After the workshops

After the workshops had finished I found the material again and analysed the workshops both individually and together. This included grouping the material and I also analysed it using different theoretical perspectives where needed. This analysis will be presented in the next chapter.

7.7.2.1 Analysis of the questions

I have mainly used the questions to try to understand what their basic knowledge about tax is. It may also say something about their perception of the tax-agency, their ability to find answers and figure out what kind of words they are familiar with.

7.7.2.2 Analysis of the future workshop

I analysed the future workshop by printing out all the digitalized words and coded them with different tags, e.g. political statement and suggestion. This was done with all the phases and all the classes to see what they focused on the most. I also looked at differences between the classes. I also made general conclusions based on the background of the thesis regarding taxes and the automation. This served as a background for both me and the students and also told me something about their attitudes and wishes.

7.7.2.3 Analysis of the solutions from the inspiration cards

At this stage I looked at all the different solutions they made and analysed the solutions and the way they got to them by using participatory design concepts. As the concepts they made also worked as a background I could start to see the outlines of what kind of solutions they would like to use.

7.7.2.4 Analysis of the sketches

What did they want and why? What could be the reason of why they choose these solutions? These are relevant questions I asked myself while analysing their sketches. Together with an analytical theory this gave me insight in their interests and wishes.

7.7.2.5 Pulling it together

Here I looked at all the phases and analysed how it converged to the solutions they chose. I also analyse the process using different theories on different findings. Finally I made a mock-up based on the suggestions from the sketching-session and also developed the sketches a bit further.

7.8 Challenges during data generation

7.8.1 Getting access

As described earlier I spent a lot of time trying to get access to the two different schools. Even though the time used for emailing them was not especially long it took quite some time to get an answer and reach the persons you wanted to reach. On both schools I had to send several emails and reminders for them to send my request further to the relevant persons.

An important experience for me where that people are very positive once you can talk to them in person. Even though the teachers are busy they are very positive as soon as they are described what are supposed to be going on.

7.8.2 Being in a class

Even though I have some experiencing in teaching from different organisations I have never had a whole school-class. And as such I wasn't completely sure about what to expect, even though I had heard a bit about them from the teachers. Being a bit unsure about what to expect were also one of the reasons I choose to start with a future workshop, as it is easily adaptable and can easily be extended or shortened if necessary. One can also have short or long discussions and presentations if wanted and needed. Especially during the first workshop it was important for me to make them feel comfortable and trust me, and therefore I had presentations in some classes, and not in others.

I also felt the pressure about having to deliver and give the teachers something they could use further on in their teaching. So the method would have to not only benefit me, but also the teaching plan.

Another challenge was the variable interest and their short attention span. I have never had these kind of exercises with youth, so my only reference where the workshops we have conducted during other courses in this programme. But then again these workshops gave a massive learning effect that will be extremely useful when conducting workshops in the future.

8 Analysis and discussion

This chapter will contain a mix of analysis and discussion of my work. I will start with analysis of the different workshops and discuss important findings. Further I will use the analytical perspectives presented in the theory-chapter to discuss findings from my thesis and to shed new light on the process and workshops.

8.1 Questions about tax

All the classes answered 15 questions during the two sessions I conducted. 10 of the questions were based on situations and topics I considered relevant for youths and the latter five where about their perception of the tax agencies web-page. It was important for me to have a wide range and variety of the questions so everyone hopefully would find something they could relate to and find useful. The questions were not used as a Participatory Design-method as such, but they still served several purposes making the other workshops easier to understand and created a common understanding of the topic. These questions also served as a way of learning about a tax and at the same time get to know the tax-agencies web-pages as they probably will be a likely place to gather information about taxes.

Photo: concentrated students answering tax-questions during one of the workshops

On my first round of workshop at school 1 I did not have these questions and the background for making them were that after the first visit to school 1. As one of the students said “It’s hard to know what is difficult when I don’t know anything about it”. This sentence was an eye-opener for me and really put me onto the thought of making something to help on that. I realised that their knowledge about taxes were lower than what I first expected. This meaning that I would need something to make the topic clearer to them and that became the reason for developing these questions to help them increase their understanding.

In a Participatory Design context these questions helped setting the stage and created some sort of common ground. It could also help them to start the thinking process about summer jobs, part-time jobs and the need for exemption card vs a tax-card. There could also be other situations where they perhaps need some tax-knowledge. I getting to know about their knowledge and how the students learned about tax while answering the questions gave rise to mutual learning about the topic. During this tasks me, my supervisor and the class’ teacher walked around among the students and helping them if they got stuck. There were no point in forcing them to find out the answer, being close to

them while they answered gave us anyway an impression about their knowledge, and as this is not a quantitative study there would be no point in calculating their knowledge in any way. While we walked around we tried to encourage them on how and where to find answers. This will be discussed further in the section on how we used captology in the process.

The second reason for making the questions was that I should provide the students with some knowledge about taxes. This was also a part of the deal with the teachers, and I also wanted to give some knowledge back. It was important for me to give them more tools than only a few methods and a possible feeling of that they had been used only to give me data to work with. I wanted them to learn things that could be useful for them in the future. Also this knowledge would hopefully give them enough insight to have some opinions about what kinds of solutions they would want and why they wanted them.

I received a total of 37 answers from the students out of a total of about 60. The results from the questions themselves varied quite a lot. There were indications leading to that some found them difficult and some found them easy. Most of the students worked well with the questions, perhaps because it was very similar to a usual school task and therefore felt safe. My main finding after having observed them working and answered questions from them were that most of them seemed to understand the questions, but had some problems looking them up. Those questions that required them to make logical conclusions seemed to be especially difficult. I interpret this as they lack knowledge about tax-terminology and need to learn more about this. I base this on how they sometimes needed us (me/ my supervisor/ teacher) to explain to them different words, and at once they understood what it really meant they were able to search it up and figure out the answer to the question from there.

While they were working with these questions I could also very clearly see the differences in their dedication and attention span. I don't know for sure if this lack of dedication were due to taxes being boring or due to school and math-class itself being boring. I also have a lot of understanding for it being difficult to be very engaged and talkative at 8 o'clock in the morning mid-December. On a related note they were also very good at working for themselves and they seemed very confident with this as a working method. They also had very few questions about the questions themselves so even though they were not completely sure about the answer or understood all the keywords, the questions were written clearly enough for them to understand what kind of answers I wanted.

There is not much else to report from their answers about tax. There were no questions that stood out as more difficult than others, expect those that required reasoning, and as discussed this seem to come from lack of terminology.

8.1.1.1 Navigation and searching for answers

Some of the questions were about their perception of the tax-administrations web page. These were formulated as open questions where I asked about what they liked and didn't and if they perceived something on the web-page were difficult to understand or perceive. Below is also a screenshot of skatteetaten.no with the same design that were used when the students answered the tax-related questions.

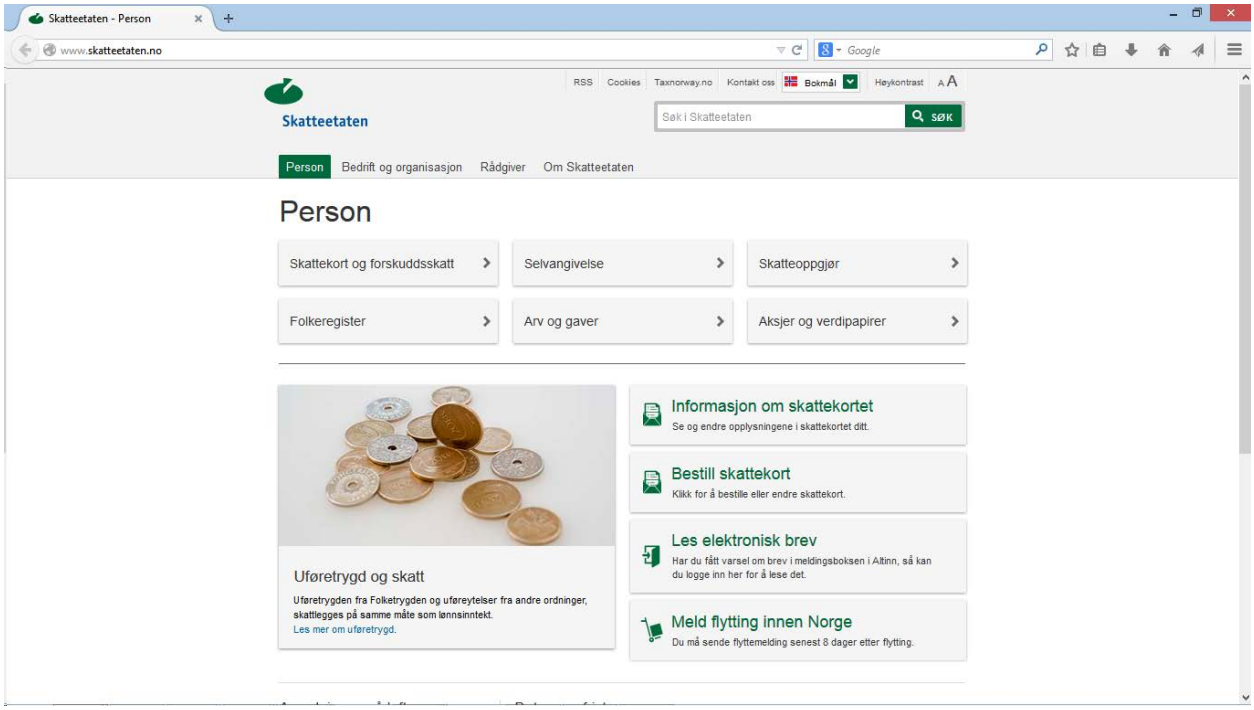


Illustration 8: Screenshot of skatteetaten.no

One of the first findings was that most of the youth found the webpages all right to use. Even though they had some problems navigating and finding answers to some of the questions the overall impressions was good and they liked the design. More specific the search module got most of the positive attention. Several of the youth mentioned this as the feature they liked the most and that they mostly got good hits on their search. I believe there are several reasons for why they used the search function so much. One is that they knew what I asked about and then they could use their already extensive computer skills to search for the right answer using keywords from the question. The other possibility is that they don't know what category the questions goes under and therefore find it easier searching rather than browsing. The latter strengthens my theory about them not knowing or understanding the tax-terminology and it is on this the tutoring should focus if the students should understand more about tax.

It seems from their replies that some of those who choose to navigate through the menus rather than searching found it a bit harder to find the answers they were looking for. Those who used this stated that even though it looks pretty, they found the information a bit unorganised presented. None of the participants have stated exactly what made it unorganised but it may have something to do with the information architecture and their perception of how they think it should be sorted based on their current knowledge.

Another aspect is that even though most of the participants found it easy to navigate, those struggling found it very difficult. With struggling it means that they used a lot of time to find the answers and figure out the answers based on the information given. This surprised me as there were few participants saying it was somewhere in the middle. Based on that observation it seems that they had a very clear perception of the web page and their meanings about the design and architecture that where hard to change once established.

The youth experienced that the subject itself was easy to find. But finding explicit answers to some of the questions that required more independent thinking and resonations were perceived more difficult. An example of a question like this is: If you earn 10000 NOK on painting your neighbours houses this summer, do you have to pay tax for it?
Here the answers varied a lot and a lot of students were not sure about how much they could earn from each, neighbour, if it was ok if they had an exemption card or if one had to report and pay taxes for it. If the tax-agency had some more of these practical questions I believe their landing-page for youth would have been better and one did not had to read several documents to figure out the right solution to their problem. As with such small jobs being currently more and more popular through Finn, there will also be need for a clarification on how much one can earn from private-persons or organisations.

8.1.1.2 Knowledge

Their replies confirmed our suspicion about the lack of practical tax knowledge among young people. As taxes and personal economy is a part of the curriculum (REF) we are given reasons to believe that they might not learn the right things about taxes. None of our classes had at the time of the workshops been visited by "spleiselaget", a campaign from the tax-agency and work-organisations. This campaign is about taxes and work-life for youth and aims to teach youth about taxes. It would have been interesting to see if the results were different on school-classes visited by this campaign.

Another interesting finding was that a fair share of the students rather wanted to ask their parents or google, rather than contacting the tax-agency. One explanation could be that it feels very natural to ask ones parents because they hopefully got the knowledge needed or it could be that the tax-agency does not have any particular focus on youth and that they do not know about this as a possibility.

To sum up most of the students concluded that they found the page easy to navigate on and that many of them liked the search function. While searching for answers they found it a bit difficult to find the right document and some of them wanted the language to be a bit easier. A few students also commented on the web-pages being a bit dull and grey. To solve this perhaps the tax-agency could make own pages for youth where normal questions are gathered in a simple language.

Also this method was neither a basis for design, nor a participatory design method. But still it served its purpose for setting the stage. Further it helped all of us to know a little bit more about what we are working with and they increased the knowledge about taxes among the students so it could be easier to come up with thoughts on the other workshops.

8.2 Future workshop

Future workshop (Müllert & Jungk, 1987) is a very applicable method that can be altered and used on both large and small topics and groups. As it is all about creating desirable futures I used this method to both set the stage firmer and start the idea generation on their perception of tax and how they would like it to be.

At school 1, this was the first method I used. This was because I did not know anything about their knowledge and reactions to the different elements of the workshop. This is also a method I feel very confident using this method as I have conducted it several times during student projects in the last year. Before the workshop were to happen I had prepared several plans for data generation, time

schedules, presentation from the students etc. based on my impression of the class I was working with at the given time. Each class consisted of between 15-30 persons so I also chose to do this workshop in groups so that they hopefully would help each other brainstorming and come up with more ideas rather than if they had worked on their own. As there was no time to work on group dynamics I let the students choose group themselves and as such they could work with people they were comfortable with.

Another reason for me to choose this method is that it is very divergent before it converges in the realisation phase. This would leave me with both a lot of data to work with and generate some ideas that could converted and added to the inspiration card workshop coming up later in the process. I also believe it is important for the participants to see some kind of progress right away and in the last stage one can already see that this has the possibility to turn into something new and exciting ideas that are possible to work on and in the end get a final product from.

Illustration 9: Ideas generated from the future workshop

8.2.1 Stage 1 – Criticism

The first stage is criticism. Here the students' task was to come up with things they perceived as wrong and things they wondered about with the tax-system. I emphasized that this stage were very open and the critic could be anything from the tax-system to the web-pages or other things they thought negatively of when it came to taxes. I quickly realised that only finding critic were difficult for them, so I expanded this phase to also include questions about tax.

During these workshops I learned quite a lot. On the first things I experienced where that the students found it difficult to find answers or come up with thought when the tasks were not very specific. When left with every possibility open they did not seem to know where to start. Being a very skilled class they were afraid to answer other things than what they thought I thought was right. It took some time for me to figure out the right trigger words to get their thoughts going without being to leading, and as every person and group is different there were different things needed in the different groups. For some it helped if I gave them a hint, other needed to be told a story that they could spin on and others again just needed me to explain the task one more time.

Many of the students asked me during the workshops if different answers/suggestions they came up with were correct so I had to use some time to convince them that there for once were no right and wrong answers and that I took every suggestion seriously. That I took answers that were obviously made for trying to flip me out such as “tax sucks” and “let the prime minister come around in a green leprechaun suit and a pot where you have to put a certain amount of your income” helped especially for the skilled girls that were afraid of getting it wrong to come up with suggestions.

I did not experience the insecurity so much at school two, as they used the tax-questions as a sort of basis for their criticism. They could pick up issues that had been difficult for them and use these as suggestion for things they wanted to alter. The problem about this could be that they were satisfied with their contribution when they have written the problems they found/experienced from the questions and then again did not bother to more deep thinking about tax-issues they cared about or had experienced in the past.

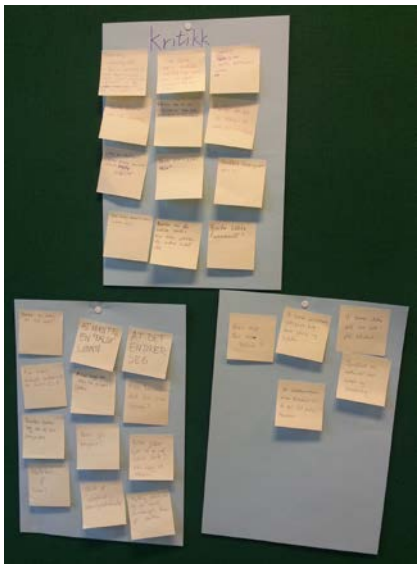


Illustration 10: Critique phase from school 2

This led to the two schools being very different in their answers. As most of the students at school 1 ended up being very concerned about politics and money, school 2 mostly cared for more practical solutions and issues they found difficult from the questions, but it should be mentioned that also they had some concerns about tax-political issues. I find it very positive that the students are concerned about politics and this also surprised me. I was expecting more things like “doing taxes are boring”, “I don’t care about taxes” and “I find doing taxes difficult”. There were some of these, but not the extent I had expected. I believe that I did not lead them in that direction as I in my short presentation before they started working emphasized that they should focus on their own situations and things they were wondering about. This also shows us that the students may be more interested in money and the political landscape around them then what most adults believe. A suggestion to the tax-authorities might be to be more open about where the tax-money goes in addition to their focus on tax-exemption card and that one should not work on the black market.

A summary gives me the following numbers in each category of the critique phase:

- 49 politics, including their personal opinions about tax
- 46 information and questions about taxes
- 10 taxes being difficult
- 5 solutions to a problem
- 5 other

As one can see there were a big majority of issues about politics and their personal opinions in this phase. Their main issues were:

- Tax-rates being perceived as too high.
- They want to know what the tax-money goes to. Included here are big political questions and statements about where they believe the tax-money should go.
- They do not understand why they should give away money they have earned, and that they feel that they get a fake salary.

As mentioned earlier in this chapter, and based on that many perceives the tax-rate as to high, give rise to think that the youth probably would like to be taken more seriously when it comes down to politics. But I think that the main problem for the agency is information. It would have been very interesting to see whether the amount of people thinking the tax-rate is too high going down if they knew where all the tax money went and how they were used. More transparency is also something many of the students asked about and perceived as wrong from the tax-agency.

The other main category with many issues was regarding information and things they were wondering about. They mainly had the following in common:

- Explanation of different words and their meaning
- Where goes the tax-money?
- How can one know how much to pay?
- Why do we pay taxes?

A lot of the concrete questions asked could most likely be answered with a visit to the tax-agency web-page and some thinking. But at the same time many of these questions about words and concepts were raised on school two after they had answered the 10 questions about youth and taxes. This could mean two things, one is that the questions worked as a generator, and they need more time to fully comprehend the question and the answer. Another possibility is that some of the concepts are not easy to understand for a young person with little or no experience.

Based on this phase it seems that the tax-agency have a lot of work to do to inform the younger citizens about why the system is working as it is and that it would help to have even more transparency in where the tax-money goes. One way could be through information campaigns where one visualised the use of money and perhaps also how it affects different people in the different stages of their life.

8.2.2 Stage 2 - Fantasy

In this phase we left the depressing nature of criticism and started to evolve and think about any solution possible, regardless of how difficult it is to conduct and/or implement. Here the schools started to become more similar than in the critique phase. At school 1 they started to work more towards solutions and about information, but there were still many opinions based on political

opinions. This is quite natural as the phases build upon each other and one would like to find solutions to the problems that arose in the former phase.

I have divided the answers from this phase into three different categories based on the type of solution and by the topics that was presented earlier in the chapter. The answers were distributed like this:

- 39 Political opinions
- 16 Information about taxes
- 30 Concrete solution

There are still and overweigh of political opinions and things they want to change. Their suggestions regarding politics could be divided into two subcategories being:

- Remove or lover taxes
- Opinions about who should get the tax-money

The information category consisted of different solutions presenting taxes in a more positive way and different ways information could be presented.

The solutions were mostly about taxes being done automatically, different ways to pay taxes and a few suggestions for apps and calculators.

8.2.3 Stage 3 – Realisation

In this last phase the main purpose where to get more down to earth and start looking at solutions that might could be implemented in the real life.

Some started to warm up and get “safe” here, so for some this were more of a fantasy phase than a realisation phase, but as long as they dared to say their ideas and were a bit interested I just encouraged further thinking. Hopefully they dared to loosen up because they felt that they were taken seriously and that I genuinely cared for their suggestions. Not only that they wanted to mock me.

At this phase I used the same categories as described in the fantasy phase and the answers distributed as follows:

- 22 Political opinions
- 29 Information
- 12 Solutions

As one can see the amount of political opinions are decreasing, but in comparison to the other categories it still have a high number of suggestions. This rise a number of questions to be discussed: Could information and politics be related? Will there be less talk about politics if they got more information?

Another theory for the lesser amount of opinions is that in this phase things had to be more realistic, and to remove all taxes is not especially realistic.

Based on answers like “learn about it at school”, “more information” and “have lecture about tax and stuff” it became visible that the youth wanted to learn more about taxes at school in a more practical way than they had before.

8.2.4 Lessons learned:

During this workshop I learned that the students finish much faster than us designers and other dedicated participants. They have computers, cell phones and internet present at all times and when they feel they have been thinking enough they rather check their phones than do any more work. I also learned that they needed more concrete tasks. I gave them pretty open questions and they did not seem to comprehend what they should answer. This led to the working periods feeling a bit long for both them and I. Due to this I extended the time by making them present their findings and I also used a lot of time for them to come to the blackboard and stick up their notes in the respective categories.

8.3 Inspiration cards

After generating a lot of problem areas, fantasising about solutions and finally made possible applicable solutions it was time to diverge the project a little bit more. To do so I used Inspiration cards.

Based on vocabulary from the tax-agency, their words from the future workshop, the tax-questions and names of different technologies each group got a stack of inspiration cards. These cards were divided into two categories - technology and domain. They could be combined in any possible way the students wanted to create one or more solutions they believed could help with their relation to taxes.

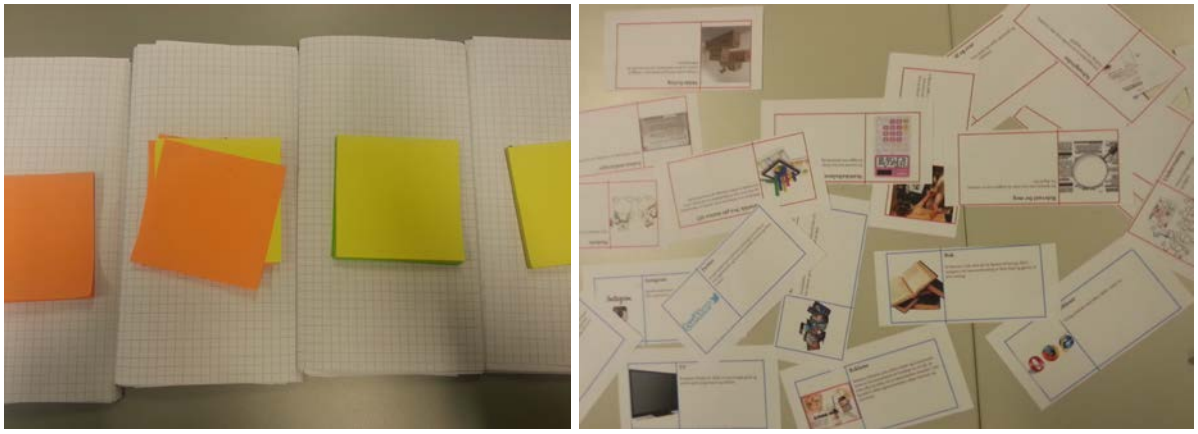


Illustration 11: Inspiration card-packages ready for use and inspiration cards waiting to be used in a solution.

At first the students seemed a bit unsure about what to do and did not want to ask for what to do. And as such they started out making small and simple solutions that could not be wrong. After a few minutes, and some questions from the groups to me, my supervisor or their teacher they started to warm up and understand what this task was really about. This led to a big idea generation and the youth made several solutions that could make taxes better for them.

Having both a teacher and my supervisor at the place also helped a lot as we were more people that could walk among the groups and give out hints, explanations and perhaps a small idea to a solution that might be able to interest them. We also used the elements ability, motivation and trigger from Foggs behaviour model to encourage the youth in making more solutions than absolute necessary. First of all it was important that the presentation before the workshop contained enough information so the *ability* to do the task was high enough. Further I tried to emphasise that their contribution

where of the essence and that they would hopefully learn something to by participation to increase the *motivation*. The last *trigger* was the task itself they were asked to do. We also tried to motivate them by walking around to the groups and asking them questions and talking about tax in different ways.

Their solutions varied a lot between smaller and bigger solutions. Some based on a single medium and others based on several media-types, serving more like a campaign rather than a single technical solution.

The solutions and ideas from the inspiration cards can be roughly divided into four categories. These are:

- Information
- Dates and deadlines
- Tax calculator
- Self-services

Among these the information solutions were the biggest group. These solutions were followed by systems that could be used for self-service purposes.

They mainly made many small systems rather than one or a few big systems. It might be several reasons for this. But one theory is that they first made many small systems to understand how the inspiration cards worked together. It could also be the combination of thinking about doing taxes and the inspiration cards. Inspiration cards are a more extensive method than many of the others and may require some more thinking to get into. A third theory is that they might think taxes itself is too big to relate to and therefore rather want small and simple things to relate to.

They mostly used the finished cards, and made very few custom made cards. Could be because there were many cards and that they were based on the future workshop so it covered most of their needs. Another reason could be the effort of making cards yourself or they felt uncomfortable with their artistic and creative skills.

8.4 Sketching

The last method the students conducted was sketching. Based on the previous phases, but mostly on the inspiration cards, the aim was to create something that could be developed further as a solution to help youth with taxes. Unfortunately I had only time to do this with one of the classes, but as I saw the classes become more and more similar during the workshops and at the time of the inspiration card workshops the groups made solutions with small differences. Therefore I believe the solutions made would be representative for all the other classes as well. During this last workshop there were made five different solutions:

- a tax calculator,
- a Christmas calendar on Instagram,
- a tax-blog about the tax-returns,
- a self-service app
- “Skappen”.

The political focus has gradually disappeared. Most likely because there are little they can do about it, and it is hard to make a solution if one need to learn more about how taxes work to make a good solution. These solutions are all practical examples of things that can be done based on their current knowledge about taxes and the perception of their current needs regarding taxes.

They were also clearly out led from the inspiration cards and continued the trend with mostly small systems and a few (one) big system. The rich system also embedded many of the small systems like the tax-calculator, some of the self-services and also it had a main focus on the need of information.

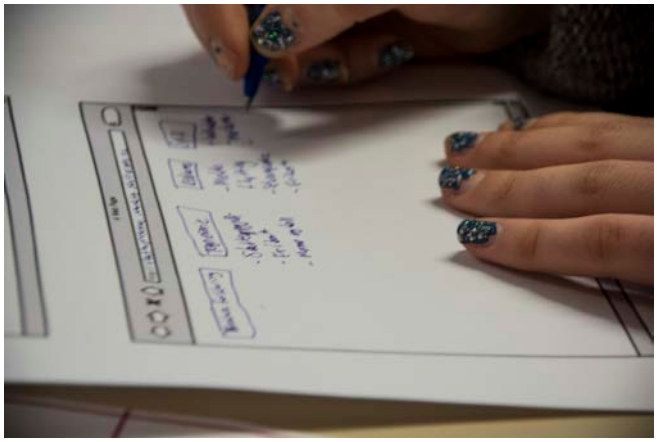
1. Tax-calculator

According to the designing students this solution is meant as a self-service app where you can fill inn different information depending on your income life situation and other information necessary. The app will calculate whether you most likely have to pay or will get tax-money in return based on the information given to the app. The app can also be used to calculate your tax and if any action needs to be taken if you e.g. want a new or additional job, want to move, marry etc. You can also use it as a planner to calculate different scenarios; if you want to pay more tax or try to get as close to zero as possible.

2. Christmas calendar on Instagram

This sketch was made for information purpose. The students say this is time-limited campaign which aims to make a Christmas calendar on Instagram where every day in December should have some new information regarding taxes or the tax-return. It could also be combined with a competition that aims to reflect around taxes and of course there should also be possible to win prizes by attending this event.

3. Tax-blog



This sketch is an information based blog about taxes. It aims to highlight different problems, situations, and questions youth might need answers to regarding taxes. The students had no details around who will write, where to host it etc. at the time of the workshop but the designing youth emphasised that this format is familiar to their age group and the language is generally easy to read and understand and that was their main motivation for designing this solution.

4. Self-service app

The students presented this as a sketch that aims at helping youth by providing different self-services that people of their age group may need. This included delivery of the tax-return form, editing the tax-card, keeping track of the limit if you have an exemption card etc. It was important for the students that it could be personalised and linked with your Altinn-profile to ease their work regarding their own taxes.

5. Skappen

This was the most extensive solution presented at the workshop. The designing youth emphasised that it was important that this app should support everything one could possibly need while being young and taking care of your own tax. It features included:

- My page – keep track and do self-service tasks
- Tax calculator
- Statistics
- Questions and answers
- Search
- Contact the tax-agency

According to this group it was also important that the app looked fresh and were user friendly so it could really comply with youth. This included that all the features had its own colour-coding and that it had an easily recognised name and logo that were coherent with the design. This sketch also became the most popular with the other students in class and they agreed that this was a cool solution they perhaps would use if ever made.

8.5 Prototyping

Even though I had no time to back to the school for further feedback I chose to make a solution based on the sketches the students made. I decided to make an app as this was what most of the students wanted.

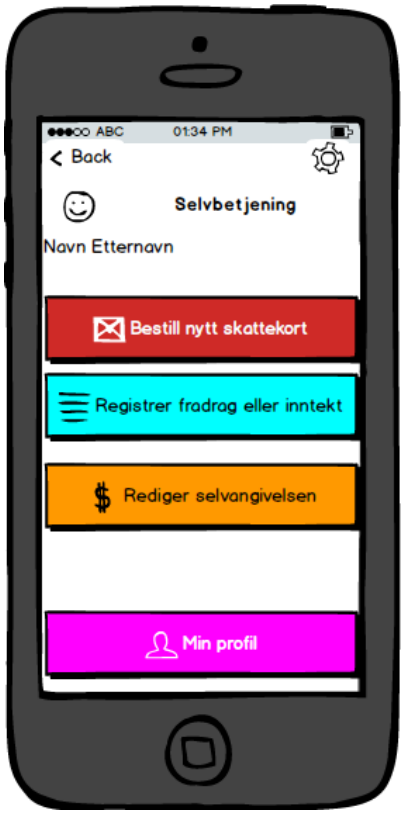
This solution uses “Skappen” as a basis and I have also kept its name because it was very well perceived by their fellow students. I have also included elements from the other solutions that were made and could be naturally included. This is an app that has a very rich content and as such it might serve several purposes and one can hopefully solve the problem or answer the questions from the user by only using the app.

According to the design I have also tried to be consistent with their wishes of a fresh design with lots of colours. Below is a presentation of some of the mock-ups I have made using MyBalsamiq as a tool.

8.6 The Skappen mock-up

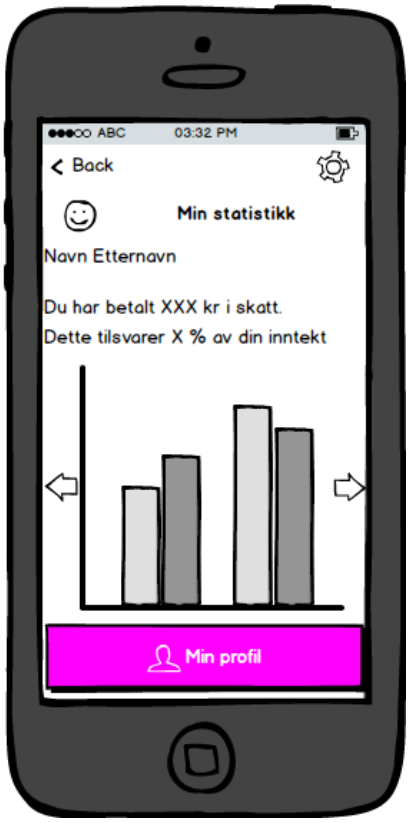
Frontpage: the front-page contains the same menu-suggestions as in the sketch. I have mainly edited the colours based on information architecture principles, more about that in the section about the development. In addition to this I also added icons on every button/menu for easier navigation and improved usability. The icons were also moved to the front of the text so it is not necessary to read before you understand what it is. In the upper right corner I also added a "settings"-button where the user can edit their notifications and other relevant setting.

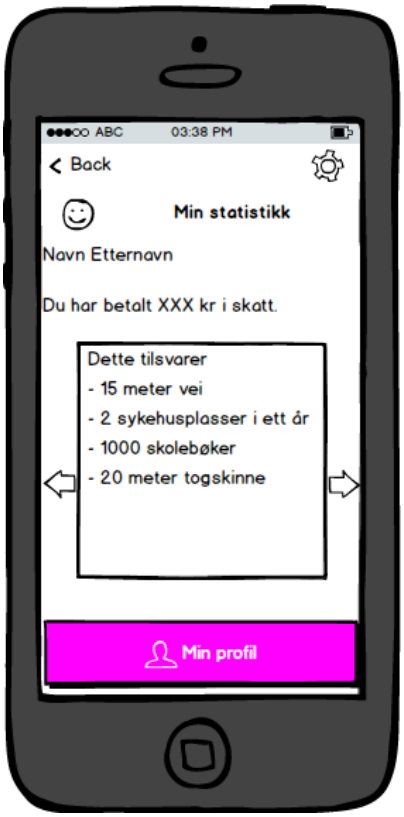
My page: after making a user you can use the "my page". This will collect data from the tax-agency and will make it easier for you to keep track of your own tax-economy. In this page there are also possible to register events in the calendar so you could get notification if there are something that should be remembered. This page will also provide statistics relevant for you on different levels. Most of all the My-page is a landing site where you can do several things relevant for yourself. My-page will also require you to log-in if you e.g. want to order a new tax-card or register something, just like in mobile banking.



Self-services: One of the most important features for the youth, based on the future workshop and the talk I had with them, were to keep track on when their free-card is starting to get full and they have to get a regular tax-card instead. This can be done both in the "register arrear or income" and in the tax-calculator on the front page, depending on whether they just want to check or actually have something to register.

In this page there are also possible to edit your tax-card if your current one is filling up and you need to pay a higher percentage of your income. Between the time when your tax-return form arrives and the time it has to be delivered there will also be possible to both edit and deliver the tax-return form from this app.





My statistics: Please note that the numbers are all fiction!

In this section the main purpose is to be presented with different numbers, graphs and statistics based on

your own income and tax. The aim is to present the users for relevant information on where their tax-money might go and how it's been use. This feature is most of all meant to be for information and entertainment purposes and can give a learning effect in regard to why we are paying taxes and why it is useful for the community. Perhaps the users would find if fun to explore this numbers and might even want to compare them with one-another.

8.6.1 General notes on the development:

While developing I did change some of the elements in the app. I let the design mostly stay as it was in this first iteration, but I did reorganize some of the information and the order of things to appear to make it work better with principles of information architecture.

On each category I also added icons for easier navigation (REF). These icons will help with the navigation of the solution as one can navigate with both text and icons. While using the app and getting more familiar with it one will probably use the icons even more as they will work as an affordance reminding you about what you want to do.

One thing from the prototype that might need to change is the colours. The use of colours, as with icons, give a strong sense of things belonging together and then the use of the same colour on two things that does not belong together might create confusion. Even though I have tried to be consistent with the use of colours, this app has too many functions making it difficult not to use the same colour several times. In the next iteration I will have to try to find a way to both be able to use the colours without confusion. I believe that the colours also are one of the things that make it look like it's made for youth and therefore I don't want to alter or remove this design feature.

8.7 Discussion with analytical theories

This subsection will mainly discuss the process by using different analytical theories and other perspectives from the theory chapter. It will also include discussion of some of my findings during the workshops.

8.7.1 The process from tax-questions to sketches using activity theory

This section will discuss the students work with tax question, future workshop, inspiration cards and sketches using activity theory. I will use the class from school 2 in this analysis, but I will also compare them with the classes at school 1 in cases where there were big differences between the classes. I have also chosen to use both the original activity theory and Engestrøms revised model in my analysis to enlighten different aspects of the process.

8.7.1.1 The original model

From the original of Activity Theory the process from future workshop to sketches mostly varied between *actions* and *activity*, we also barely touched upon *operations.* For repetition: Operations are routine tasks –something we feel familiar with. Actions are planned tasks that require some background and skills, but activities are the context for the action.

The tax-questions were mostly used as a tool to gather information and skills to make an activity-platform so the students could perform tasks meant for the action phase later in the workshops. The tasks itself were more like an operation as the students are used to these kind of questions. It was

interesting to observe how they very confident set to work with the tasks and solved them with very little fuzz.

Moving on to the future workshop the students were no longer doing routine work and one could observe how they used the earlier questions as activities to discuss their way onto answers in the different stages of this technique. As described in the illustration about this theory the arrows go both ways to indicate the possibility of change in the work. We could clearly observe how the students naturally changed between action and activity in their search for suggestions.

The inspiration cards were the first workshop of the second session with the students at school 2. We started with an *activity* that included a short summary and a presentation on how the workshop was to be conducted. On this technique the students were working much more in the action-stage. Their need to go back and refer to activity was not that big anymore and they seemed to remember more of the background. After they had worked with inspiration cards for some time and become more familiar with it some of the groups started to mover over to operations. In these groups there were no need for questioning what the different cards were about and it came easy for them to be creative and make new suggestions for solutions.

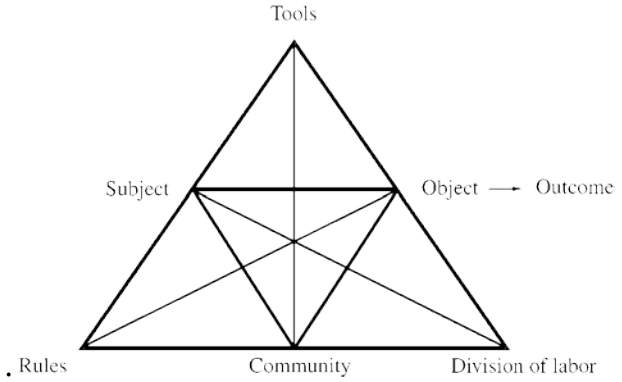
Sketching was the last part of the workshop. I observed that the groups shifted between action and activity as they now had a new reference point in the inspiration cards to help them. It shows that sketching is a dynamic activity. Even though Activity Theory is mostly used to identify tensions between the different elements of the system (Rogers, Sharp, & Preece, 2011) I have here choose to use it as a way to look at how their work and cooperation differs between the elements and how their cooperative work is a dynamic process that goes both ways.

8.7.1.2 Engestrøms activity system

In Engestrøms activity system the main focus is on how the different elements of the system mediate each other. As all the elements have an effect on the others an analysis saying something about all elements all the time would be both very time consuming and not rewarding for either the reader or me. I have therefore chosen not to include all relations on every stage of the analysis, but have focused on the relations I found most relevant for enlightening the process and how both abstract and physical artefacts worked together to create an outcome.

As we have already looked at the dynamic work throughout all workshops in relation to the original model this part will mainly focus on the students work with the last two workshop; inspiration cards and sketching.

Before the analysis itself I will describe and identify the different parts in the activity system based on the workshops. For a quick recap I have also included the model in this section.



- Tools: The workshops with its features and how they worked as mediating instruments and signs. Especially the inspiration cards were a tool with many possibilities of being creative.
- Subject: The point of view in this analysis will mainly be from me and the students view and how we worked towards the outcome.
- Rules: These are the explicit and implicit regulations, norms and conventions that constrain actions and interactions within the activity system. In our case this meant we followed the school regulations, time schedule, the rules of the workshops etc.
- Community: the students, the teacher, my supervisor and me made up the community during these workshops
- Division of labour: The *division* of labour refers to both the horizontal division of tasks between the members of the community and the vertical division of power and status. In the activity system made by our workshops it consisted of the same people as in the community and further how the tasks made by the object/ workshops were divided.
- Object: Our problem area is how to encourage youth to care about their taxes and make a solution for this.
- Outcome: The solutions we were making for the problem area / our object.

According to Engestrøm (1990) it is important to have in mind that the object is constantly in transition and under construction, and it manifests itself in different forms for different participants and at different moments of the activity. I believe this applies well to my workshops as even though we had a goal; it was very unclear how it was going to manifest in the end.

If we first analyse the inspiration card workshop the inspiration card themselves had a strong impact as mediating artefacts. They were the main tools to solve the task and are made to play an active role. In relation to the object, our aim to create tax-solutions, the students could create many outcomes to be used further.

During the sketching the tools does not play such an active role as the previous workshops. Even though the students were provided with many tools such as paper, pens, glue, scissors, pictures of buttons etc. the students were much more free in the tasks and were not so much bound to the tools as they were when working with the inspiration cards. During the sketching I consider the relation between the object and the community as more important. The division of labour is also influencing in this matter. I observed that it varied between the groups how they used the object and the previous outcome from the inspiration cards. Most of the students had an active discussion were most were

active, while other groups could have needed more help from the rest of the community to ensure that everyone were to be heard and feel that they contributed to the outcome – meaning the division of labour were not the best in some groups. These groups could perhaps have needed another member of the community to help with the division of labour to ensure that all participants could contribute to the object.

In both workshops, and in correlation to Participatory Design, I would like to discuss the link between rules, community and division of labour. During the whole project I have tried to maintain a focus on democracy at the same time that some restrictions had to be followed. The community consisted of several participants including me, the teacher, the supervisor and most important – the students. It was important to make the vertical axis of power and status as short as possible, but I found this quite difficult. In retrospect I see that this is mostly due to the school setting and how my supervisor, the teacher and I became natural leaders and the students came to us to get acknowledgment. This is not necessarily a bad thing, but in respect to Participatory Design it would have been better if we could have been a more integrated part of the groups. The rules also contributed to this as we were at a school and the change the norm from the teacher being a teacher to become a partner is not the easiest.

8.7.2 Inspiration cards as actors

As mentioned earlier I have chosen to use Actor network theory (ANT) to analyse my inspiration card workshop. I chose this workshop because the inspiration cards play an important role together with the human-actors and I believe it will be interesting to look at how these elements work together. In Actor Network Theory all actors are equal and in this section I will divide the analysis into the important keywords in ANT and with the help of these keywords discuss how the inspiration cards worked as actors during the process towards alignment. Even though I mainly analyse the inspiration cards I will also touch upon the sketching as these workshops are closely related.

Translation: This is what happens when the different actors' interests change into something they all can agree to. This phase is perhaps what the students spent the most time on. Even though they could make several solutions all the other actors in the network, mostly being themselves had to agree on what they wanted to make and what features the solutions should inherit. Even though the cards do not have one specific solution, for example like a finished computer program, the cards played an active part in this as they contain important keywords to be used in the discussion.

Inscription: When the students had used the cards to reach a translation, these translations were to be inscribed. During the workshop the students reached inscription at different stages. Some agreed at once that they wanted an app and went straight for this. Other groups were not sure about what they wanted to make and used the cards to make lots of different solutions on different types of platforms. I would say that both of these are inscriptions as all made solutions is for me a sense of alignment.

Action: The last step, action, in cooperation with inscription is the last dynamic step towards alignment. Here all the actors have started to work together and are more dynamic. Here the network discussed the solutions and together worked their way into what they wanted to make a sketch of in the next workshop.

Alignment is about the outcome of the workshop, in this case meaning the different suggestions for a solution. I conclude that the cards were useful as actors in how they provided information on different aspects that could be integrated in a system. The other actors had to integrate the cards in their dialogue about the outcome and as such the inspirations cards played an important role as actors and contributed to the alignment. It is also possible to look at the sketches as an alignment as they are more like a manifestation of the possible solutions made by the inspiration cards.

8.7.3 The inclusion and use of persuasive technology principles

In the theory-section I presented some persuasive technology principles. This includes the use of Foggs behaviour model and some other key concepts from captology like intention and macro-/microsuasion. During this project I have mainly been using the behaviour model principles on two levels. First I used these principles in the workshops and second they have been integrated in the design of the mock-up. The other concepts of macro/microsuasion and intention have mostly been used in the design of Skappen.

8.7.3.1 Use of captology in the workshops

One of the overall goals of the workshops was to engage the youth in making something that they would like to use themselves. This required us to trying to wake some engagement in the students and make them believe that this was something that could be important and useful for them.

Motivation: To motivate the students we mostly used hope/fear of the core motivators. I started the workshops with a presentation telling about my project and the background for why I wanted them to participate. While the students conducted the tasks we (me/teacher/supervisor) told stories and examples about tax that they could use further in their brainstorming and solution-development. The students were also to some extent motivated by already being in class and they know that being engaged could have a positive effect on their grade.

The tax-questions I made after the first round of workshops can also be added here as they could lead to hope of getting tax back and knowing that your tax-money will be used for something good. In addition they could give fear of getting tax-arrears. The questions might also contribute to social inclusion as paying taxes is something everyone has to do and by understanding it you can feel included.

Ability: In addition to being a motivator, my PowerPoint-presentation also was an important part in increasing the students' ability to do the tasks in a way they felt positive and gave them a sense of achievement. As previously discussed I did not make this presentation until the second class I visited because I noticed the lack of ability in the first round. This lack of ability also led to less motivation as the students did not feel any special sense of achievement and considered the tasks to be difficult and vague. In terms of captology this means that the PowerPoint were especially used to enhance the feeling of routine and reduce brain cycles, so they did not have to think so much by themselves at the beginning.

Also by telling the students stories and giving examples we increased both ability and motivation for being engaged in the workshops as it felt easier for them to participate when they had some more background knowledge. The tax-questions also contributed to this. Even though the students might

be reluctant to learn, they had to look up the questions to find the answers. This led to the other techniques being easier to conduct as they previously had to find answers to tax-related questions.

Trigger: As a trigger we mainly used sparks. Together with our stories and tax-information this was used as an element together with motivation as we highlighted something based on hope, fear or relevance. By adding the PowerPoint and increasing the time spent on presenting the different tasks we facilitated the behaviour and made it easier to conduct. We also gave them smaller tasks within the workshops like “make two more solutions on each group and we will move on” to encourage the groups to do an effort in brainstorming and creating solutions.

8.7.3.2 Use of captology in the design of the mock-up

While designing the different features in Skappen I deliberately implemented different elements of both micro- and macrosuasion in the solution. Regarding microsuasion the whole app is in its design made for behaviour change and this is the main reason for the app to exist. The aim of the app is for the user to do something regarding their tax and hence their personal economy. This was very easy to implement as the whole process up until the mock-up have been based on the goal of changing the behaviour about tax.

It is also planned that some of the features in the app will contain elements of macrosuasion. These are not designed yet, but are expected to contain different rewards or other kinds of persuasion to encourage a wide use of the apps features. Planned parts of the solution containing macrosuasion will be: reminders for editing the tax-return form lower the threshold for contacting the tax-administration, create motivation for paying taxes with statistics etc.

8.7.4 Ethics

While designing ethics is an important aspect. Especially while designing with children, patients or other vulnerable user groups. For me ethics was important because I was in a school setting with students that had no other choice than being there. I also had built trust with the schools and teachers that I did not want to break.

When combining Persuasive Technology and Participatory Design it comes natural to discuss ethics and the relations between these two. Persuasive Technology is renowned by its ethical challenges. Being based on human psychology it is a powerful tool to incorporate into design and should be used with care. As previously discussed by Janet Davis, Participatory Design can be used to ease the ethical issues of the persuasive elements.

During my workshops it was important for me that all the persuasive elements in the solution came from the students and that they would like to use it themselves. Regarding the persuasive elements used by me and my supervisor during the workshops it was important that they encouraged the work, and did not in any way demotivated the students or compromised the democracy within the group.

There has been much focus on what persuasive technology can get from Participatory Design, but what about the opposite? What can Participatory Design receive from Persuasive technologies? During my workshops I have learned that Captology can contribute to Participatory Design by giving new ideas on how to support idea generation. This will need more research, but during my

workshops I felt the inclusion of persuasive elements contributed to ideas that had a bigger possibility of being used as they were genuinely made in cooperation with the students and they made it for themselves. These ideas give rise to alternative visions about technology (Robertson & Simonsen, 2013) which is one of the guiding principles in Participatory Design.

8.7.5 Analysis based on Participatory Design principles

This subsection will discuss different Participatory Design principles and how they have been used in the workshop. The section will also include alterations and other changes I did to the techniques and if they compromised these principles or not.

8.7.5.1 How does my process fit with the usual practices of participatory design?

In the literature section I refer on different guiding principles from the heritage of Participatory Design which is important when doing Participatory Design. I have tried to follow these as close as possible and will now discuss how I used each of them in the workshop:

- Equalizing power relations:
  Making equal power relations came quite naturally to this project. As mentioned in the background many of the youth are not especially interested in taxes and they do not have any influence at all on the matter. By doing these workshops I felt that I gave the students a voice by giving them the possibility to both say their meaning about taxes and how they perceived it. In addition to this I gave them a possibility to *enact* on changes they want to see by making sketches of solutions.

- Democratic practices
  Making the democratic actions work in practice when you are working with a school class turned out to be quite difficult. I experienced by questions given to me and the whole situation that the students looked at me as a teacher/research person/ a superior that were there to guide them, not cooperate with them. This made it important that I took all suggestions from the students seriously and wanted to learn together with them – this is also elaborated on in the section about mutual learning further down.

- Situation-based actions
  The situation based actions also had to be somewhat changed in this project. Even though a school could be called a workplace it is not directly relevant for their relation to taxes. A good thing and an advantage of this setting were that I could meet the youth were they are at a daily basis and meet a broad variety of youth at one place.

- Mutual learning
  To start the process of mutual learning and approach a common ground I chose two techniques: Tax-questions and future workshop. Together they gave both me and the students some ideas on how we could continue our work and we mapped our skills regarding taxes. More aspects of mutual learning are also discussed below.

- Tools and techniques
  The questions and the inspiration cards helped me find out what kind of techniques that could be used to help the students further express their *needs and visions*. I also believe that we

started this process with the future workshop, but in these two workshops the results are visible in another way as they are more visual and more conceptualized than words on a post-it note.

- Alternative visions about technology
  The alternative visions about technology are from its origin meant to help developing ideas that can generate expressions of equality and democratic practices. Even though taxes are an important aspect in the democracy the goal of the workshops were not to make solutions that would influence them with more power through the solution. You could also say that it gives the youth power to be able to handle their own tax more independently, so our alternative visions of technology is more about creating creative solutions based on the mutual learning process.

8.7.5.2 How my workshops supported telling, making and enacting?

Telling, making and enacting are all important in Participatory Design workshops. I used these principles to choose techniques for the workshop in relation to the guiding principles discussed above. Even though they are related, the different techniques often have one of these principles as their main principle and therefore I think it is important to choose techniques that cover all three principles during the workshop-period. As they build upon each other I have tried to have them after each other and make the overlaps as smooth as possible.

Telling is used in the start phase of the project as it is mostly about existing practices and the telling of needs and dreams. I chose to use Future workshop for this and it gives us a common ground to create mutual learning. I experienced that the future workshop gave us a good insight of what the students cared about and at the first school it also told me something about the existing practices and their knowledge about taxes. This workshop also touches upon making and enacting but it is not its main purpose in this project.

Making were mostly supported by the inspiration cards and the sketching. In both of these techniques I used different artefacts to enhance their creativity. In making activities we can embody thoughts and ideas to the artefacts we made. Their suggestion for solutions and sketches also provides us with their own ideas on how we could enhance the user experience for them when we worked on further with the mock-up. Both of the workshops also describe possible future objects that could have an influence on their future.

Enacting where the aspect I spent least time on during the workshops. Below I discuss advice I made out of the experiences of these workshops and one of them are to start with the safe and then progress. Many of the students were uncomfortable to present their suggestions from the different workshops and therefore I believe physically enacting out different scenarios would be feeling very uncomfortable for them at the stage we were on the cooperation. Forcing them to do things they are not comfortable with would also make me seem less trustworthy and that would not have been fruitful for the group dynamics. Even though it is not considered as enacting in the book (Brandt, Binder, & Sanders, 2013) I would also argue on sketching being a way of enacting. Even though we did not actively acted out possible futures I would say that indirectly their sketches and solutions are

a way of expressing and reflect upon a possible future even though they were not physically acted upon.

8.7.5.3 Did my choice of techniques support having a say, mutual learning and co-realisation?

When telling, making and enacting are more like concrete aspects that are to be present in a technique, having say, mutual learning and co-realisation are more like principles the techniques should support. As all my techniques except the tax-questions are taken from the field of Participatory Design it is easy to say yes and move on with it, but I feel it requires a more thorough discussion.

In regard to *having a say* one of my biggest challenges were that when someone came up with a suggestion I took it very seriously but the fellow students could perhaps laugh at it or call it silly. This is a problem in making a safe environment where everyone has the chance to get heard. This varied in the different classes, but especially in one class this was very difficult as they were used to saying bad things to each other. So for me they really had a say, but the participant / group coming up with the suggestion could feel that they were only having a voice and that it did not mean anything. So even though the techniques themselves were made for supporting mutual learning, especially the future workshop, it could be that the students were not able to reach the common ground we wanted before the next workshop where I have incorporated their answers into inspiration cards. Luckily they gained more respect for each other during the rest of the workshops and at the end most of them were working together and understanding each other on common ground – meaning that we at the same time practiced *mutual learning* by starting to understand each other better than before. Mutual learning will also be discussed in a subchapter of its own so I will go straight to *Co-realisation.* The most important aspect of Co-realisation is involvement in design. Participatory Design often uses visualising as a tool and this is a part of all the three workshops. In the future workshop we use post-it notes in different colours and posters to differ the different phases that can be used as a basis of the discussion. In the inspiration card workshop it is all about combining different visual artefacts to each other to create a solution. In the last sketching phase these solutions are embodied into more visual and tangible artefacts that are more hands-on. Also in the making of these sketches we used different visual objects that could be coloured, cut and glued onto already finished templates to help the users visualise how the solutions could be. It should still be noted though that they had to make the design by themselves, but the framework could help them on the way.

8.7.5.4 How much participation is enough?

When I have been doing Participatory Design in a different setting than usual I have been thinking a lot about whether I have been doing “proper” Participatory Design or not. I have several times during the project wondered about how much participation is enough if you want to call it participatory design – and then again related; is my work participatory enough? I also believe this is something that will emerge when researchers and others are doing more workshops outside the usual project group. I have no clear answer to this, and the answer will probably differ depending on what kind of project the researcher is doing. However, for my part I feel that I have been doing Participatory Design due to the participatory mind-set during the whole project period. In all stages I have done my very best to engage the students in the method and I really wanted them to feel like an important

part of the project. In a perfect world I would also have liked to be together with them for more rounds of workshops, but being able to conduct three or four workshops together with the students were also better than only one to get to know each other and start to build the trust needed. So even though it is not a "true to the bone"-participatory design project I have been doing I still feel the participation have been at the essence of the process. All changes I have done from "proper" participatory design had to be done due to practical causes or being able to make a result with the resources I had available. Just as with automation and the fact that sometimes the system does not fit with the domain area, the same thing happened here. There were some tasks that had to be solved differently to solve the tasks not covered by the framework.

8.7.5.5 How did I learn together with and by the students?

Mutual learning is as previously mentioned an important aspect in Participatory Design. In a school setting I found it much harder to include mutual learning than in workshops at the university. I believe that this was not because of the technique chosen, but because of the setting of the workshop. I was supposed to be their teacher for the lesson and that makes this unlike a classical mutual learning situation as described in books and articles ((Bratteteig, Bødker, Dittrich, Mogensen, & Simonsen, 2013)). Further I found it difficult to communicate to the students that I were no expert in taxes either and that we were in this together. Even though I said it to them many times it felt like they did not completely believe me. I felt especially on this while working with the classes not starting with the tax-questions and I believe the reason is related to my advice no. 4 which is discussed below. It is still important to emphasize that I learned a lot about tax, but perhaps in some other ways than cooperating and finding solutions together with the students – and many of my fellow students believe this is the "correct" mutual learning. But I would argument for that it is also a mutual learning situation when you learn something from each other even though it might be on different levels or fields. They learned about tax from me and I learned about what they care about. This helps even out or knowledge-gap and it will hopefully be easier for us to understand each other and have a more fruitful cooperation. In the literature about Participatory Designs heritage when there are talks about project groups they consist of different stakeholders with different knowledge. This requires extensive knowledge sharing to understand everything the system will have to support and how they can prioritize what parts should be made, why and how it supports the work or task at hand.

This situation of mutual learning brings us over on how to establish a democracy when I am very clearly in charge of the class and workshops? As there was not much voting during these workshops I found it more important to support the democracy in other ways. This included making sure that everyone is having a say by dividing the class into groups and let all the groups present their work after each technique so everyone are informed on the progress. Between the workshops I made sure all ideas were included as much as possible so that none should feel overlooked. When the democracy-issue is handled like this it also has a lot in common with the "having a voice"-aspect. Both are principles that empower the students and give them a feeling of participation and that they have contributed to the solution. I was important to try and make them notice that their voice meant something and that they were taken seriously on what troubles them.

8.7.6 Experience gained and advice for developing with youth in a school setting

Even though I have previous experience working with youth I quickly realised that doing Participatory Design in a school setting were something completely different than what I have done before. All groups are of course different but I still noticed some similarities among the groups that I have not experienced while doing other projects using Participatory Design at the university and tutoring youth during weekend courses.

The first thing I notices where that they finished the tasks I gave them quickly. Often they only used 5-10 minutes on tasks other groups have used at least 20 minutes on. I noticed this especially during the future workshop. There could be several reasons for this. One is lack of knowledge, lack of motivation, not used to this type of work etc. After gaining experience with several of the groups I found that some of my actions had more effect than others and I will now present and discuss these findings:

1. Give clear and concise tasks: During the first workshop I got several comments like "It's hard to know what's difficult when we do not know anything about it" and "I don't quite understand what you are asking about". This made me realise that these students perhaps needs the tasks and topics to be presented different than in university. I have been a student at the university for several years and have mainly used other users with a university background in previous studies. This means people that are used to independent thinking and tasks that are not set in boundaries. In addition they are older and have therefore more experience in different areas in life.
   After changing the workshops slightly to include more specific tasks the students responded better to the tasks and seemed to get a better understanding of what was wanted of them.
2. They are motivated by numbers: This is partly in correlation with the advice above, but when the class started to look bored it generally helped giving them a challenge. If we look back at Fogg and the section about motivation he writes about how people react positively to things that might give us pleasure. Being able to for example find two more problems or solutions may give rise to a feeling of achievement, even though it's not a physical reward it brings a good feeling.
3. Have back-up plans and be open-minded: First of all: all groups are different. For you as a facilitator this requires that you are well prepared and aware of this. While working with these four different classes I soon picked up the things they liked and did not. For example were some of the classes very reluctant to present, while others liked it. Some needed to be boosted a lot while others were more independent. Some spent a lot of time on tasks other did fast and opposite. This means that you as a facilitator need to be flexible to make the workshop run smooth. This requires both preparation and experience. I advise the facilitator to be open minded and face the fact that sometimes things will not work out as expected, but it still might be useful in both your current and future research.
4. Start with the safe: After teaching many courses and holding these workshops I both experienced and became reminded on how important it is to start with safe tasks and then increase to tasks more and more unfamiliar/ unsafe tasks. When you are coming in as a new person in a school setting it is important to make the students trust you. I have learned that this trust is best built by doing familiar exercises that makes it easy for the students to feel that they are participating. In this project this showed itself as the tax-question being the safe start and future workshop as something new and more unfamiliar.

5. Choose your techniques with care
   Whenever doing developing, and perhaps especially with young people and other participants without experience I believe it is important with tools and techniques that trigger creativity and engagement with the participants. According the Participatory Design principles it is important that everyone feel that they can contribute. This challenge you as a facilitator in a school setting as the group compositions and other aspects of the workshop might be different than what you are used to.

8.7.7 Design exclusion

This section will contain a discussion about the design excluded and try to identify who they are. At the second part of this subsection I will discuss whether youth can be qualified as design excluded or not.

8.7.7.1 Who is the design excluded?

Finding some sort of definition of what is a "design excluded" has not been easy. It seems to be used as an umbrella term, covering many different types of people and concepts. The terms used in the article "Teen-scape: Designing participation for the design excluded" by Lee and Bichard (2008) is talking about both design participation and inclusive design. Design participation is about exploring ways to enable people to participate in the design process and got an aim to include everyone in the process. Inclusive design emerges from the UK department of trade and industry and got some similarities with universal design, as it's talked about as a process where designers ensure that their products address the needs of the widest possible user group (Lee & Bichard, 2008). The latter is therefore more on the user centred part of the landscape, while design participation seems to be more like participatory design.

Nicholas et.al (2012) also provides some interesting thoughts on this in their article "Using Participatory Design methods to engage the uninterested" where they engage uninterested youth in a project related to mental health among youth related to a redesign of their webpage. During this new approach to participation, using Participatory Design method, they managed to engage the youngsters in most of their planned methods. In the article they define the uninterested as those "who feel no affinity with current mental health services, and who potentially hold negative views" (Nicholas, Hagen, Rahilly, & Swainston, 2012). This attitude also applied very well to the youths view on doing taxes. I had no feeling that the students had an especially good relation to tax and at best they felt completely neutral about it.

In my thesis, the uninterested are just as interesting as the design excluded. And in some ways you may say that they are design excluded because of their lack of will to participate in topics they should care about, even though it is boring right now.

8.7.7.2 Why include the excluded and uninterested?

Frandsen & Petersen (2012) emphasize in their article that Participatory Design may contribute to social change. This is one of my main sources of inspiration to why young people and design excluded should be involved. It also lies deep in the ethical foundation of Participatory Design that people who do a particular activity know most of how it gets done (Robertson & Wagner, 2013). The same authors also states that Participatory Design cannot continue to exist without the commitment

to working together to create a better future (Robertson & Wagner, 2013) The common understanding may help both the domain experts and the users involve understanding the problem better and by using Participatory Design methods and tools help each other to understanding.

8.7.7.3 Were my students design excluded?

This is more than a simple yes/no-question as it all runs down to how one defines the design excluded. I have chosen the definition of Nicholas et.al (2012) and how they in the article describe the uninterested as those who feel no affinity with the topic. While observing the students, the classes that participated in my workshop were spot on to this definition. Most of them expressed that taxes were nothing that interested or affected them especially much. There are also not likely that persons in their age will be asked to help with developing, participate in testing or other activities that could make them feel less excluded. On the other hand they might not feel excluded because it has never occurred to them that they could have a say in matters that are mostly thought of as a "grown-up-thing".

8.7.7.4 Enhancing engagement during the workshops

It was important for us that in addition to creating possible solutions we wanted to enhance the students' engagement towards taxes during the workshops. During the two sessions we could observe that the students became more interested in what they were making and why. We saw this change both in the body language and how the students talked about taxes during the workshops. After the start of finding negative issues towards taxes they eventually really made an effort to create solutions that could solve at least some of these problems and they talked about it in a way that told us that they enjoyed solving the problems. Instead of talking about taxes in a way that made it seem like it did not concern them they eventually began to link tax-challenges to themselves and what they could do. All together I would argue that the line of workshops made it possible for them to learn and reflect upon taxes in addition to contribute to the future of online tax-solutions.

8.7.8 Skappen and automation

In the background chapter I give an introduction to automation and how this is relevant for doing taxes. In the model developed by Verne (2014) we see how there are residual tasks when putting an automated system on a domain. One unintended, but still important, aspect of Skappen is how it supports these remains from automation. By providing self-services and a Q&A-function this will hopefully make these tasks easier to solve. The remains often have to be handled by someone in the tax-administration and Skappen could ease the work-load on the support-centres by making it possible to handle more of your taxes by yourself. This is not only for youth, but also for others that may need to do changes or have other challenges regarding taxes.

8.8 The next step

If I had the time to go through to the end with this project the next step would have been at least one more round with altering and testing together with the students. It would also have been nice to have the possibility to work together with a programmer that could make a high fidelity prototype for further testing and development.

If I were to this thesis all over again I would also have included

- Interviews with some of the participants:
  I felt that many things in my analysis and discussion is based on presumptions and observations made during the workshops. An interview with one or more of the participants would have been very useful to understand whether they felt the same as me or not. There were some help of talking to the teachers after the workshops, but as the focus and tasks were done by the students it would have been the most useful to talk to them. This would also have given me more knowledge and as such contributed to more mutual learning. Even though the workshops were over it would have been useful for me to improve further projects in school settings.

- More contact with the tax-administration
  To make this thesis better and to include an important stakeholder I wish I had been in contact with the tax-administration to also get their view on the matter with youth and taxes. This would have lifted the thesis a bit more and made parts like the background and analysis more thorough as it would not have had to be based on old reports about the use of their public services.

- Do one more step with the prototype to alter it
  To make sure it was this type of solution the students wanted it would have been beneficial if I had the possibility to do one more round of testing / workshops. At that time the focus might have shifted towards a more UCD-kind of testing but with a participatory mind-set. This is also something I would have liked to learn more about from the field of Participatory Design, what do we do after the initial process when we are approaching a final solution?

- More analysis on how to design something you do not understand what is?
  One last thing I would have liked to explore more is how to design something you do not understand what is. I have partially discussed the phrase “It’s hard to know what’s difficult when you don’t know anything about it”, but I feel that there are more to this than what is discussed in the thesis and it would have been very interesting to pursue this further. In todays’ society where more and more governmental services are moved to the web and perhaps requires the users to take action this might be a relevant research-area for other areas than taxes.

9 Conclusion

This section will sum up and make conclusions based on the research questions and my work. I will also provide a summary on what I have learned since starting with the thesis. I will end the chapter with some notes on further research.

9.1 Research questions

Most of my discussions have been circling around my main research question:
Explore how it works to do Participatory Design in a school setting.

I conclude that doing Participatory Design in a school setting worked well, but that there are challenges. These challenges consist of supporting the democracy and make sure everyone is having a say if you divide the class into groups. I also found that it is difficult to have a varied project group with enough stakeholders. There is also a challenge that I am not used to doing Participatory Design in a class and the techniques are not made for being used in such large groups and therefore needs to be adapted before use.

During my discussion I developed five advices for doing Participatory Design in a school setting based on my experiences during this project.

1. Give clear and concise tasks
2. Students are motivated by numbers
3. Have back-up plans and be open minded
4. Start with safe/familiar techniques
5. Choose your techniques with care so they are adapted to the class

Secondary questions

a) Explore how persuasive technologies may contribute to the field of Participatory Design:
Together with the students we encouraged them to make solutions that would have changed their behaviour towards taxes and how they care about it. In addition to this we also used Foggs behaviour model (Fogg, 2009) to increase *ability and motivation* in addition to *triggers* in the workshop. We learned that the inclusion of persuasive elements in both the solutions and workshops worked well, and the behaviour model is an interesting element in workshops that can be investigated further.

b) Explore if Participatory Design methods can be used to engage the unengaged:
During the workshops I found that that the students in my workshop became more engaged in the topic during the workshops. Participatory Designs focus on democracy and ownership to the solution seemed to boost the students to give more of themselves and show engagement towards what they made.

c) Design a prototype based on the students suggestions
The workshops gave me a good foundation for making a prototype that can be used in further development together with the students. The result became “Skappen” – an app based on students wishes of features and design. In the prototype I could also use my knowledge about information architecture and incorporate this in the solution. If I had more time the next step regarding the solution would be to bring it back to the students and develop it further.

9.2 Contribution to research

Most of all I feel like I have contributed to how to do Participatory Design in a school setting. Especially the development and discussion of the five advices based on my workshops are something I believe is a useful contribution to the field.

How we used Foggs behaviour model to increase the students' contribution by using ability, motivation and trigger is also something I have not previously observed. Even though many facilitators use these principles unconsciously we used them actively in the workshops to help increase motivation.

9.3 Future research

At the end of my discussion section I mentioned some things I would like to alter with the thesis, and some of these things could also be a basis for future research. The would have been especially interesting to do more work on how to alter techniques to be used in a school setting or perhaps develop new techniques to be used in these kind of settings were a facilitator work together with a relatively homogenous group like a school class.

It is also a learning goal in the teaching plan that the youth should learn about taxes, but one can ask if they learn the right things? That is of course not up to me to decide, but I think that would have been interesting to look at for someone more in the field of pedagogic. I will end with the words of one of the students at the beginning of the future workshop "It's hard to know what's difficult when we don't know anything about it"

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11 Appendix

11.1 Questions about tax (in Norwegian)

Bruk skatteetatens sider og svar på følgende spørsmål om skatt

http://www.skatteetaten.no

1. Hvor mye kan du tjene på frikortet?
2. Hadde du frikort i fjor? Vet du i så fall om du får frikort automatisk i år?
3. Hva er forskjellen på prosentkort og tabellkort?
4. Hvor mye kan du tjene uten skattekort og frikort?
5. Hvis du tjener 10000 på å male hus hos naboer i sommer, er dette skattepliktig?
6. Hvordan hadde du gått frem om du trengte svar på et skatterelatert spørsmål?
7. Kommer du til å gjøre noe når selvangivelsen kommer? Hvorfor / hvorfor ikke?
8. Hvorfor er det viktig å ta vare på lønnsslippen?
9. Hvilken skatteklasse tilhører du?
10. Hvor finner du ligningsattesten din?

1. Var det noe som var vanskelig å finne?
2. Var det noe som var vanskelig å forstå?
3. Hva likte du best med skatteetatens sider?
4. Hva liker du minst med skatteetaten sider?
5. Hva skulle du gjerne ha vist mer om?

Hvis du vil blir jeg glad om du sender svarene dine til idabraa@ifi.uio.no

(jeg bryr meg ikke så mye om svarene er riktige, men om du greide å finne dem. Du trenger heller ikke skrive navn) ☺

11.2 List of words from the future workshops

1P

Kritikk

- Lite tilbake personlig
- Vanskelig å regne
- Frikort?
- Hvor mye?
- NAV
- Privatpersoner
- For høy skatt?
- Kjedelig
- Vanskelig å regne
- Fått igjen mer
- Vite hva skatten går til
- Andre skattelignende utgifter
- Høy skatt
- Penger man har arbeidet for
- Få igjen mer for å betale skatt
- Vet ikke hva skattepengene går til
- Andre skattelignende utgifter (f.eks bompenger), hvorfor ikke betale alt til ett sted.
- Mye å regne ut og holde styr på
- NAV
- Kjedelig
- Vanskelig å regne
- Skulle fått igjen mer for det
- Vite hva det går til
- Urettferdig
- Mindre skatt = mer lønn
- De som tjener mye må betale mer skatt
- Skattesmell: ikke vite hvor mye man må betale
- VANSKELIG
- Delvis unødvendig utgift
- Gi bort penger som man selv har tjent inn
- Høy skatt
- Kritisk til hva pengene går til
- Burde få igjen mer for å betale skatt
- Skulle gitt mer lønn
- Svart arbeid
- Staten
- Xprosent til staten
- Lønning
- Frikort → 39950
- Det som fratrekkes lønna

- Velferdsstaten
- Alle som ikke har frikort må betale skatt
- Hvorfor skatteprosent er så høy?
- Hva den blir brukt på

Elektro

- Ta i mot kritikk
- Masse penger
- Jeg skatter ikke
- Null skatter relevant for ungdom under 18 år
- Skatt
- Moms
- Tollertull
- Tjener ikke så mye at jeg må betale skatt
- Hvorfor MÅ vi betale skatt når man tjener nok?
- Hvorfor må vi betale så mye skatt?
- Kjipt
- Blir trekt i lønn, får mindre penger
- Prosenten, huske når det er halv skatt osv. Begrepet skatt. Unntakene.
- Hva vinner vi egentlig på å betale skatt?
- Skatt i forhold til jobb etter skoletid, frikort osv.

Service og samferdsel

- For mye skatt
- Frikort
- Ikke skattetrekk, bare fra lønna
- For stort skattetrekk
- Frikort
- For mye skatt
- For mange skattesnyltere
- Hvorfor så dårlige veier i Norge?
- Alt går til utlendingene
- Olje går tom, skatte mer?
- Stress å regne ut
- Tjener mindre
- Det bør bli klarere hva det går til
- Hvorfor har vi skatt?
- Er skatten den samme?
- Lønner det seg å NAVE?
- Hvordan klarer folk å lure seg unna skatt?
- Hva er grensa?
- Frikort/trekkort/skattekort
- Baksmell og restskatt

MDD

- Hvor mye skal man betale?
- Vi burde prioritere viktigere ting som skole og sykehus?
- Vi lærer ikke nok om det på skolen
- Språket på nettsiden var tungt og vanskelig
- At skattepengene mine kommer til å gå til pelsfarmer
- Hvorfor ha skatt i det hele tatt?
- At man får en «falsk» lønn
- At det endrer seg
- Får man frikort automatisk hvert år?
- Hvor lenge kan man ha frikort?
- Hva bestemer det du må skatte?
- Forandrer skatten seg når du blir pensjonist?
- Hvor går pengene?
- Hvilke jobber gjør at vi må betale skatt?
- Skattekort og frikort
- Skatt og selvstendig næringsdrivende
- Flytting utenlands og er norsk statsborger, hvor går skatten?
- Selvangivelse
- Jeg er usikker på hva som regnes som svart arbeid i forhold til når du må betale skatt
- Jeg synes det er vanskelig med hvor mye skatt man må betale i forhold til det man tjener
- Selvangivelse
- Hvordan skattesystemet fungerer
- Skatteklasse er litt vanskelig
- Forskjell på prosentkort og tabellkort
- Hvorfor er det så viktig å ta vare på lønsslippen?
- Hva er skattekort?
- Hvorfor bruker man det?
- Hvorfor betaler vi skatt?
- Hvilken skattegruppe man er
- Hvor mange prosent skatt man betaler
- Hvorfor må du betale skatt? Hvorfor kan ikke jobben din ordne med det?
- Hvorfor betale formueskatt?

Fantasi

1P

- Tjenere
- Automatisk
- Ikke skatt i det hele tatt
- Fjerne skatten helt
- At det blir gjort helt automatisk
- At den skal dekke alt av faglige kostnader
- Jobbe praktisk med det så vi lærer om det
- Helsetilbud, skole, velferd, staten
- Lære om skatt på skolen
- Automatisk fratrekk
- Straffeskatt
- Null skatt
- Ingen penger
- Bedre info om betalinger
- Mindre straffeskatt/bøter
- Automatisk fratrekk
- Veiledere som gjør det for deg
- Tjenere
- Automatisk
- Magi
- Ingen skatt
- NAV
- Sykehus
- Stipend
- Idretten
- Skolen
- Senke skatt
- Fjerne skatten
- Ikke regne med prosent
- Produsere mer cash
- Bedre info om betalinger
- Mindre straffeskatt
- Veiledere (foredrag)
- Bruke magi
- Byttehandel i stedet for penger
- Strenge bestemmelser på hvem som kan motta støtte

Elektro

- Sette ned skatten
- Slutte å trygde folk som greier alt annet enn å jobbe
- Ikke skatte før fylte 18 år
- Hvis skattepengene går til de som trenger det i Norge

- Hvis skattepengene gikk til å skape en morsommere hverdag på skolen
- Skatt kan bli morsommere
- Kommer politiet til nytte
- At skatten går til oss, ikke at det går til de som ikke gjøre noe
- Få mer for pengene vi betaler inne
    - Skoler
    - Uttrykknig
    - Helse osv
- Hvis Erna kommer med grønn leprechaundrakt med en gryte der du må en hviss prosent av lønna di oppi gryta hun har mer
- Vi får gratis sykehus
- Mindre skatt eller ikke betale skatt under 18 år
- Ikke betale skatt under 18 år
- Slipper å betale skatt under 18 år
- Betale skatt to ganger i året
- La skattepenger gå til politi

Service og samferdsel

- Null skatt
- Bruk oljepenger og få mindre skatt
- Gjøre frikort uendelig for ungdom
- Fjerne den
- Skatt er meningen vil skal finne eller få
- Gjøre skatt lett
- Skatt er bare tall (eller tull?) Tjener mindre – for noen kan det bli en spøretære?
- Skatt skal gå til stipend til ungdom
- En felles skatteprosent for alle under 18 eller 25 år (vet ikke om det er sånn allerede)
- Trekke mer skatt – få prosenkortet
- Skatten skal gå til alkohol, få klippekort på alkohol.
- Vær som onkel skrue
- Enklere ord, mindre faglig
- Klovner som lærere
- Kaptein sabeltann
- Mer godteri, mindre skatt. Betale skatt med godteri.

MDD

- Ikke selvangivelse
- Du får penger av staten
- At prosenter av lønna automatisk blir betalt
- Skatte-tjener som gjør skattejobben for deg
- At vi har et nettsamfunn som spiller utpå skatt osv
- Hvis man hadde en skattekalkulator som regnet alt med å skatt å gjøre så du slapp
- Ha et eget «klare seg selv»-fag
- Alle under 25 år som prøver å spare penger og få seg hus og sånn burde ikke betale så mye skatt
- Tv-serie

- Lage en skatte-app
- Mer positivitet rundt skatt
- Snakke om det mer barnevennlig
- Bedre og god informasjon fra man er yngre
- Det burde bli organisert regelmessige flashmobs om skatt, fordi alle elsker flashmobs
- Noen burde lage en skattesang
- Alle som betaler skatt burde få kake på fredager slik at folk ikke jobber svart
- Alle som ikke betaler skatt blir drept

Realisering

1P

- Julekalender, i hver luke er det litt info om skatt
- Fjerne det
- Redusere antall krav
- Få mindre
- Email med info
- Senke den
- Lære om det på skolen
- At det blir automatisk trekk
- Lære om det på skolen
- Bli bestevenn med finansministeren
- Gjør det enkel
- Lage en app
- Info
- Ikke ha jobb
- Finne skattekortet
- Dra til enden av regnbuen
- Undervisning på skolen
- Automatisk fratrekk fra lønna
- Info via f.eks post
- Mer info
- Lære om skatt på skolen
- Veiledning
- Runde tall
- Færre krav / regler
- Bedre veiledning om skatt
- Hele tall

Elektro

- At vi ikke må betale skatt før 18 år
- Slippe å betale om man må gjøre noe med kroppen, operere f.eks
- Vi ikke trenger å betale det før vi er 18 år
- Ha et foredrag om skatt og slikt