

# Impro for Improvement

## Using impro theatre as a creativity bank

Sunneva Minken  
Department of Product Design  
Norwegian University of Science and Technology

### ABSTRACT

In this article, I will look into the potential of using impro theatre as a means for developing creativity for students at the Institute for Product Design (IPD). I will present a case study of an impro theatre group, as well as studies and literature concerning the issue. I will connect this information to my own experiences and a survey conducted for the students at the institute. The result will show whether impro could be a functioning tool, and how it can be implemented in the study course.

**KEYWORDS:** Creativity, impro, brainstorming, Industrial Design, Engineering, workshops.

### 1. INTRODUCTION

NTNU is a well renowned university that presents itself as innovative, diverse and strong. We keep hearing about innovation, and how it is essential to the future of all business. But innovation won't get anywhere without creativity. All innovation is creative (but not all creativity is innovative). Based on this, NTNU would benefit from focusing more on creativity.

Creativity is recognized as the new core competence in engineering and design [1]. In both fields, there is a rapidly changing environment, with changes in customer's needs, physical environment and technological development.

"Creativity is needed to identify opportunities and solve problems in a rapidly changing environment. The arsenal of tools at the disposal of an engineer today includes mainly methods of parametric optimization and concept selection, but lacks tools that support the creation of ideas taking advantage of the unique (and sometimes new) situation at hand".[2]

### 1.2 Creativity in design

There is a great need for creative thinking in all aspects of engineering, not just in design. More and more businesses say they want to incorporate "design thinking", although some of them might not know what this entails. Design thinking is a way of approaching a problem, and it combines creativity and divergent thinking. [3]

Divergent thinking, as opposed to convergent thinking, is when you broaden your perspective and include as many ideas as possible in your brainstorming. Convergent thinking is when you focus your ideas in one main direction, eliminating all that are non-relevant. [4]

Divergent thinking involves making new associations. The brain works in fascinating ways, with the right hemisphere being the creative one. It is the part that governs process cognition, which lets you discover new combinations of mental elements. [5] Making new combinations of seemingly unrelated things is a recipe for both humor, improvisation theatre and innovative design. This distant association process takes place in the prefrontal areas of the right hemisphere. [6]

### 1.3 Teamwork

At my institute, Institute for Product Design (IPD) we tend to work mainly in teams. We are either given a specific project, or find a problem area and decide upon a project ourselves. The teams are either put together by the professor or project manager, or we choose our own teams. We are then expected to divide and share the work needed, and spend our time efficiently throughout the project period.

Creativity in teams means working together towards a common goal, making the best of the different personalities within the team. Creative work demands an open attitude to new and different ideas, and a team that's structured in a way that lets every member express their thoughts freely. Fears of ridicule and of losing control are typical traps one usually falls into when new to teamwork in design.

Studies have shown that team climate has an influence on team creativity, through the individuals participating in the team [7]. When you begin your studies at IPD, you are thrown into a new world of group dynamics, planning and dividing work, selling your ideas and presenting them to customers. This is to prepare us for the work we will be doing after our studies, and it makes us more prepared for this than many of the other engineering students at NTNU. However, this is, as mentioned, a new world for most of the students. Many struggle for a long time adapting to this, and end up being placed in a role within the group that they're not comfortable with. We have subjects teaching us all other skills we need to prepare for the "real world", but no subjects teach us how to work in groups and be comfortable presenting in front of others. The only subject addressing this is the one called Experts in Teamwork, which is mandatory in the second semester of our fourth year. By then, most of the student have already developed a certain attitude towards teamwork, which can be difficult to alter at such a late stage in our studies. We are told to be creative and innovative, but this can be a challenge when combined with science. We all have different approaches to a

task, and some find it easier to come up with fresh ideas than others. But fresh ideas is the key to creativity, and creativity can be learned.

There are methods developed to achieve this, with more and more of them leaning towards playfulness [8].

### 1.4 Learning from children

I find it interesting that the playfulness everyone inhabits as a child becomes so important to keep as an adult, and that scientists are spending a lot of time and money to discover the key to creativity. Observing children at play, you notice their complete lack of planning and structure, even though they play together as a team. Books have been written [9] about all the amusing and creative things children say and do, but adapting this way of thinking into an adult world seems very difficult. As an adult, your brain is filled up with rules and etiquette and social stigma, all inhibitors of the flowing playfulness we observe in children. We prefer to do things "right" according to protocol, and we don't want others to see our lack of control. I don't know if this is the case for me alone, but I'm still waiting for the day I wake up and feel like an adult. I still get the urge to throw myself in the snow, scream loudly in a boring crowd and eat the icing of a cake at parties. Fortunately for me, I got the opportunity to release my inner child this fall: I worked as an impro actress at a student culture festival called UKA here in Trondheim.

### 1.5 My impro experience

Leading up to the festival, the other impro actors and I had to learn how to do improvised theatre.

This process inspired me. I noticed how the group developed, and as we grew tighter so did our acting. The shy became brave and the outgoing learned to listen. I saw connections to my previous work in teams at IPD, and wanted to see what the connection between impro and design was. Is it possible to use the same techniques we used in learning impro to

think creatively and develop a well-functioning team in design studies? I had a theory that the design students at IPD could benefit from learning impro techniques, both creatively and group dynamics wise.

### 1.6 Status quo at IPD

To see the general state among the students at IPD, I conducted an anonymous online survey. It was responded by 40 students, with the following results.

Most of the students prefer working in groups (70 %). This is beneficial to the overall project work that the institute prefers. Students are usually placed in groups in project development from a very early stage.

However, the percentage of students that prefer to work alone is quite high (30 %). Why is this? After finishing your studies, you will most likely end up in a work environment where you do all your projects in groups. A student that has preferred to work alone throughout his studies may experience difficulties adapting to the professional environment. A lot of companies see it as essential to have developed skills in working in groups during your studies.

There can be several reasons to why so many students prefer to work alone. I believe a part of it could be because we are not taught exactly how to work well in groups early in the study programme.

When asked if they find it hard to express their ideas in a group, 72,5 % said they rarely found it difficult, and 22,5 % said they often found it difficult. As with the previous question, I found it interesting that as much as 22,5 % often find it difficult. If the answers are comparable to the rest of the students at IPD, expressing ideas in a group is a big problem for many of them. Could this be correlated to the students preferring to work alone? Either way, it is something that needs to be addressed. A group dynamic is not functioning well if some of its participants cannot express their ideas. This leads to dominant students controlling the entire project, and the group misses ideas and thoughts they could have benefited from. In

connection to this, 20 % stated that they often feel overrun by the other members of the group. If roles are not established and agreed early on, dominant group members will take the role that comes naturally to them, and those not comfortable always having the last say will end up having little or nothing to say. A solution could be to establish roles early on in the design process, as to make sure that everyone gets their say.

While in the area of group dynamics: 40 % said they are always dependent on well-functioning group dynamics to achieve a good result. 57,5 % said they often depend on it. This is an interesting insight into the thoughts students have towards groups. Through multiple projects they have experienced different groups with different dynamics, and they see that the key to a good result is a group that works well together. This may seem obvious, but knowing the importance of it and trying to achieve it are two different things. Seeing as 30 % prefer to work alone, many students may have given up trying to develop a well-functioning dynamic in every group they're in. To me, this proves that they need guidance as to how they can build up a good group, regardless of who are in it. If the students feel comfortable with this, we may see groups put together of different students each time, instead of students always wanting to work with the same group.

Surprisingly enough, in such a creative area of study, 52,5 % say they often find innovative thinking hard. This may be because 'innovative' is a very vague concept, and a common misconception is that it involves reinventing the wheel. It is hard to come up with lots of ideas in a brainstorming, if your starting point is to be a genius. The students find it hard to be innovative, but only 17,5 % say that they are always or often afraid the other group members will find their ideas silly. Are they restricting themselves to such an extent that they don't even come up with an idea unless it's guaranteed to be approved by the others? And if 22,5 % find it hard to express their ideas in a group, where does the problem lie?

When it comes to presenting your project, 75% say they never or rarely find it difficult to do in front of others. Having experienced team work throughout several projects, I know that standing in front of an audience, trying to sell the solution you so carefully have developed is not an easy task. Over the years, you don't get as nervous each time you perform, but stuttering, careful notes, stress related rash and fast talking is always a part of the show. And when one in every four students find it hard to perform in front of others, one in every four students will have a hard time convincing employers that they're doing a good job when the study days are over. There are, however, many outgoing students at IPD, willing to try new and different things. This could be a benefit both for the institute and the students.

To sum this all up based on the highest percentage in the answers, the average student at IPD prefers working in groups, but is dependent on a well-functioning group dynamic for a good result. He expresses his ideas freely without fear of ridicule, doesn't feel overrun but finds it difficult to be innovative. My guess is that this "average student" is the group member who is not afraid to speak up, has no problem with self-confidence and may, in fact be the one who overruns the timid student, who prefers to work alone, is afraid to express his ideas, prefers to stand in the background and feels that a well-functioning group dynamic is impossible as long as someone always screams louder. I believe impro training will benefit both types of students. Impro teaches you divergent thinking, opening your mind to the ideas as they come without having to plan five steps ahead. It teaches you to listen to your partners, not just wait for your turn to speak. It teaches you that it's ok to let go of control, because you are not pulling the load all by yourself. And it teaches you that group dynamic is not something that magically appears, but is developed through good communication, self confidence and trust.

## 1.7 Experts in teamwork

Experts in Teamwork (EiT) is a subject most of the students at NTNU take, regardless of their field of study. It was created to help students cooperate across different fields and become better at teamwork [10].

The reason why this subject is for master level students is that they should be able to use knowledge they have gathered through their years of study as a resource in the team. Students are lectured in how to organize a team, how to get insight into their own working methods as well as their team members, and how to plan and conduct a project with students from several different fields of study.

EiT is an important subject for all students at NTNU, and many of the students learn a lot about themselves and about teamwork in general. Some of these students are not used to teamwork, and will have a harder time understanding the ways of it than students who have worked in teams many times before [11] [12].

At IPD, all students have to be able to work in teams more or less from the first project they conduct. After 3 1/2 years of study, most of them are quite experienced in teamwork, for better or worse. They might find it tiresome having to teach the "unskilled" students how to work, feeling that they're pulling the load all by themselves. This is a great way to practice what they are bound to meet in the business world, as they probably won't always be working with teamwork trained partners. However, working in teams repeatedly does not necessarily imply you are a good team worker. During your time with EiT, you may learn a lot that you wish you knew years ago. Seeing as teamwork is such an essential part of being a student at IPD, I believe both the institute and the students would benefit from learning teamwork methods a lot earlier than year 4 of your studies. It doesn't have to be a whole subject, a short class or a one hour workshop might do wonders to the general attitude towards working in teams. A very important part of what you learn at IPD is to develop ideas together with people who think

and work differently than you, and then present these ideas in a way that is convincing to outsiders. The way we learn this now is by ourselves, through several different projects. Most of us become experienced and feel safe working this way, but I believe the road towards this could be significantly shorter. Giving the students a base to stand on, and confidence when working in groups, could improve both project results and the general attitude towards teamwork at the institute. And I believe impro could assist in doing this. Maybe they will find it easier to work in teams years before they take the class dedicated to it.

## 2. ON IMPRO

There have been several books written about impro theatre. One that is very essential is “Impro for Storytellers” by Keith Johnstone, the developer of Theatre Sports. Theatre sports is a brand of improvisational theatre that focuses on team collaboration and play [13]. As opposed to other impro forms, theatre sports focuses not only on the individual actors development, but also on the way the team works together, acknowledging and benefiting from the different personalities in the team. Johnstone has created several so called impro games, exercises that are meant to help the improviser feel comfortable with his/her team, and challenging the limitations we put on ourselves. I believe design students experience many of the same limitations, and the team building described by Johnstone is applicable to all forms of teamwork.

Johnstone was a drama teacher at The Royal Court Theatre in England. The class he conducted was advertised as a “refresher course”, but Johnstone had no idea what needed to be freshened up. He thought about the things he admired with great actors, and concluded that the main thing was “being in the moment”. Having unpleasant memories from his own schooling, he decided to make a list called: “Things My Teachers Stopped Me From Doing”.

As he puts it: “My teachers had felt obliged to destroy our spontaneity, using techniques that had proved effective for hundreds of years, so why not reverse their methods? I had been urged to concentrate on one thing at a time, so I looked for ways of splitting the attention; I had been taught to look ahead, so I invented games that would make it difficult to think past the next word. ‘Copying’ had been called cheating, so I made people imitate each other. Funny voices had been anathema, so I encouraged funny voices. ‘Originality’ and ‘concentration’ had been prized, so I became notorious as the acting coach who shouted ‘Be more obvious!’ and ‘Be more boring!’ and ‘Don’t concentrate!’” [14]

### 2.1 Impro performers

Johnstone introduced the typical impro performers:

Bridgemaster: Build ‘bridges’ to destinations that could have been reached in one stride.

Bulldozers: Crash uncaringly or unknowingly through other players’ ideas and scenes.

Directors: Want to make all the decisions. They order improvisers about and criticize them.

Dullards: Make ‘negative choices’ and lower the stakes.

Gagsters: Go for the laugh at expense of all else.

Glibsters: Resist emotional involvement. They may push the story forward, but nothing ‘touches’ them.

Hysterics: Are so excited that they’re almost impossible to control.

Passengers: Accept ideas, but won’t ‘drive’ a scene forward.

Shiners: Want to be centre-stage, even if the audience is bored [15].

In creative teamwork, many of the same characters can be found. Some will always push their own ideas forward, regardless of how this affects the group, some will be hesitant and respond negatively to all ideas presented and some will always focus on the little details, not seeing the project as a whole. Noticing what personality types you are dealing with in a team may help to take

advantage of their strengths and be aware of their weaknesses.

As mentioned, Johnstone has created a long list of 'games' to help impro actors along the way. Most of the games involve guiding the actor to listen to his fellow players and see the situation, and helping the brain to be creative [16].

For example, if you let two actors tell a story saying only one word each, they won't be able to think out a full storyline. The story is produced as they go along, built up by the first word that comes to the actors mind.

## 2.2 The effect of impro

What can theatre sports achieve? And why is it an important theatre form to practice for everyone in the theatre business?

Johnstone claims theatre sports can change people's way of thinking and socializing. Self-obsessed beginners can be taught to play games with good nature, and fail gracefully. Timid performers can be taught to stand up for their ideas and let go of the need to control [17].

It is possible to stand on stage with a blank mind, and know that a story will emerge. It all comes down to trusting your own brain, and let go of the control we as adults are so used to maintaining. This is exactly what impro challenges.

I have seen many project presentations through the years at IPD. Some are carried out with great self-confidence, some are planned down to the last syllable, and some are almost whispered by a student with his back to the audience. Being able to stand in front of your fellow students and talk about your project without fear of harsh judgment is something every student should be able to do at the end of their studies. When working for a company, you're expected to justify your choices with confidence, as you have no professor or supervisor to back you up [18].

In an impro scene, the actors depend on each other to give and receive 'gifts'. Gifts are offers you make to drive the scene ahead.

One can easily be trapped in the story one spontaneously created in ones head, and thereby not 'see' the gifts one receives. It is therefore essential to practice listening to your opponent, and really see what he/she is doing.

As a way of teaching this ability, Johnstone argues that telling the actors to 'be good listeners' is just confusing, instead you should say 'be altered by what is said' [19].

How can you evaluate your work as an impro actor? Instead of asking "was your work good?" you should ask "did your partner enjoy working with you?". Your focus should be on your partner, not on yourself. If your partner enjoyed working with you, your collaboration was good [20].

It's easy to be so caught up in your own result, that you deny yourself the possibility of failing. If you don't succeed at the first try, you take this as proof that you will never succeed. Failing with the first few tries is normal, and success usually relies on many failed attempts. This does not mean you don't have "talent" within the area [21].

If you don't succeed at first, the advice is usually to "try harder". The problem is this usually means treating your brain like it was constipated and needed the ideas squeezed out. Your brain has gathered information and experiences for many years, and is full of ideas bursting to come out. If you tell it to "hurry up, think of something ingenious" it will clog up, thinking that this is hard work, and very difficult to manage. Staying relaxed, letting the ideas float around and eventually gather into a suggestion is a far more effective way of brainstorming.

In a situation where one feels pressured to be creative (like working in a design team), we easily lock these thoughts away (in fear of not being innovative), instead of relaxing and setting them free.

As mentioned regarding actors Johnstone admired, "being in the moment" is an important factor. As in the expression "Carpe Diem", Johnstone states that creativity is a

matter of 'attending' rather than 'thinking' [22].

### **3. CONNECTING IMPRO AND DESIGN**

The basis of creativity can be defined as the ability to make non-obvious connections between seemingly unrelated things. The same description goes for humor.

When making a joke, and when making a new, innovative product, the recipe is to combine two or more ideas that are considered unrelated. The humor, and the creativity, lies in the justification of this connection. As with a joke, the product created must be both novel and appropriate. Appropriate, of course, being dependent on the situation. The connection between impro and design has been made before. At MIT, Barry Kudrowitz conducted a study to see how impro could be used to generate creativity in both humor and product design. The study, described in the article "HaHa and Aha! - Creativity, Idea Generation, Improvisational Humor, and Product Design" [23] showed that impro can be an effective method in connection to both fields.

Creativity in the world of design and engineering is sometimes described as innovation or invention. However, although all inventions and innovations are creative, not all creations are innovative or inventive. Herein lies one of the main problems from the survey at IPD: How can I be innovative?

#### **3.1 Idea generation**

Design problems do not have one correct solution, there are often many possible solutions. The role of the designer is to address the problem in new ways, as to discover new combinations that will fulfill the specific demands given. Creativity is important in all stages of design, but most of all in the idea generation phase. A bad idea implemented is still a bad idea.

In the idea generation phase, the key to develop well functioning solutions is divergent thinking. In idea generation, connecting seemingly unrelated objects or thought can lead to a larger span in ideas and thereby a

larger library of possibilities to choose from [24].

You need to think big in order to think differently, and come up with many ideas to find a few good ones. In order to achieve this, playfulness is a key word. It has been found to increase divergent thinking, associative thinking and higher scores on creative tests [25]. This proves that having fun and being in a relaxed state of playfulness decreases anxiety arouses curiosity and by default: increases creative thought processes. This is exactly what Johnstone also points out: ideas need to be lured forward, not forced as though they are very difficult to access. Impro is intended to be a way into this relaxed state of mind.

#### **3.2 Brainstorming**

A good brainstorming session should last between 30 to 45 minutes, include between 4-12 participants, and should follow four main rules:

- Defer judgement and not critique ideas
- Build off of each other's ideas
- Encourage wild ideas
- Come up with as many ideas as possible [26] [27]

The same rules are introduced at the beginning of learning impro, and they are key elements essential to being a good improviser. In improvisational theatre, the actors do not have a script or storyline to follow. Everything is made up then and there on stage, and by this, the creative process becomes the creative product.

The success of impro depends, like in a brainstorming session, on the participants feeling comfortable sharing ideas and expressing their thoughts. The common goal is to develop the best product possible, rather than trying to make yourself look good.

A brainstorming session can be either nominal or interactive. In a nominal brainstorming, the participants do not talk to each other. It is mainly used to measure individual ideation abilities, as the participants have little or no contact during the session. It has been argued that nominal brainstorming is more effective

than (traditional) interactive brainstorming, as it eliminates production blocking (participants forget or suppress ideas because of distraction or feeling inadequate), evaluation apprehension (fear of negative feedback from other participants) and free riding (participants feel that their contributions are dispensable, and thus do not contribute) [28]. Interactive brainstorming, although not as productive as nominal, have several benefits. Participants can easily build off of each other's ideas, and experience more emotions towards the project. This way, the brainstorming functions as a bonding as well as idea generating session. The participants also become more comfortable presenting their ideas to each other [29].

### **3.3 Testing creativity**

The MIT study consisted of two parts, where the last involved testing the effect of improvisational training on idea generation. The test included pretests and two or three subtests, as to find all different results and relations according to the subjects being tested. Pre-developed theories were tested. Several tests have been developed for examining creative abilities. The most important ones are the Remote Associates Test (RAT) from 1962, the Torrance Test of Creative Thinking (TTCT) from 1966, and the Guilford's Structure of Intellect (SOI) from 1956. The SOI is the basis of many other creativity tests; the one mostly used being the "Unusual Uses Test". In this test, the subjects are asked to think of as many possible uses for an item as they can. The number they come up with is the score of the test. Typical objects that are presented are bricks, a newspaper and a cardboard box [30].

The creators of the MIT study developed an Improvisational Training workshop with games meant to encourage non-obvious connections in both humor and design. Participating in the study were improvisational comedians, product designers and a reference group with people from miscellaneous fields and businesses. They measured creativity, novelty, product worth,

usefulness and clarity in the products generated by the team.

The results of the study were that improvisational comedians produced 20% more product ideas than product designers and 44% more than the reference group. The ideas had a 21% higher creativity score than those of the designers [31]. Through later interviewing the participants with the highest scores (4 out of 5 were impro trained performers) about their assumptions as to why they had such high scores, the participants stated that they "mashed up different concepts", "thought about strange contexts", "always built on ideas, and they "responded quickly with input and were always prepared for the unexpected" [32]. They later performed the study with 11 MIT students volunteering for the study, who increased idea fluency by 37% [33]. The study focused on individual creativity generation and enhancement, not on group interaction. It concludes, however, that their theory is that impro can be beneficial in group interaction as well. The recommended further work was to investigate this, and to look into what element of impro training is most important for idea generation [34].

## **4. CASE STUDY**

As mentioned earlier, I became aware of the connections between impro and design while learning impro theatre this semester. I decided to use the training my group and I went through as a case study, and examine the development of the individual members of the group as well as the group as a whole. Developing a case study while actively participating yourself is a form of action research.

### **4.1 Action research**

Action research can be described as hands-on, small-scale research strategy. It has gained popularity through its use in areas such as organizational development, education, health and social care [35]. Action research has four defining characteristics:



- It's involved with practical issues
- It's specifically geared to changing matters
- It gathers findings and evaluations into a cyclical process
- It encourages participation of collaborators and practitioners.

The means for data collection are optional; the important issue is that the research is a part of practice rather than an addition to it. The researcher therefore investigates not only the other practitioners, but his/her own practice. Action research combines personal reflection with systematic collection of data, so to help professionals achieve improvement in practice.

The cyclical process of action research is a way of improving practice through a rolling programme of research. It is an ongoing process that feeds back directly into practice.

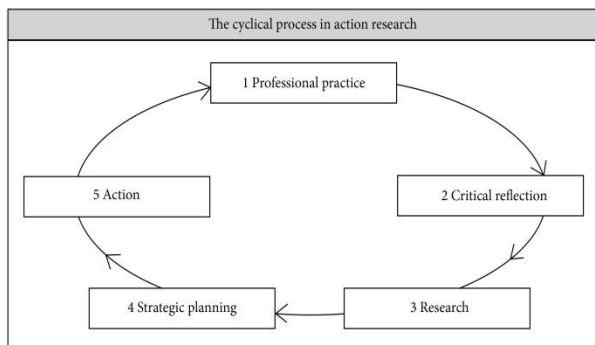


Figure 1: The cyclical process in action research

This is the standard cycle in action research, with ongoing turns. I have chosen to use a slightly different one, as my research is a combination of action and literature research. Point 3, Research, is divided into literature research and Case observation, as my study is a combination of these. The point labeled Strategic planning is in my case named Analysis of data, information and experiences, seeing as I use my previously collected data and experience to sort out the case information. My "Action" point is my gathered ideas of improvement, resulting in a manual and testing of said manual.

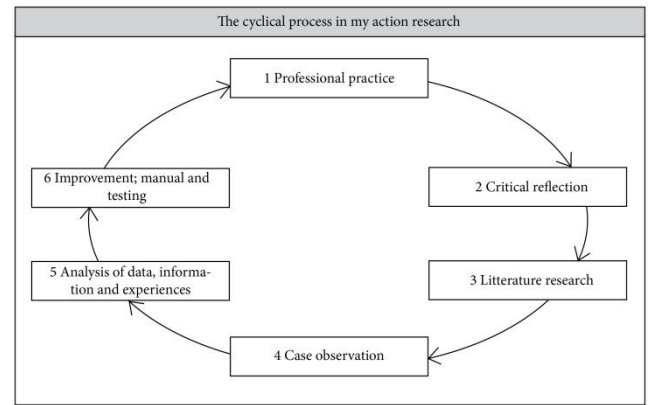


Figure 2: My version of the cycle

## 4.2 The case

A case study is an analysis of a person, group or event over a period of time, describing and explaining the chosen case. Individual development, problems and solutions are collected, categorized and analyzed. It consists of objective observations through interviews and involved or observative participation in relevant events [36]. I present the results of my case study.

### Participants:

Theatre group from a student's theatre company in Trondheim.

All new to impro.

1 Police Academy student

1 Marine engineering student

1 Industrial Design student

2 Psychology students

The group had our first meeting in August, and none of us had done any impro before. We had approximately 1 1/2 months to practice.

Throughout the rehearsals, we were led by an instructor who was a previous actor at our company.

We began by discussing what our goal was and how we would work together to achieve it.

Being open is crucial when doing impro. You need to learn how to listen to the other actors, see the other actors, and let yourself be altered by the situation. This seemed obvious to us at this stage, how could we avoid seeing or hearing the other actors? But as we would learn, 'seeing' and 'hearing' did

not only refer to the use of our eyes and ears - It is a skill that takes time to learn. When working with impro theatre, one tends to get emerged in one's own storyline and plan, seeing as you don't have a script or direction up front. In doing this, the typical mistake is to ignore what your fellow actors are doing if it doesn't fit in with your own plot.

To create a scene you need to develop a platform. Who are you, where you, and what are you about to do. This is established there and then, and then you improvise around this. To ensure a common ground to stand on, and to have something to build a storyline with, the platform is crucial. It gives you a safety line if you feel you are drifting off without a common thread.

Improvised theatre demands concentration, which is not always easy to achieve. There are however rehearsal games that "trick" the mind into concentrating, in a creative, divergent way.

When learning the games, we split into pairs and took turns playing different games against each other. The instructor informed us that being too "safe" when playing a scene usually means that you are making plans ahead, and is a typical trap when you are new at impro. It is a question of letting go of control, and trusting your team to work in the same direction as you.

Our instructor told us girls not to fall into the "good girl" trap, wanting to always be at our best and satisfy the others first. To let go of that, I needed to learn how to act on impulse, not try to be smart all the time and know that we were all on the same team.

I needed to challenge my comfort zone, and gain confidence in my own performance. The key word to success was TRUST.

At the second rehearsal we noticed improvements. What had previously been a group where some of the actors (mainly the boys) where the dominant parts, was now developing into a more balanced ensemble, where we all strived to contribute the same. At this point we were secure enough to discuss and establish what sort of roles we were comfortable having. By observing

ourselves and our creative abilities, some of us were more comfortable playing a dominating role, others preferred a submissive role. If a submissive actor was given a dominant role, they had a tendency to turn the role into a submissive one, and vice versa.

Concerning originality, our instructor told us an important lesson: It is OK to steal from each other. If someone has a good idea, character or scene, you are allowed to be inspired by this and use it to develop your own version. This is called building on each other, and is an important factor in all creative work.

In impro theatre, it is vital that your audience understands what is happening on the stage. To ensure this, the actors need to be precise with their words, and learn how to get their point through without clouding it with too much talk.

The girls had a tendency to lower their heads and shake it if they felt they had done something wrong or stupid. We were told to stand up for our choices, as nothing is more convincing than confidence. If you feel you are singing the wrong tune, or you don't know what to say next, sing louder! If you tell your body and your brain that "I can do this", it is easily manipulated.

As our premiere passed, and we continued to perform show after show, our way of acting changed. We got better at listening, and didn't feel the need to prove ourselves as good actors. We trusted our fellow actors, and dared to be changed by the situation.

#### **4.3 Comparison to IPD**

From my experience, working in design teams resembles working in an impro group in several ways. Instead of listening to your partner's ideas and building off of them, you tend to just wait for your turn to speak in fear of forgetting the brilliant idea you are thinking of. This creates a distance between team members, and instead of driving the project forward, you are keeping it behind. As with impro, you have to let go of your need to

control the situation, and “be in the moment” instead of planning five steps ahead.

In a design process there is a risk of going for the same tasks every time, as you don’t feel safe trying something completely new and not knowing where this takes you. After a few years of studying design, this becomes a pattern, and the result is that you don’t train your brain into making new connections and finding ideas you didn’t think you were capable of discovering. The key to a good result is to trust that everyone on your team has the same goal.

In a brainstorming session, where ideas are thrown out in every direction, making a “platform” now and then could be beneficial. Take a step back and analyze the situation according to the project at hand: Where are you, what is the problem that needs to be solved and what is your goal. This kind of “design platform” makes sure everyone on the team is on the same page, so no one feels left out and your idea generation has a clear route to follow. You also reduce the risk of focusing too much on the details, and thereby being blind to the overall easiest solution.

Working in a design team, roles are often distributed much the same way as in impro groups. According to how you work and organize yourself, you place yourself in a role that you are comfortable with. By knowing what this role is, and openly communicating this to your group, misunderstandings and irritations can be limited. The Margerison-McCann Team Management Wheel and the connected RIDO-scales is an effective tool for establishing roles in a team. According to where you place yourself on a scale between two opposite poles, you are described with a personality type and can be fitted into the Management Wheel. Having a team that has participants fitting into all slots of the wheel is an optimal starting point for any project [37].

As the goal in a design team is to develop the best possible solution to a problem, and as the team is judged as a whole, “stealing ideas” shouldn’t be an inhibiting problem. By building off of each other’s thoughts, the idea

that emerges becomes everyone’s idea, making each team partner feel important to the project.

Being comfortable expressing your ideas and not backing out gives you confidence when working in groups, also within design. According to what personality you have, some may feel more comfortable doing this than others. But being a student of industrial design, it is important to develop self-confidence, and reassuring yourself that your ideas are as important as the ones of the others on your team.

Being on stage doing impro and doing project and idea presentation in design has similarities. You need to present your thoughts in a straightforward manner, making sure your audience follows your reasoning. Being able to “sell” your idea or project in just a few, clear words is a skill that takes practice, and it becomes essential when working for a company.

#### **4.4 Pros and cons of impro as a method**

My own process of learning impro was conducted over the course of two months. I was already familiar with acting, and willing to work hard to learn the improvisational skills. It took a lot of time and effort, and some impro actors say you can never be a full out expert in impro. By this logic, arguing that a 1-hour course in impro can be enough to make a change is difficult. A design team will always consist of very different personalities, some which may feel very uncomfortable letting down their guard in front of their fellow team members. It’s impossible to know the effects of impro training on a group before it’s been tried out. I can only refer to research and my own experience, and hope that it has potential as a team building exercise. One training session may not be enough, but I strongly believe that impro will help any design teams if it is confronted with an open mind. Research has shown that impro performers are better at divergent thinking in a brainstorming session [38] and that even short term impro training has a significant effect on idea generation in design teams [39]. I have also personally experienced the

effects of impro training, discovering new aspects of my personality and way of thinking. As the MIT study showed, using impro games before a brainstorming has clear benefits. The effects were substantial, both when testing professionals and students [40]. High levels of creativity are important in all stages of a design process, but most of all in the beginning of a process, in the idea generation phase. This way, it can also benefit the group dynamics. As a trigger of creativity, it can be implemented in later stages of the process as well, depending on the needs of the team.

## 5. CONCLUSION

As a design student at IPD, working in groups and presenting your projects in front of others is a big part of your studies. These are tasks you are presented from day one, but learning how to do it, and being comfortable doing so, does not come easily. It is something the students have to learn by themselves, in the course of the years. The only guiding you receive is a mandatory course during the last semester of your fourth year, in which you will be working with students from any faculty at NTNU (EiT).

Through personal experience and observation of my fellow students, I know that being comfortable presenting your ideas and working in groups is something nearly all students would like a crash course in. The business world is constantly changing, and teamwork and original ideas are becoming more and more essential [41]. Students of today have been bombarded with information from an early age, through internet and social media. They gather information faster than ever before, and often juggle several activities and projects at the same time. The university and its classes need to keep up with the development, seeking new ways to engage the students [42]. In order to challenge and expand their creativity, the fact that they are very familiar with the multidiscipline world should be taken into consideration. New ways of triggering creativity should be developed and tested. As I have already mentioned, creativity is

something that can be learned, the task is really to teach the students how to access the ideas and thoughts they spontaneously construct.

“The ultimate question (...) is not how to teach creativity, but rather how to understand, harvest and build up the very creativity that every student already possesses and uses” [43].

Studies show that academics associate a number of features with creativity regardless of disciplinary, pedagogic or problem working context. Amongst more are the listed:

- Being imaginative
- Being original
- This embodies also being inventive with someone else's ideas
- Being curious - willing to explore experiment and take risks
- Being able to present ideas and communicate them to others [44]. Being creative means making connections that appear to be unrelated and seeing new solutions where some might not even recognize the problem [45].

As expressed by Keith Johnstone, impro can teach the dominant ones to listen and step aside without fear of losing control, and the timid can be taught to speak up and defend his opinion in a safe environment [46].

Impro training has been shown to have a very positive effect on a design process, both in freeing your mind for brainstorming and developing a team where everyone is comfortable expressing their ideas [47].

A creative process is complicated, even more so when working in teams. Good teamwork depends on everyone feeling free to express their ideas, and working together towards a common goal. Impro training teaches you this: to listen and build on what your partners are saying, and to take the challenges as they come, without fear of ridicule. Those lessons are key elements to any creative process, and something students (and professors) at IPD could benefit greatly from. I was taught how to do it, and I want to give all students at IPD the same opportunity.

I have developed a workshop manual in the course PD9 for use at IPD, based on the

research presented in this study. It includes some of the impro games listed here, and some not presented. To see whether it would work with the students, I conducted a small workshop where I tested the preliminary manual. Participants were 7 students at the institute. I used the “Unusual Uses Test” (presented in this article) to test their

creativity scores before and after the workshop. The results were overwhelming, with an idea output increase of 74,5 %. The manual should be developed and tested further, with the intent of using it as a creativity resource for students at IPD.

## References

- [1] Livingston, L. (2010), “Teaching creativity in higher education”, University of Southern California, *Arts Education Policy Review*, Vol. 111, pp. 59–62
- [2]: Livingston, L. (2010), “Teaching creativity in higher education”, University of Southern California, *Arts Education Policy Review*, Vol. 111, pp. 59–62
- [3] <http://designthinking.ideo.com/?p=1235>
- [4] Aminoff, C. et. Al. (2010), “The changed role of design” Provoke Design Oy/Ltd.,
- [5] Johnstone, K. (2009), “Impro for Storytellers - Theatresports and the Art of Making Things Happen”, *Faber and Faber Ltd*, pp. 45
- [6] Kudrowitz, B. M. (2010), “HaHa and Aha! - Creativity, Idea Generation, Improvisational Humor, and Product Design”, *University of Central California*.
- [7] Pirola-Merlo, A, Mann, L. (2004), “The relationship between individual creativity and team creativity: aggregating across people and time”, *Journal of Organizational Behavior*, pp. 249
- [8] Kudrowitz, B. M. (2010), “HaHa and Aha! - Creativity, Idea Generation, Improvisational Humor, and Product Design”, *University of Central California*.
- [9] Lindell, U., (2002) “Gamle damer legger ikke egg”, *Cappelen forlag*
- [10] NTNU (2013), “Eksperter i team - Gjennomføring av landsbyen 2014», *instruction manual*
- [11] Haugset, A. S. (2010), «Blogg: Eksperter i team, 14 january» <http://www.forskning.no/blog/anne.sig@hotmail.com/239853>,
- [12] Sortland, B. “Eksperter i team - Erfaringsbasert emne i tverrfaglig samarbeid ved NTNU”, *EiT-leader*
- [13] Wiebe, C. (2005) “Unscripted”, *Alberta Views*
- [14] Johnstone, K. (2009), “Impro for Storytellers - Theatresports and the Art of Making Things Happen”, *Faber and Faber Ltd*, pp. 11
- [15] Johnstone, K. (2009), “Impro for Storytellers - Theatresports and the Art of Making Things Happen”, *Faber and Faber Ltd*, pp. 23
- [16] Johnstone, K. (2009), “Impro for Storytellers - Theatresports and the Art of Making Things Happen”, *Faber and Faber Ltd*, pp. 130, 183, 302, 307
- [17] Johnstone, K. (2009), “Impro for Storytellers - Theatresports and the Art of Making Things Happen”, *Faber and Faber Ltd*, pp. 123, 275, 370
- [18] Horowitz, R. (2009), “Creative problem solving in engineering design”, *The Senate of Tel-Aviv University*
- [19] Johnstone, K. (2009), “Impro for Storytellers - Theatresports and the Art of Making Things Happen”, *Faber and Faber Ltd*, pp. 59)
- [20] Johnstone, K. (2009), “Impro for Storytellers - Theatresports and the Art of Making Things Happen”, *Faber and Faber Ltd*, pp. 60
- [21] Johnstone, K. (2009), “Impro for Storytellers - Theatresports and the Art of Making Things Happen”, *Faber and Faber Ltd*, pp. 63
- [22] Johnstone, K. (2009), “Impro for Storytellers - Theatresports and the Art of Making Things Happen”, *Faber and Faber Ltd*, pp. 72
- [23] Kudrowitz, B. M. (2010), “HaHa and Aha! - Creativity, Idea Generation, Improvisational Humor, and Product Design”, *University of Central California*.
- [24] Dym, C. L. et. Al (2005), “Engineering Design Thinking, Teaching, and Learning”, *Journal of Engineering Education*
- [25] Kudrowitz, B. M. (2010), “HaHa and Aha! - Creativity, Idea Generation, Improvisational Humor, and Product

- Design", *University of Central California*, pp. 22
- [26] <http://www.brainstorming.co.uk/tutorials/brainstormingrules.html>,  
<http://www.isixsigma.com/tools-templates/brainstorming/brainstorming-rules/>
- [27] Kudrowitz, B. M. (2010), "HaHa and Aha! - Creativity, Idea Generation, Improvisational Humor, and Product Design", *University of Central California*, pp. 25-30
- [28] Kudrowitz, B. M. (2010), "HaHa and Aha! - Creativity, Idea Generation, Improvisational Humor, and Product Design", *University of Central California*, pp. 25
- [29] Kudrowitz, B. M. (2010), "HaHa and Aha! - Creativity, Idea Generation, Improvisational Humor, and Product Design", *University of Central California*, pp. 25
- [30] Kudrowitz, B. M. (2010), "HaHa and Aha! - Creativity, Idea Generation, Improvisational Humor, and Product Design", *University of Central California*, pp. 26-29
- [31] Kudrowitz, B. M. (2010), "HaHa and Aha! - Creativity, Idea Generation, Improvisational Humor, and Product Design", *University of Central California*, pp. 83
- [32] Kudrowitz, B. M. (2010), "HaHa and Aha! - Creativity, Idea Generation, Improvisational Humor, and Product Design", *University of Central California*, pp. 85-90
- [33] Kudrowitz, B. M. (2010), "HaHa and Aha! - Creativity, Idea Generation, Improvisational Humor, and Product Design", *University of Central California*, pp. 90
- [34] Kudrowitz, B. M. (2010), "HaHa and Aha! - Creativity, Idea Generation, Improvisational Humor, and Product Design", *University of Central California*, pp. 104
- [35] Denscombe, M. (1998), "The Good Research Guide for small-scale social research projects", *Open University Press*, pp. 58-66
- [36] <https://www.ischool.utexas.edu/~ssoy/ususers/l391d1b.htm>
- [37] <http://www.tms.com.au/tms12-3h.html>
- [38] Kudrowitz, B. M. (2010), "HaHa and Aha! - Creativity, Idea Generation, Improvisational Humor, and Product Design", *University of Central California*, pp. 87
- [39] Kudrowitz, B. M. (2010), "HaHa and Aha! - Creativity, Idea Generation, Improvisational Humor, and Product Design", *University of Central California*, pp. 90
- [40] Kudrowitz, B. M. (2010), "HaHa and Aha! - Creativity, Idea Generation, Improvisational Humor, and Product Design", *University of Central California*, pp. 85-90
- [41] Livingston, L. (2010), "Teaching creativity in higher education", *University of Southern California, Arts Education Policy Review*, Vol. 111, pp. 59-62
- [42] Livingston, L. (2010), "Teaching creativity in higher education", *University of Southern California, Arts Education Policy Review*, Vol. 111, pp. 59-62
- [43] Livingston, L. (2010), "Teaching creativity in higher education", *University of Southern California, Arts Education Policy Review*, Vol. 111, pp. 59-62
- [44] Jackson, N. (2006) "Creativity in Higher Education - Creating tipping points for cultural change", *Centre for Excellence in Professional Training and Education*, University of Surrey, England
- [45] Kudrowitz, B. M. (2010), "HaHa and Aha! - Creativity, Idea Generation, Improvisational Humor, and Product Design", *University of Central California*, pp. 13
- [46] Johnstone, K. (2009), "Impro for Storytellers - Theatresports and the Art of Making Things Happen", *Faber and Faber Ltd*, pp. 23-24
- [47] Kudrowitz, B. M. (2010), "HaHa and Aha! - Creativity, Idea Generation, Improvisational Humor, and Product Design", *University of Central California*, pp. 13

## APPENDIX

### Results from survey

#### Questions asked:

1: I prefer to work: (In a group - Alone)

2: I find it hard to express my ideas in a group: (Always - Often - Rarely - Never)

3: I depend on a well-functioning group dynamic to achieve a good result: (Always - Often - Rarely - Never)

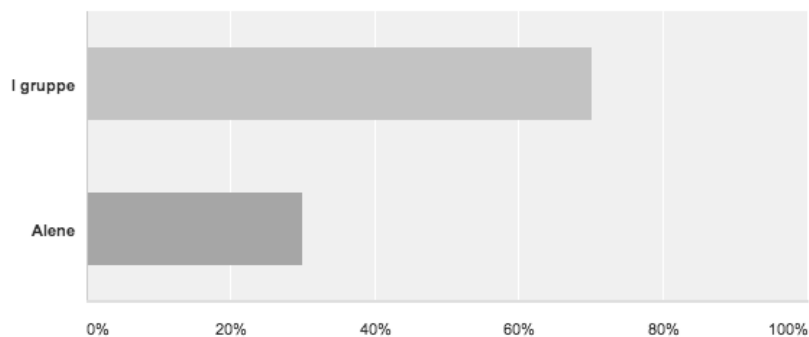
4: I'm afraid the other members of my group will think my ideas are stupid: (Always - Often - Rarely - Never)

5: I find it hard to be innovative: (Always - Often - Rarely - Never)

6: I find it hard to present in front of others: (Always - Often - Rarely - Never)

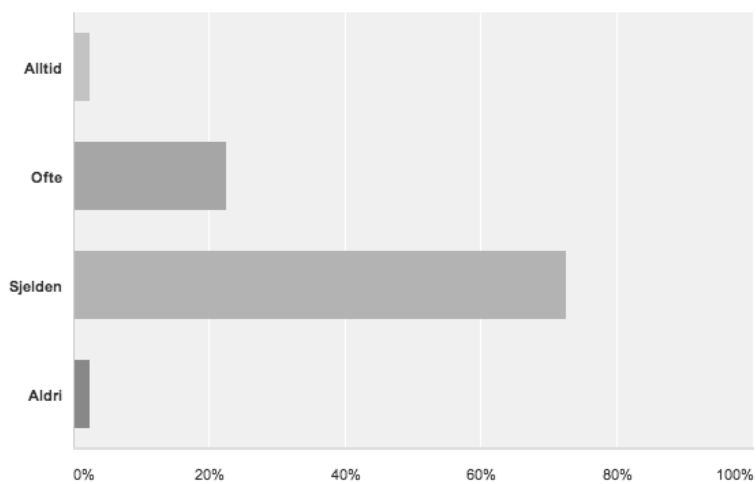
7: I feel undermined in my group: (Always - Often - Rarely - Never)

#### Question 1:



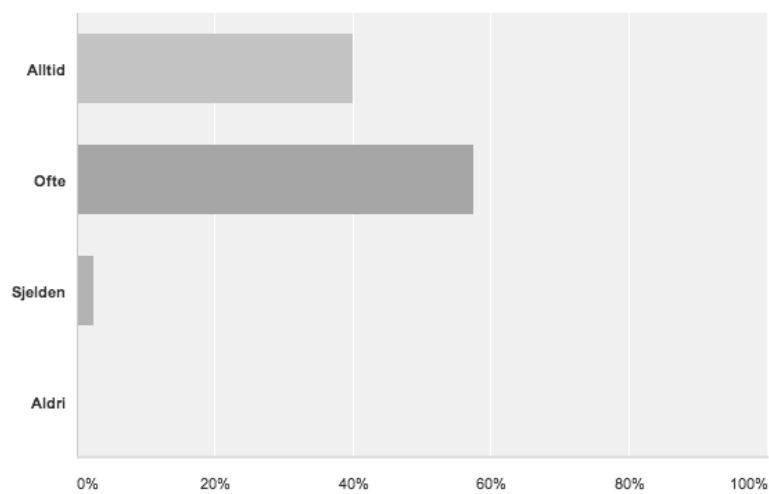
Svarvalg	Svar	
I gruppe	70%	28
Alene	30%	12
Totalt		40

#### Question 2:



Svarvalg	Svar	Antall
Alltid	2,50%	1
Ofte	22,50%	9
Sjelden	72,50%	29
Aldri	2,50%	1
<b>Totalt</b>		<b>40</b>

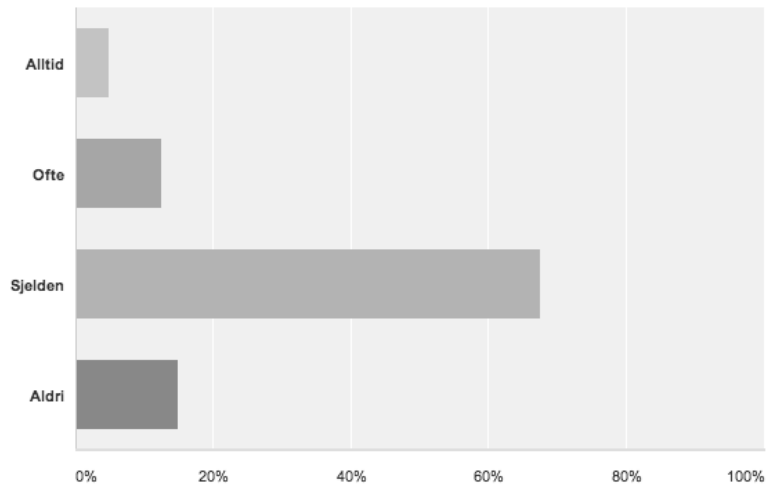
Question 3:



Svarvalg	Svar	Antall
Alltid	40%	16
Ofte	57,50%	23
Sjelden	2,50%	1
Aldri	0%	0
<b>Totalt</b>		<b>40</b>

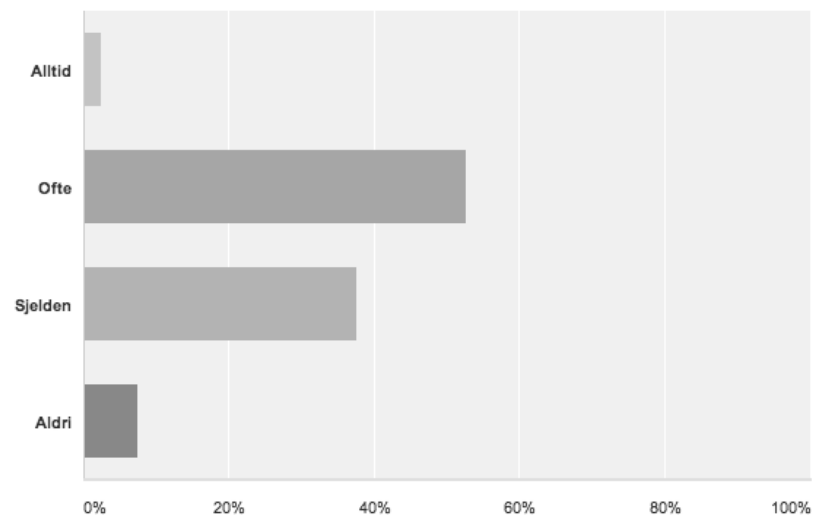
Question 4 :





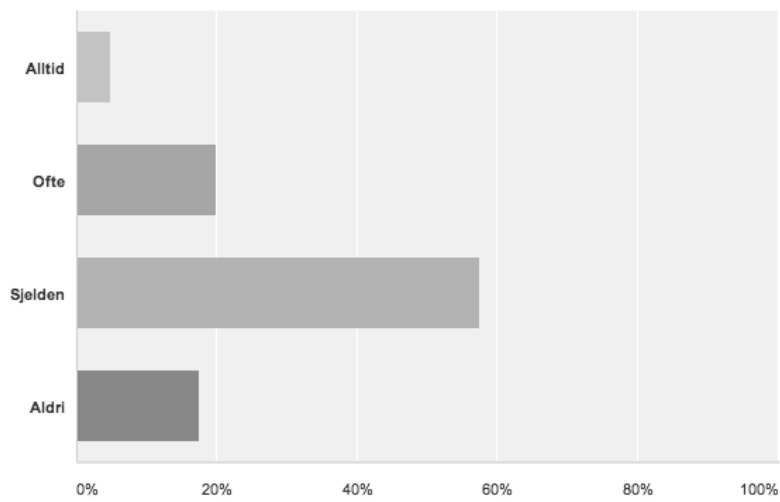
Svarvalg	Svar
Alltid	5% 2
Ofte	12,50% 5
Sjelden	67,50% 27
Aldri	15% 6
<b>Totalt</b>	<b>40</b>

Question 5 :



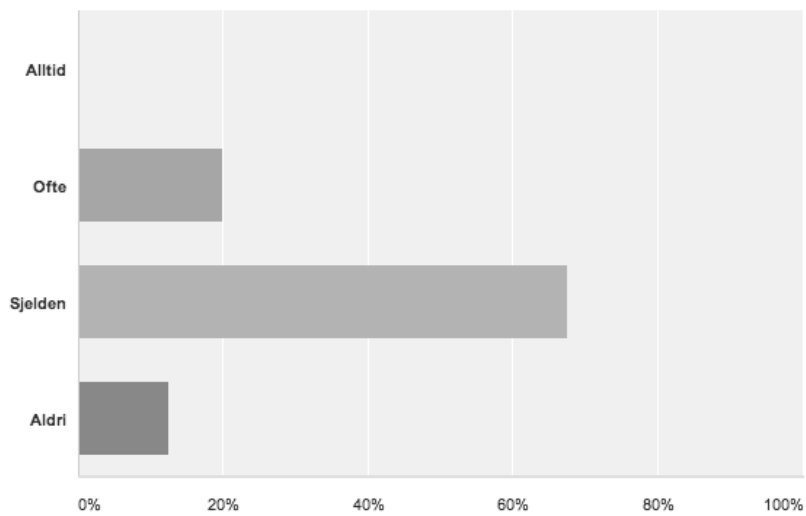
Svarvalg	Svar
Alltid	2,50% 1
Ofte	52,50% 21
Sjelden	37,50% 15
Aldri	7,50% 3
<b>Totalt</b>	<b>40</b>

Question 6 :



Svarvalg	Svar	Antall
Alltid	5%	2
Ofte	20%	8
Sjelden	57,50%	23
Aldri	17,50%	7
<b>Totalt</b>		<b>40</b>

Question 7 :



Svarvalg	Svar	Antall
Alltid	0%	0
Ofte	20%	8
Sjelden	67,50%	27
Aldri	12,50%	5
<b>Totalt</b>		<b>40</b>