

**MED
IAL
OGY**

**visualizing
the
unknown**



VIS.MED.FILM
Visualizing Medialogy through a Film

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Summary:

The motivational problem for this project was the lack of information available about Medialogy for potential students. A film was chosen as product, in the theme visualization, and high school students as target group. The final problem statement was:

To what extent can Medialogy be described, and visualized through a film, in order to inform potential students, at graduating years in Danish high schools, about Medialogy?

Medialogy was described with focus on its substance (PBL, semester themes, semester work flow, etc.), rather than concrete facts. A film was created focusing on visual content, i.e. without speech and with a minimum of text. The test was carried out on 193 test persons at Vordingborg Uddannelsescenter and Øregaard Gymnasium, as a control group and product group test.

The result from the test showed that the film was an effective way of informing the students, and so the final conclusion was:

One can successfully describe Medialogy and visualize it through a film, in order to inform potential students, at graduating years in Danish high schools, about Medialogy.

PREFACE

Reader's Guide

The report is divided into 11 chapters denoted by numbers and a blue headline. Every chapter is divided into 2-numbered subchapters, and these are divided into 3-numbered subchapters, both referred to as sections. The sections' numbers are reset to 1 in each new chapter, e.g. section number two in chapter five is denoted as 5.2. Chapters and both subchapters are listed in Table of Contents. Bold formatting denotes smaller headlines in the sections.

- Figures are marked with running numbers from 1 to 28, in chronological order. They are all listed in Table of Figures. Example: "Figure 3".
- Quotes are marked with quotation marks, formatted with italic and centered on the page. Example: "*Medialogy is fun!*"
- References are made in brackets, stating the number of the reference in the Bibliography and page numbers, if relevant. Example: [28, p. 2-3]
- Internal references are in parenthesis with chapter and section number as well as chapter and section name. Example: (1.1 Motivation).
- The appendix is denoted with capital letters. References to the appendix are within brackets and state the letter referring to a section of the appendix. Example: [Appendix D]
- A DVD with reference websites, the final product, etc. is enclosed with the report. References to the DVD will simply state, "can be found on the DVD" in the text.

Abbreviations

- CIT is short for Copenhagen Institute of Technology, which is the Medialogy Department of Aalborg University in Ballerup.
- PBL is short for Problem Based Learning.

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1. INTRODUCTION

The theme and sub theme for this P1 project is respectively “Medialogy” and “Visualize the Unknown”. To successfully implement these themes into the report and product, a research of the words “Medialogy” and “visualize” must be conducted, in order to clarify their substances. The title of the project is VIS.MED.FILM, an abbreviation of “Visualizing Medialogy with a Film”.

Since the theme is “Medialogy”, and the sub theme is “Visualize the Unknown”, this project will focus on finding a creative solution on how to visualize Medialogy. In order to do this in the most appropriate way, it is necessary to analyze different ways of visualizing. Visualization can serve as a way of communicating and it is considered an effective way of explaining structures, express concerns or optimize learning by e.g. using pictures or animations to illustrate complex data. More is to be found on the subject of Visualization in section (2.5 Visualization) of this report.

There are many aspects to look into regarding the term “Medialogy”. It is important to clarify whether the word only encompasses the actual study or if it is a common term, or a concept? Hopefully, by researching what the substances of the study are, one will find out what the term “Medialogy” consists of. Another important part of the project is to choose the right target group. In this project, potential Medialogy students will be targeted. This is due to the impression that the amount of information provided for potential students is rather insufficient. Therefore, Medialogy will serve as the “unknown” aspect from the sub theme and the product will be directed towards potential Medialogy students from high schools. The target group will be further explained and reasoned for in section (2.4 Target Group).

As mentioned earlier, the information concerning the Medialogy study seems rather insufficient. The current information available on the Internet and in brochures etc. seems somewhat unsatisfying when it comes to describing everyday life at the Medialogy study. In other words, the information only provides potential appliers with an absolute minimum of insight knowledge of the study. This is the main motivation for this project. The motivation is presented in section (1.1 Motivation).

After analyzing and describing Medialogy, the design of the film begins, described in section (4 Design). Here it is important to figure out how to inform about Medialogy by visual means, as effectively as possible. The film ends up as a short film, which focuses on the substance of the study, but also on the method used when working in groups, and on the every day life at the campus. The film is then implemented with Final Cut Pro, described in section (5 Implementation), and some visual effects are created in Photoshop.

The product is tested in high school classes, to see whether the students are better informed about Medialogy, after watching the film. The test results are listed in section (6 Test and Results), and show that the product succeeds in informing the students about the substances of Medialogy.

The starting point for this project is to brainstorm on various interesting problem statements, surrounding the project theme, and also to make sure that the motivation for proceeding with the chosen problem is properly substantiated.

1.1 MOTIVATION

The initial brainstorming at the start of the project period led to some motivational conclusions. First of all, the group agreed on the fact that not much was known about Medialogy before starting the study. All had read about it on different websites such as *UddannelsesGuiden* (located at www.ug.dk) and the official Medialogy website (located on www.media.aau.dk), (further explained in section (3.4.4 Material Available about Medialogy)), but felt that the information gained still left to bewilderment and insecurity concerning what the education really was about.

This led to the idea that potential students should have the chance of being better informed. As a result the university could get better informed appliers. It is natural to believe that a lot of suited students for the education do not apply based on lack of information, as it generates a lot of insecurity whether it is the right education for one self. Another aspect that might affect one when choosing a study is that the Danish educational system operates with a rule that states, if someone has two unfinished studies they can only enter a third one if there is a free spot available [1]. This makes it even more important to be well informed about the education before applying, in order to choose the right study.

So the goal will be to inform potential students, so they have sufficient knowledge to know whether or not they want to study Medialogy. The purpose of this project is therefore not to get as many appliers as possible to the Medialogy study, but to give the students information enough to choose whether or not the Medialogy study will suit them and vice versa.

1.2 INITIAL PROBLEM STATEMENT

Based on the project theme and the motivation the initial problem statement sounds as follows:

How can we describe Medialogy and visualize it in order to spread knowledge and information about Medialogy for potential students?

2. PRE-ANALYSIS

To narrow down the initial problem statement into a more specific and final problem statement a pre-analysis is used. The main topic is whether the stated problem actually exists.

First up is the approach to the entire project, followed by a discussion about the pre-analytic questionnaire. Then there will be an analysis of older, similar projects. After this, the target group will be discussed and specified, narrowed down by the initial motivation and the limited amount of time and money. Possibilities of testing are also considered when choosing the specific target group.

To fulfill the semester theme “Visualize the Unknown”, a description of visualizations needs to be conducted. After this, a list of the opportunities of visualizations will be presented, together with a discussion of the advantages and disadvantages of each, in order to choose the kind of visualization that matches the target group and the limits, best.

In the end delimitation will finally lead to the final problem stated, based on the considerations, thoughts, discussions and conclusions made in this chapter.

2.1 APPROACH

The report started with the background motivation, which is based on brainstorming and personal experience, and this led to the initial problem statement.

In order to discover whether or not the initial problem actually exists, a test will be conducted. The test will show if others agree with or recognize the hypothesis, which has been set up in (1.1 Motivation), and states the following: *“If potential students are provided with better information, they will have a better chance of knowing if the Medialogy study suits them. Furthermore the university will, as a result of the improved information concerning the study, receive better-qualified and motivated students.”*

As this is just a smaller test to clarify the relevance of the problem and get the actual project started, one must find a suitable way of testing that does not require too many resources or too much time. The test will be directed at 1st semester students and is meant to clarify whether or not they feel the information regarding Medialogy is insufficient.

In this case three basic types of testing will be discussed: qualitative, quantitative and observation.

Qualitative is when the test is personalized. I.e. an interview is qualitative as the person interviewing, if good, has the opportunity to affect the mood and atmosphere of the interview and thereby get the best result. Also the interviewer can target and elaborate subjects of great importance to the goal of the interview. Pros are that the interview is personal, detailed, trustful, comprehensive and focused. Cons are that the qualitative method is time consuming, both during the interview and after when

trans-scripted and analyzed, the interviewer might color the interviewed, also it requires practice to master and finally a lot of preparation up to the interview has to be done [19].

Quantitative is a way of testing objectively and receiving standardized answers. I.e. questionnaires, which are normally used when testing larger target groups or if resources are limited, especially time. Answers collected from the quantitative method are suitable for doing statistics and/or to research opinions or knowledge in larger test groups. Pros are that questionnaires are compiled fast, data collection is fast and easy to analyze, many people can be tested at the same time, statistics and visualizations are easily compiled. Cons are that it requires distribution (if long range distributed it can be time consuming), it is non-personal, and hardly as detailed and comprehensive as the qualitative technique [19].

Observation is when observing one or more persons in order to find out how they react in different situations. I.e. observing how kids behave when left in a room with no adults, compared to when an adult is present. Furthermore this method cannot be directly influenced during the test process, unlike the qualitative and quantitative methods, as the quality of the result relies on the ignorance and anonymity of the test person and environment. Pros are that target or target group will act/answer naturally, detailed answers, lots of data. Cons are that it requires a larger setup, controlled location, much time to analyze and it can cost a lot of money to conduct.

When using, either the qualitative, quantitative or observational methods of testing it is important to have in mind whether or not the test is *representative*. This means if the test succeeds in answering the question thoroughly and more important if the specific target group tested consists of a broad enough panel of people to represent the target group in general. Ensuring that a target group is representative is very important when it comes to validating collected data.

Projects previously made at the Medialogy education at CIT will be studied as a source for previous research and as inspiration. The target group is narrowed down by use of practical considerations. The final target group will be analyzed in the Analysis chapter. The rest of the pre-analysis is based on research made on Internet, books and papers. After the pre-analysis, the final problem statement will be presented, which leads to the next chapter, Analysis. The Analysis will consist of research about target group, product development, visualization, state of the art and Medialogy. To analyze Medialogy, there will mostly be used research from books, papers, web sites and informational brochures made by Aalborg University. Another used method will be a qualitative, in-depth interview with study coordinator Rolf Nordahl. There will also be an analysis of a video made last year by a group of students at CIT. The video will be explained and analyzed on how it uses effects, and how it informs about Medialogy. This analysis will be used as an inspiration when making a final product in this project.

The research for rest for the analysis will be done by using books, papers and web sites, as well as general knowledge gained through lectures at first semester of Medialogy. In particular, knowledge

gained through the course “Medialogi, Menneske og Samfund (Medialogy, Man and Society)” will be used when analyzing how to best conduct a test, in section (3.6 Test strategy)

2.2 PRE-ANALYTIC QUESTIONNAIRE

To verify that there is a problem with applying students not having enough information, a questionnaire was handed out to students at the 1st semester of Medialogy. 54 filled out the questionnaire and all the results can be found in [Appendix A]. This quantitative method was used, as it is less time consuming than doing qualitative, in-depth interviews. Since the purpose of the survey is to indicate that there is a problem with appliers being confused and lacking information before starting at Medialogy, it is not necessary to make a more detailed survey.

The questionnaire was supposed to reveal, amongst other, whether the current 1st semester students knew what Medialogy was before they applied to the study, how sure they were of their choice of study, where they found information about Medialogy, how good they thought that information was, and so on.

The first question was “Where did you find the education?”. 39% answered “UddannelsesGuiden”, and 35% answered “through an acquaintance”. 34% found Medialogy in various other ways. The reason that this does not add up to 100% is that some test persons chose more than one check box.

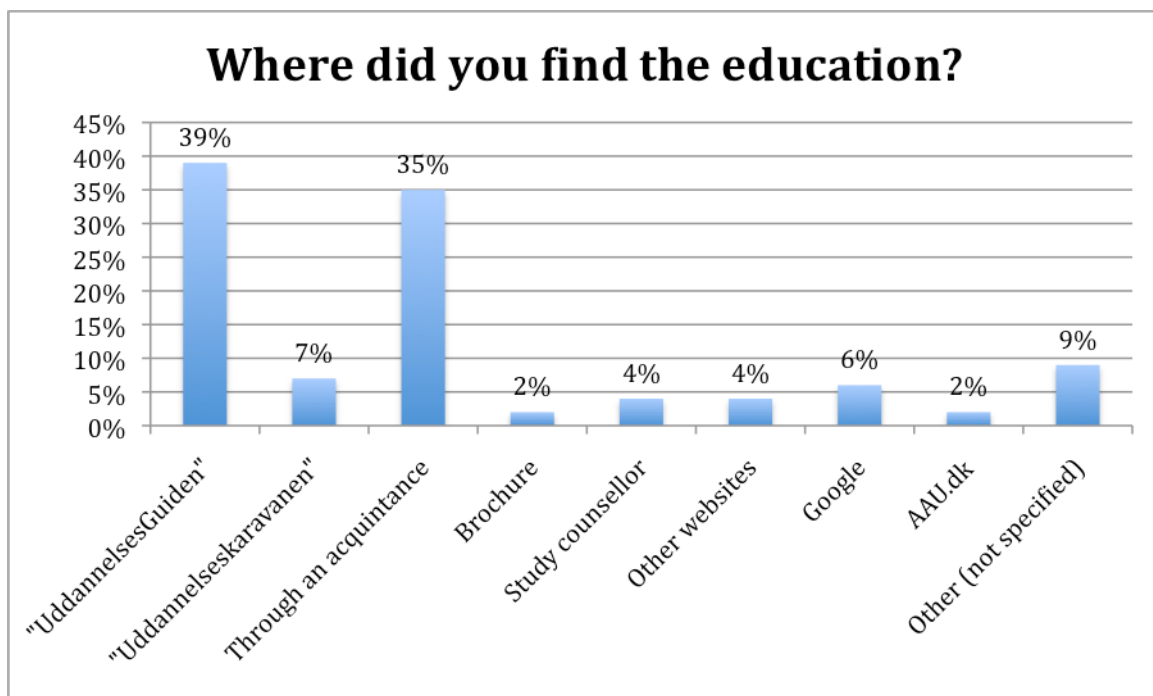


Figure 1: Graph of answers to first question in questionnaire.

Only 13% felt to a high degree that they knew what Medialogy was before they started, and 45% do not feel that their knowledge has been improved to a high degree after they have started studying. This is a clear sign that there actually is a need for better information on the subject amongst Medialogy students.

Out of the 85% that had read about Medialogy on *UddannelsesGuiden*, only 27% felt that the information they found was good or very good. This supports the hypothesis in section (1.1 Motivation) about the information regarding Medialogy at ug.dk is rather insufficient.

Not all of the results from the questionnaire are valid. There are some questions that get contradicting answers. For example: One question states: "Were you sure that this was the right study for you, before you started here?". 52% answered that they were sure about it. The next question is: "To what degree did you know what Medialogy was about before you started studying?". Only 11% felt to a high degree that they knew what it was about. It is peculiar that so many people were sure that this study was the right thing for them, but few felt they knew what it was about.

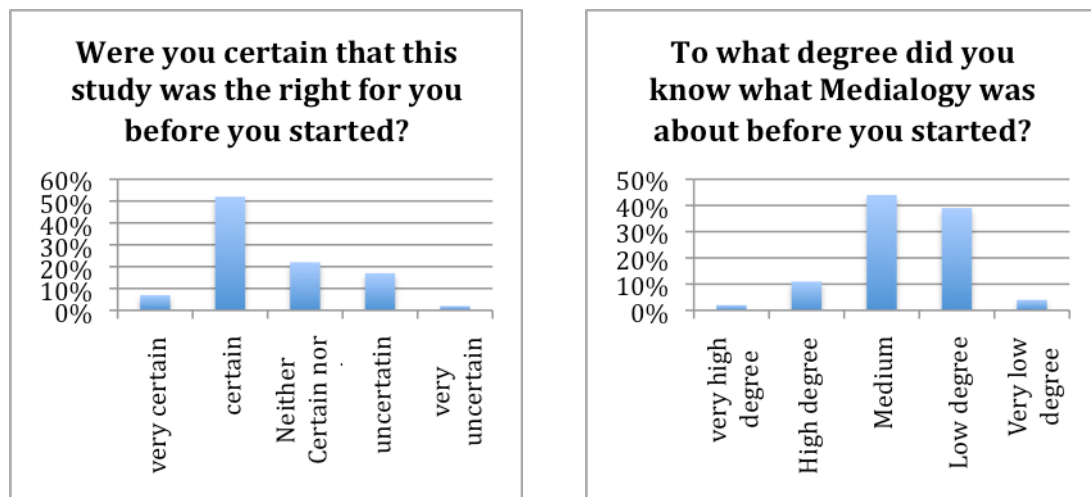


Figure 2: Graphs of answers to question 3 and 4.

It is reasonable to believe that the results could have been different if the questions had been asked in a different way. In other words, it does not seem like the test persons understood the question the way it was intended. The question could have been "Do you feel that the knowledge you have about the Medialogy education is sufficient to be sure whether or not Medialogy is the right education for you?". Or the questions could have been placed in opposite order. Then the test persons might have answered differently, because they would have been aware of how much, or, as in most cases, how little, they knew about the study, when they were to answer the other question.

The conclusion on the questionnaire is that it is not completely valid and thus it cannot be used as a representative of the real situation. On the other hand, it can be used as an indication to show that the problem exists in some form, and as a guide to further research.

2.3 BACKGROUND

This section will look into previous research done on the area of the motivational problems, to see if the problem exists, find potential solutions for the problem statement, and see how successful these solutions were. This section will also look into, and use, previous research to help proceed with this project.

2.3.1 AT COPENHAGEN INSTITUTE OF TECHNOLOGY (CIT)

An archive at the Copenhagen Institute of Technology holds the majority of old Medialogy projects, made at the CIT. The archives have been looked through, two projects were picked out, because of their relevance to this project, and these will be described in the following section.

A group of students on the 6th semester of Medialogy did a project named *Creating Awareness of Medialogy* (found on the DVD), in the spring of 2007. This is similar to the problem of this project. Also the chosen target group is potential Medialogy students, like this project.

The report quickly concludes that a TV-related solution would be very effective, but the nature of the project (i.e. lack of money) makes this impossible. As a solution they choose a Multimedia Interactive Installation, to offer the target group the user experience of Medialogy through aural, visual and physical feedbacks. The main reason for choosing this kind of solution is that the group members have a previously developed Multimedia Installation called *ConDio*, which they will upgrade for their project.

When testing, the group was very careful about being anonymous to the target group, mainly by removing everything that would link them to Medialogy or CIT. Making the test as unbiased as possible in order to receive the most honest and unaffected answers is relevant for this project as well. The group tested the installation by giving the target group a questionnaire before and after they had tried the product, and then they compared the differences. The final conclusion states that a multimedia interactive installation is an effective medium of communication in order to create awareness of Medialogy. A similar solution can not be used in this project, since the creation of such a device is too advanced compared to the skills of this group, at this point. Furthermore the goal of this project is to inform students, and not create awareness, so this kind of product might not be useful for this project. The conclusion also states that the group had difficulties when choosing what aspects of the concept of Medialogy, to show in their product. On the test results the report states that the group failed in making their test group more aware of Medialogy, because the graphical elements used to illustrate the concepts of Medialogy were too abstract.

According to the report the group also looked into defining Medialogy. They conclude that they were not able to find an official definition, mainly because the education is so new. Instead they decided to use their own methods and research to get a conclusive understanding of Medialogy. They continue by dissecting Medialogy into the words “media” and “-logy”, meaning “the study of”. And so, according to the report, Medialogy means “the study of media”, but they do not document that Medialogy is a mix of “media” and “-logy”. They even state that it is a mix of the words “media” and “technology” earlier in the report. Thus, their analysis of the word “Medialogy” cannot be used.

Surprisingly the report does not cover the documentation of the actual problem. They claim that there is a lack of awareness of Medialogy, based on individual experiences, but this is never documented. The students behind the project believe that a lack of awareness is a problem because

they want recognition for their capabilities, in society. Obviously they cannot get this, if no one knows what Medialogy is about. The project also has a profound lack of references; the obvious consequence of this is that most statements only can be used as undocumented claims.

Another Medialogy project (found on the DVD), made at the 2nd semester, in the spring of 2007, and titled *Introducing Medialogy*, tries to present the education in a spirit fitting the Medialogy study, i.e. using a variety of interactive elements. The project does not research whether or not there is a real problem with the current methods of branding Medialogy, and if this kind of solution would be more effective.

The target group is potential Medialogy students, like in this project. In the analysis of the target group, they look at the skills of students at the different youth educations in Denmark, since there is no point in choosing a target group that does not match the requirements of the Medialogy education.

The product created was a virtual introduction to Medialogy, programmed with Flash¹. When it was time to test the product, the group only chose three test persons, and they did not seem to focus on whether or not their product was a good way of promoting Medialogy. In the end this is also what they conclude; they did not get an answer for whether or not their product promoted Medialogy better than the existing promotional tools. Because of these factors the report can not be used a reliable reference or guide.

2.3.2 OUTSIDE CIT

Looking at surveys and reports about the problem, outside the grounds of the university, has proven to be somewhat effortless, but following is a list of some relevant articles, that have been found:

According to [2] approximately just 50% of students at IT-educations complete their studies. It also concludes that to improve this one factor that needs to be looked into is the information provided to the students, before the start of the study. This supports the motivational problem describing the concern about students not applying, or not completing educations, if they do not know what the education is about.

2.3.3 SUMMARY

The Medialogy reports found did not document whether or not there is a problem concerning potential students not knowing what Medialogy is, and neither did any of the reports found outside the school. This is not surprising, since the education is only six years old. They did, however, give some guidance, i.e. being anonymous during the tests.

On the other hand, it is possible to find surveys proving that a lack of information is a risk factor when it comes to students dropping out of educations, or not applying at all.

¹ Programming language

2.4 TARGET GROUP

Since the motivation for this project was doubts before applying for Medialogy, caused by a lack of information about the education, the target group will be potential Medialogy students. In this section the target group will be narrowed down, since it is not possible to test the product for every potential student due to time limitations.

Hypothetically everybody could become students at Medialogy, but some are more likely to become students than others. Ground school students would not be very useful to analyze in this context, because there will pass many years before they will be in search of a study. Also people who are already educated, or those who are studying at an advanced or technical study, neither are of any relevance, as they have already made their choice of profession. If they are unsatisfied with the choice they made, they will actively have to search for something else and thereby potentially find Medialogy. Those unsatisfied and those taking sabbatical years would be too difficult to find and reach, therefore they will not be tested in this project. Medialogy can be studied as an expansion to some existing educations, such as Multimedia designers, but those that could be interested in expanding through Medialogy are too difficult to reach as well. If more time and resources had been available for this project, one would have been able to choose a wider target group and test more people in different situations, but since the project is quite limited, the target group will have to be narrowed down.

Therefore, students at studies with exams preparing for advanced studies have been chosen as the specific target group amongst potential students at Medialogy. For example students at the schools of: stx (students exam), hf (higher preparing exam), htx (higher technical exam) and hhx (higher business exam), commonly called high schools².

It will be of most relevance to specify the target of the project to the students at their graduating year, as they are closest to choosing an advanced study. They are, during their last year, presented to a lot of possibilities of future studies and are given advice on how to seek and find the right study for them. Therefore it is important to give them the possibility of finding out what Medialogy is about.

With the time and resources given, it is not possible to test high school students all over Denmark. So the test will be made on students at high schools in Copenhagen, because it is more practical geographically and also gives a small spectrum of differences throughout Copenhagen.

In this section the target group has been specified to be Danish high school students at their graduating year, and within the geographical area of Copenhagen. The target group will be further analyzed in section (3.1 Target Group) on their interests and characteristics.

² These are in Danish called *Gymnasielle Uddannelser*.

2.5 VISUALIZATION

This part will look into the possibilities the project description gives when stating: "Visualize the Unknown". It will look into different types and understandings of visualizations, as well as a model, which tries to describe different aspects of visualization. Finally, an analysis of which visualizations the product can be based on will follow.

2.5.1 DEFINING VISUALIZATION

Research has been done to clarify what the term visualization encompasses. The entry for the word "visualize" in a dictionary [3] states: "to form a picture of someone or something in your mind, in order to imagine or remember them". It seems obvious that the term "visualization" originates from "visualize", and that is the reason it has been noted in the report. But, no results have been found when searching for "visualization", as a noun. Research is therefore necessary to look further into the exact term.

The starting point for the description of visualization is based on two scientific articles. The articles are written by respectively Robert Kosara [4] and Jark J. Wink [5]. They have been refined into the following where there will be a discussion on how different kinds of visualizations are used and what qualifies as "Visualization".

Visualizations can be used as tools to compress large quantities of data. Collected data are transformed into an image, which can be analyzed and understood within a short period of time, due to the efficiency of the human visual system.

As Jark J. Van Wink writes in his article, "View on Visualization", there is a growing need for visualization as the quantity of data the society is confronted with is exploding. Especially in areas such as medicine and economics, huge amounts of data are produced ongoing. Therefore visualization provides the people working in these areas with a fast and simple overview on constantly changing situations, without requiring too much time for analysis. Examples could be MRI-scans, diagnosis, stocks, currency etc. These visualizations are based purely on data, and are very common.

Another option is to use visualization in a more creative way. Artists make use of images to express situations, feelings or to communicate concerns. Artistic images are recognized as visualization as they are based on data as well. The data is neither collected from the computing of letters or numbers, but based on the artists desire to express himself.

Having this in mind, the word "visualization" can be split up into two cultures - Pragmatic visualizations; where the main goal is to explore, analyze or present information in a way that allows the reader to understand it right away. It is a simple and clear way of delivering data, easily readable and difficult to misunderstand. The other culture is the - Artistic visualization; which is used to

communicate a concern rather than to show raw data. The strength of the artistic approach is the transformation of data into something visible and interesting.

To give a better understanding of the term, Robert Kosara (R) divides visualization into a spectrum with the pragmatic approach versus the artistic. Within the spectrum he puts the three basic types of visualization: a) readable and recognizable, b) readable not recognizable, c) not readable not recognizable.

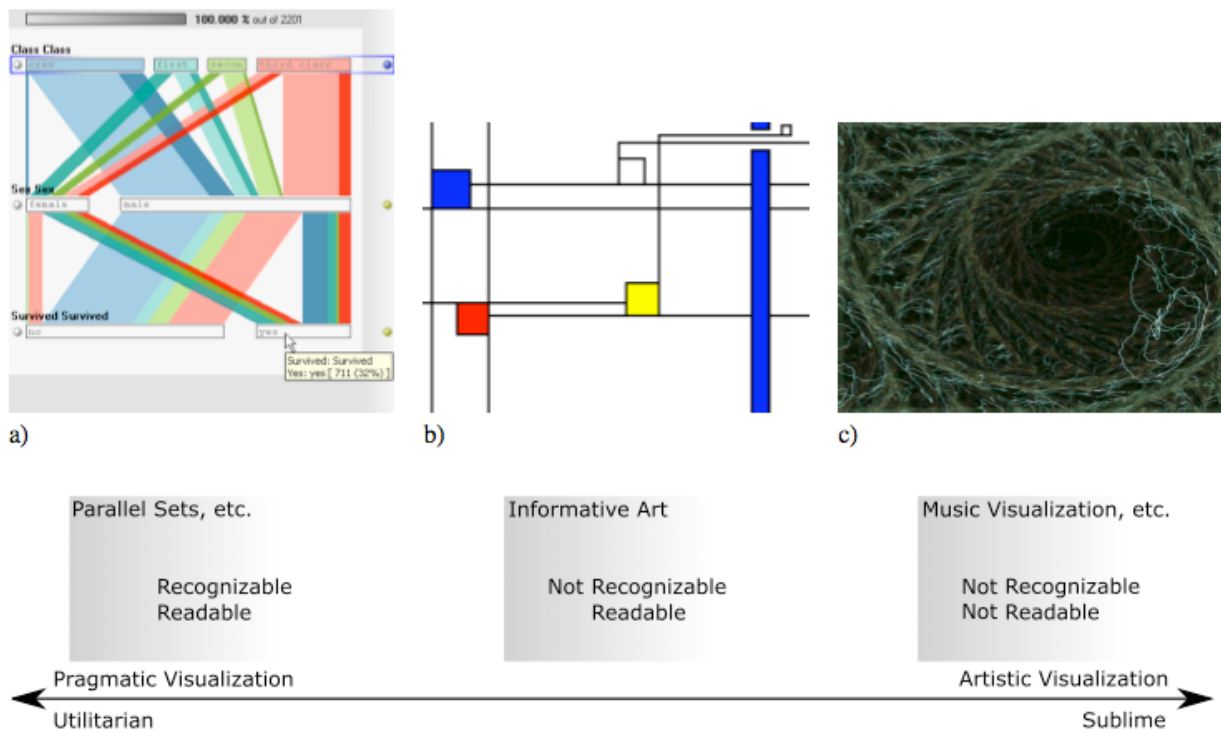


Figure 3: Examples of the three basic types of visualization.

Figure Description:

Part A of the figure is both readable and recognizable meaning that the visualization consists of both words and graphics. The words are effective as one can divide visualization into categories, and have words help explaining the intention. If one studies part A closer one will find that it visualizes the passengers onboard the cruise-liner Titanic in order to display the link between which travel-class the passengers were staying at versus the survival rate during the famous incident. The visualization shows a conspicuous connection between the number of first-class passengers that survived versus second and third class passengers whom obviously did not have equally good survival chances.

Part B of the figure is only readable as there is no clear description of which data has been visualized. It is not recognizable as one cannot connect it directly to anything, and the layout is somewhat artistic. The specific visualization from Figure 1 is just an example and has no further explanation to it.

Part C is neither readable nor recognizable. It functions typically as an artistic expression and is commonly used to visualize music, while playing music in a Media player. This type of visualization is

typical imitating music beats or sounds, and the viewer must take a profound look at it, in order to understand the connection between data and visualization.

Each approach on visualization has its own strengths and weaknesses. As mentioned earlier on, areas like medicine and economics prefer a pragmatic approach when working with visualization. In this way they have a tool, which is easily recognized and thereby quick to respond to. One could imagine the importance of this in e.g. an operation room at a hospital where a patient's heartbeat is monitored with visualization on a screen, converting heartbeats per second to a curve.

On the other hand the artistic visualization is a way to catch the attention of the viewer and make one interested in the image. The artistic visualization is more demanding to understand than the pragmatic, as the viewer will have to adapt to the image himself, in order to find data and thereby meaning.

When researching the subject "what is a visualization?" it is needed to comment briefly on what does not qualify as visualization. According to [4] some criteria must be fulfilled in order to qualify as a visual. First of all a visualization must be based on non-visual data. That criteria leave out image processing and photography. Secondly the visual must be able to create one or more images, and these have to be the primary means of communicating the data.

But some of the statements above are more or less contradicting. A visualization should form a picture of something or someone and therefore one can disagree with Robert Kosara in image processing and photography not being a visualization.

For instance if one wants to visualize the text: "a man walked in the alley ", it could be done with a staged (or authentic) photograph of a man walking in an alley. A feeling or a mood can be visualized in a photography as well, as the photographer chooses the angle, the motive and the time and can that way create the picture he/she wants. The subjectivity is important and the photo is a visualization because it creates pictures in the recipients mind. The same way, one can argue that audio can be used as a visualization. For example a scream will commonly create a picture in the listener's mind of the person screaming. But because one cannot control which picture people will form in their minds it is very important to be specific. Especially when it comes to audio where the listener has to create the whole picture himself/herself. Therefore audio can be used together with pictures like in film.

2.5.2 TYPES OF VISUALIZATIONS

The following section will go through the most common types of visualization fulfilling the criteria mentioned in section (2.5.1 Defining Visualization). Furthermore there will be a pros and cons analysis, which will be important, when choosing a product within the wide range of visualizations. The list consists of the possible visualizations that have been considered working with in this project, and the analysis is based on personal reflections of pros and cons.

1. Charts, diagrams, graphs, tables

In general good tools for visualizing hard data to provide overview. Easy to read, easy to make but not suitable for spreading messages, as they do not provide possibilities for pictures or "soft data" like concepts and feelings.

2. Posters, flyers

Gives the possibility of including pictures, text, charts and other graphic content that can be printed. It is also a good way of branding because one can reach many people. Cons are printing expenses as well as expenses for distribution and one can not be sure that people actually read a flyer or look at the poster.

3. Web-content

Offers a variety of options for including visual content and text, as well as interactive design. Easy distribution, and the possibility of counting hits, makes this attractive regarding to testing. Cons: This type requires the recipient to have Internet and it can easily drown in the thousands of opportunities on the Internet.

4. Computer Games

Gives the possibility of including the message in a narrative context, and thereby encourage the user to interactively explore further into it. On the other hand, computer games require a thoroughly prepared storyline for it to work and the development process is time consuming and might require skills, which is out of reach for this project.

5. Film

Possibilities for elaborating on a message, as well as exemplifying it through story telling. Creating a film is possible within the boundaries of the project, but can be costly and is definitely time consuming. Distribution of a film to the target group has become a lot easier with web pages like YouTube.

6. Virtual Reality

It is not a commonly used technology, especially not for the purpose of spreading information. Furthermore creating a virtual reality concept requires too much money and time.

7. Cloth printing

Pros are that it is possible to combine text and pictures and that it involves the targets by giving them the possibility of wearing the message and thereby contribute to further distribution. Cons are that there are expenses related to fabrics and printing.

8. Paintings, drawings

Paintings and drawings are great for artistic expressions, but are often hard to read for messages without in-depth analysis. Signs and pictograms are examples that can be read fast and easily for information, but they are not suitable for this project, as the purpose is to visualize a description of Medialogy.

9. Sculptures

Yet another visualization form, which is traditionally used for artistic expression, and not for informative purposes. Sculptures are not well suited for distributing a message to a large or scattered group, as often only one copy exists.

10. Interactive Multimedia Installation

As mentioned in section (2.3 Background) another group has previously tried to use such an installation to create awareness of Medialogy and concluded that it was a good way of doing it. This type is not chosen because it requires skills for creating a well-functioning installation.

In this part of the pre-analysis it has been looked into different understandings of visualization, and found that there are two main cultures: the pragmatic and the artistic. After considerations, it was decided to place the final product of this project in between the two poles, pragmatic visualization and artistic visualization. Its goal is not to present hard data, but it still seeks to inform, and therefore cannot be a purely artistic visualization.

With that in mind, it was decided to approach the idea of making a film. First of all it is within the range of this project to create a film, which functions as a source of information and is worth viewing. A film gives better advantages than a poster or flyer of presenting information, as a film could be a sequence of posters and the ability to add audio. Also it can be included on a web page and therefore has some of the same pros as web-content. It gives a wider range of possibilities of presenting various aspects of Medialogy than the other options, e.g. present earlier projects and give an insight in the study form. The purpose of this project is not to promote, but to inform, but as a future aspect, distribution can be easy by using YouTube etc. and it will be fitting for the target group. This will be looked further into in section (3.1 Target Group).

2.6 SUMMARY

In the beginning of pre-analytic questionnaire a test was described, trying to reveal whether or not there was a problem concerning Medialogy students not knowing enough about the education, before the start of the study. Although there were some anomalies concerning the validity of the results, it was concluded that the results were clear enough to pursue the subject, and continue with the project.

As mentioned in section (2.4 Target Group) this project will focus on potential Medialogy students, as the target group. It needed to be narrowed down to a group that will be easily accessible, and on which the product can be tested properly. After analyzing the target group it was narrowed down to 3rd year students at the Danish youth educations (called hf, stx, htx and hhf) in Copenhagen.

As mentioned in the initial problem statement this project revolves around visualizing Medialogy, to spread knowledge and information about the education. To do this an analysis of "visualization" was

needed. It was then narrowed down to a small range of visualizations that would fit into the creative and financial scope and idea of this project. The chosen visualization form is film.

2.7 DELIMITATIONS

Because of time and economical limitations, the product must be delimited. First of all the length of the film must be shorter than 10 minutes. Due to time limitations it is not possible to create a longer film, and to make an accurate, but not boring, film the length cannot be too long. Therefore the goal is to make a short film lasting approximately 5 minutes.

It is also important to note that the project will not focus on selling the education to as many as possible. The intention is to inform students about the substance of the study, not to create a commercial. The recipients are forced to watch the film but it is still important to catch their interest and maintain their attention, because otherwise they would not see and understand the information from the film.

2.8 FINAL PROBLEM STATEMENT

Through the pre-analysis the initial problem has been researched and analyzed. The visualization has been chosen to be a film and the target group Danish high school students. This leads to the final problem statement, which is as follows:

To what extent can Medialogy be described, and visualized through a film, in order to inform potential students, at graduating years in Danish high schools, about Medialogy?

Potential new students at Medialogy should be provided with the information that gives the best description of what the study contains. This is in order to make sure that they know what they are applying for. It is also a good way of securing that anyone with interests corresponding with the core subjects of Medialogy is being informed about the education, and the pool of appliers to the education will consist of basically well informed, prepared and motivated students.

One way of spreading the information about Medialogy is to make a visual product consisting of a description of it. In this case, based on the facts given in section (2.5.2 Types of Visualizations), the product will be a film. A film should be an effective way of reaching the target group, although the success is dependent on what kind of film is being presented, and which effects are used to underline the message. Film effects and types of films, amongst other things, will be analyzed and discussed in the following chapter, (3. Analysis).

3. ANALYSIS

In this chapter there will be an analysis of different aspects of the final problem statement, to clarify which approach is best for designing the product and testing it. The target group will be analyzed more specifically concerning their use of media and especially film. There will be looked into cinematic techniques as well as narrative effects to help sum up requirements for the product. Former film products, with the theme “Medialogy”, will be analyzed, and examples of video visualizations will be looked into, to gain experience and knowledge. Lastly follows an analysis of Medialogy, specification requirements and test strategy.

3.1 TARGET GROUP

In this section a specific analysis of the chosen target group will be made. To end up with a solution it is necessary to find out more about the target group, in order to make the film interesting to them. For example, what is characteristic for them, and how does one best reach and inform them. The conclusions from this chapter will be used to further research on types of products. Though research has been done concerning statistics of students accepted at Medialogy (their background, high school, sabbatical year, etc.), it was not possible to find any statistics available for use.

3.1.1 CHARACTERISTICS AND INTERESTS OF TARGET GROUP REGARDING MEDIA

Typically high school students at their graduating year are between 17 and 21 years old. In research of characteristics of high school students, it is not always possible to find information about young people at high school. But since they typically all are at this age, theories about young people at this age will be presented even though they are not necessarily at high school.

According to Julie Ekner Koch [21, p. 32-38] a relatively new wave in the Danish culture has brought a lot of new impressions and possible options to young people. They are forced to make choices all the time: clothes, interests, education, their future, etc. It comes to show, because of all the choices, they are lead to a very high level of self-realization. Their chase for challenge and experience is a huge part of the way they define themselves and how they create their own identity. The phenomenon “zapping”, meaning “to channel surf”, but also in other situations, has been widely used among young people, which is also due to all the possible choices. Another relatively new phenomenon, “sampling”, means that people are sampling their own substance of medias or mixing different products of media. Due to the users’ high demand of being in control of the media they use, the Internet and other interactive media are constantly growing in popularity. Young people often tend to use the Internet to find information and entertainment to talk about with their friends. It is important for them to know everything new that is going on, to be able to be in on the discussions with friends, classmates, etc.

For those who produce media, there is a big risk of being deselected, because of all the different possible choices. If the media does not catch the viewer's interest from the first minute, many would zap to the next, to see if there is something more exciting elsewhere. Therefore it is very important to produce something catchy and interesting for it to be seen and remembered.

A way of being in on things amongst young people is YouTube [25]. YouTube is an online network of film sharing and to "Broadcast yourself" as the subtitle of the site states on <http://youtube.com>. It is used broadly by both young and old, both for amusement and advertising [25]. Online film is extremely popular, YouTube has more than 200 million users a month worldwide [25]. Amongst young people it spreads quickly, as they want to see whatever their friends see. Thereby film clips that are popular spread automatically [33 p. 9-12].

Since the film clips on YouTube are so popular amongst the target group, it is an indication that a film could be a good choice of product. The product of this project will not be put on YouTube as part of the testing, because it is difficult to direct it at the target group and test whether they were informed by it. Also the purpose of this project is not to promote Medialogy, but to inform about the education. Instead the test will be made in high school classes (specified in section (3.6 Test strategy)). The film will be presented to them directly, but will still have to catch their attention for them to take in the information and to make them remember.

In the next section there will be an analysis of some previously made film products at Medialogy and an example of state of the art within the boundaries of video visualization. Thereafter there will be a section about how to make a film.

3.2 FILM AS VISUALIZATION

In order to produce a well-structured and informative film within the sub-theme "Visualize the Unknown" one will have to research several subjects regarding the process of shooting a film.

First of all one should look into older projects containing films, in order to see how others have handled similar tasks. This will give an idea of what substances and possibilities one could make use of. Aalborg University has a database containing old projects (located at <http://projekter.aau.dk/projekter/front.do>). This will be the starting point for a research where the purpose will be to examine if, and how, other students have used film as their product, in former projects. The research will also help avoid making mistakes that other groups have made before. Furthermore an example of video visualization from outside the school will be presented. The example of the video visualization will show the difference between regular films and video visualization. It should be noted that the term "video visualization" is used to cover the specific technology used when making a video from raw, scanner data, and the term "film" is meant to cover all instances of movies, short movies, etc.

3.2.1 ANALYSIS OF PREVIOUS PROJECT'S FILM

In 2007 the 1st semester students at the Medialogy study in Copenhagen, were required to write a project about Medialogy. One of these projects led to the creation of a film. There is no title or group name presented in the film, but research shows that it was made by group 121 [20]. The film starts with a view of the earth and then zooms in continuously at Denmark, then Copenhagen and at last ends up in front of Copenhagen Institute of Technology, pointing towards the main entrance. This is where the actual Medialogy tour starts. The entire film has been shot at the campus in Ballerup. The context of the film is a walk through the campus, with the camera recording, starting at the main entrance after which it takes the viewer down the hallway and up to the second floor which houses the main facilities of the Copenhagen Institute of Technology. The camera continues down the corridor opening a door and ends up in room 2.54, which is a classroom often used at 1st semester. In the room a projector is turned on. The camera stops in front of the projector whereupon the Medialogy presentation starts. The presentation itself starts with a screen flickering, and then it goes black. A small animated alien enters a door and looks up - the picture switches to a fighting game for just a few seconds, then switches to an interactive bowling-game which is briefly demonstrated and finally shows the *ConDio*, an interactive sound effect mixer made at Medialogy. All the features in the film are former Medialogy projects. At the end, three words come into view; "innovation", "creativity" and "Medialogy". The length of the film is 1 minute and 54 seconds. After the film itself is over, the viewer is presented to seven clickable boxes. Each box represents a project made earlier at the Medialogy education, and by clicking one of them, a film starts, showing the final product of the respective project.

The following effects are used in the film:

Google Earth Map

Works fine combined with the zoom effect, and represents modern technology at the same time.

Zoom

Catches the viewer and gives an overview of the location.

Fast-Forward Mode

When walking through the University in fast-forward mode the viewer is both presented to the facilities and becomes captivated by the effect of moving fast through the environment.

Slow-Motion Mode

At selected locations on the University a slow-motion effect is added to the film to enhance specific details.

Animation Effects

As the camera is moving down the corridor, tubes of different kind, sprouts from the walls towards the camera. These animations provide an interesting effect and at the same time symbolize one of the competences Medialogy students will obtain.

Sound Effects

Throughout the introduction a heartbeat-sound is present. This adds a dramatic feeling to the film.

Moving Camera

The fact that the camera is moving around on location adds the dynamic necessary to captivate the viewer.

All of the effects mentioned above seem to work out fine for the purpose of captivating the viewer. These effects are to be considered somewhat replicated when producing the film for this project. Critical focus on the other hand should be directed towards content, which seems a bit insufficient and provides neither information nor explanation of the projects shown. The words "innovation, creativity and Medialogy" leaves an impression that the film has a rather narrow focus on Medialogy, giving the impression that it is only about the creative processes. Furthermore the film does not present students, everyday life, social gatherings, discussions or any other information, which could be interesting for a first time viewer, so it could be a good idea to include some of these aspects in the film for this project. These missing parts seem to be common in videos made about Medialogy [20]. To inform an outside party about what the Medialogy education is about, there should be more focus on the process preceding the product, and in what way a project is being carried out. Some interesting aspects of the study could be the problem based learning, challenges of working together as a group, researching and the whole process of coming up with a solution on a real-life problem. These aspects will be further discussed in section (3.4 Medialogy). It could also be informational to show the different projects in relation to a semester theme, to give the viewer a more structural approach to the education and its content.

3.2.2 VIDEO VISUALIZATION

Research shows that there are multiple options when it comes to creating a film. One way of making a film is to create a video visualization. The concept of a video visualization however, has been found to be rather comprehensive. The reason why a video visualization description is included in this chapter, is due to the fact that it covers both the P1 project sub-theme "Visualize the Unknown" as well as the product, a film, chosen for this specific project. Therefore it is considered quite relevant to look into the concept of video visualization, in order to find out what it encompasses. A description of a "state of the art" video visualization will now be presented.

Aaron Koblin [31], Director of Technology during the production of Radiohead's new music video "House of Cards" [30], speaks of the video as a "state of the art" example of a video visualization, due to the technology used in the production. It is basically a music video, without the use of normal motion capturing, as known from regular music videos. The entire music video has been shot with LIDAR (R) scanners, which is a laser-technology that shoots information against objects and then analyzes the data bouncing back at the scanners. In this way it is possible to create accurate representation of people and/or objects through real-time 3D recording, without the use of regular

video cameras. Koblin talks about the idea and technology in the video “The making of House of Cards” [30]. In this case the data in the video works as information combined with the music in order to display various people and locations and simultaneously tell a story.

Video visualization is, when based on raw data, an advanced technology as the example describes. Using that kind of technique in a music video production works out fine, as it manages to visualize feelings through artistic graphics. Visualization types and effects are already presented and discussed in section (2.5 Visualization). This specific project however, is focusing on presenting information rather than any kind of artistic means. Therefore, it has been decided that video visualization is not suitable for this project due to the issue of comprehensive technology, and more importantly due to the necessity of displaying concrete and detailed information to the viewer. Thus the product will end up as a film as a visualization.

3.3 MAKING A FILM

As mentioned in section (3.1.1 Characteristics and Interests of Target Group Regarding Media), the target group is pelted with choices and possibilities all the time, and so there is a big risk of the product not getting the attention of the target group. The obvious way to do this is to produce something catchy and interesting. When making a film this can be achieved in several ways. This section will look at the overall use of principle cinematic and narrative techniques used to build a consistent story structure, and achieve a certain reaction from the viewer.

3.3.1 GENRES

Films are divided into genres, and these are usually categorized according to format (e.g. animation, documentary, or live action), mood (e.g. drama, humor, or action adventure), setting (e.g. prison, western, or war), and theme topic (e.g. crime, art film, or sports) [7;8;9].

This section starts out by looking at relevant categories, starting with the format category, in relation to the film of this project. Animation can quickly be dismissed, since it is too advanced and time consuming. Live action then seems like an obvious choice, and so does, at least elements, from the documentary genre since this project will try to inform about Medialogy. Since it is important to keep the attention and interest of the viewer, and since the viewer will be in the late teens or early twenties, the mood of the film should be humor, action, or a combination of these. This is also doable in the timeframe of this project. Another genre in the mood category is suspense, and elements from this category may be used as well. It does not seem possible to determine a certain setting of the film, but the topic can be described as an informational or introductory film.

3.3.2 NARRATIVE STRUCTURE

Most films are built up around a narrative structure. This structure can be non-linear, meaning the film is not proceeding in a straight line, i.e. starting with the ending, or linear, which is the structure in most films. Through history many writers have analyzed the structure of plays and screenplays, and

one of the most famous analysis was made by Gustav Freytag, a critic from the 19th century. His analysis consists of the following figure, called Freytag's Pyramid [23]:

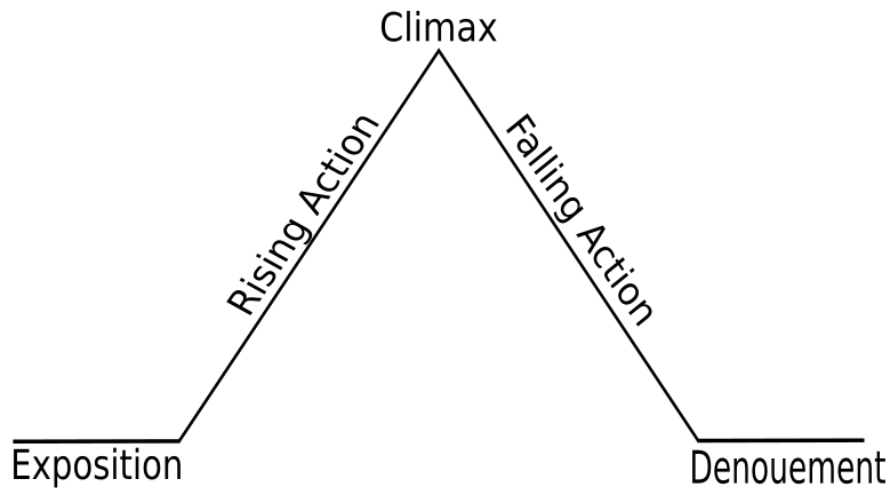


Figure 4: Freytag's Pyramid [26].

1. Expositions and Inciting Moment

This is where the background of the story and the characters are introduced, the exposition ends with the "inciting moment", an incident that sets the story in motion, leading to the next point, the second act:

2. Rising Action

During rising action the basic conflict of the film is further complicated, usually this consists of obstacles to the protagonist. Rising action also occurs before the climax, and so, it is used to build up suspense.

3. Climax (turning point)

The climax, also called the turning point, marks a change in the story, for the protagonist. I.e. in comedies everything has usually been going bad until this point, and then everything becomes good.

4. Falling Action

After the climax the falling action comes into play. This is when the conflict between the protagonist and antagonist comes to an end, either with the protagonist winning or losing.

5. Dénouement, catastrophe or resolution

In comedies the story ends with the protagonist being better off than in the beginning, and in tragedies it ends with the protagonist being worse off than in the beginning.

Freytag's analysis is based on five-act plays, but can be applied to almost all fictional stories, and it is essential to understand, if one wants to make a film with just a basic narrative structure.

3.3.3 LITERARY TECHNIQUES

Literary techniques are rules or conventions used in literature and storytelling. Amongst other they can be used to hook the audience's attention, communicate meaning or produce a particular emotional or psychological response in the viewer. The following will list some common techniques, which may be relevant to this project, and explain what their purpose is.

Foreshadowing [11]

This has a lot to do with the narrative structure, and is used by telling a story the way the audience expects. When done right the viewer should be able to foresee events in the story of the film. One way to use this is to use beliefs and connections, that are common to those of the viewer. Obviously the fact that the audience can foresee events in the film can be both good and bad.

Narrative Hook [12]

A narrative hook is a technique used in the opening of a story, "hooking" the viewer's attention, making them want to keep on watching, to find out what happens. One way to do this could be by starting a film in the middle of the story, to build up the viewer's interest in what happened before, and then flashback to the beginning.

3.3.4 CINEMATIC TECHNIQUES

Cinematic techniques are very effective, and can be used to create a certain emotional or psychological response in the viewer [10]. Compared to the literary techniques most of the cinematic techniques seem easier to use, in this project. The following will list the common techniques that may be relevant to this project, and what their purposes are:

Size of Shot [13]

The size of a shot can change the way the audience interprets the meaning of the scene, and it is one of the most fundamental cinematic techniques. The common sizes are: Extreme close-up (focus on details, e.g. in a face), close-up (e.g. a face, often to used to show tension), medium shot (very subjective, a mix between long shot and close up), full shot (often objects in full view with surroundings, used to establish new scenes).

Camera Angles [14]

Using different angles is another popular cinematic technique, and the common ones consist of: Low-angle shot (often used to make the character seem authoritative or dangerous), straight-angle shot (looking at eye-level of character, makes the audience feel equal to the character), and high-angle shot (often to make the character seem weak or vulnerable).

Lighting [17]

Lighting is also frequently used to produce particular responses in the audience. The common way to achieve this is by changing the intensity and color of the lights used, as well as the amount of lights. This is somewhat more advanced, and rather time consuming to set up.

Editing and Transitions [15]

Using editing and transitional devices is another way to affect the audience. Some common methods are cross-cutting, which can associate characters from two separate lines of action, cutaways, which can create suspense, dissolves, which can be used to link shots, shot reverse shots, usually used in dialogue scenes, and reaction shots. This is only a small list and explaining all of them in detail is not relevant for this project.

Sound [16]

Another popular technique is the use of sound. In films sound is divided into two categories: diegetic sound, and non-diegetic sound. Sound is diegetic if it is a part of the universe in which the characters of the film exist, i.e. music from a radio, a car driving by, or someone talking. A sound is non-diegetic if it is not a part of the universe, i.e. the film score or the voice of a narrator. Music and sound effects is essential for any film, and can for example help set the mood of a scene.

3.3.5 SUMMARY

In this chapter narrative structuring, literary- and cinematic techniques have been covered. There are multiple ways and techniques to consider when it comes to creating a film. The part about narrative structuring deals with basic subjects such as introducing characters, action build-up, turning points and solutions, which are very important when it comes to capturing the audience. The part regarding literary techniques, deals with ways to involve and affect the viewer. The cinematic techniques are more technical tools to control the outcome of the film. Size of shot, camera angles, lighting, editing tools and sound are all subjects that decides the quality of the final product. Because of time and size limitations a lot of techniques have been left out, either because they were irrelevant to the project.

3.4 MEDIALOGY

This section will look into the word, concept and education Medialogy, in order to give a description of it. Research has been done by looking at articles published by Aalborg University and through an interview with Rolf Nordahl, study coordinator for Medialogy at CIT. Transcriptions of the parts of the interview that has been used in this chapter, can be found on [Appendix B]. Afterwards the model of learning at CIT, Problem Based Learning, is looked into. Lastly there will be a semester review and a description of the existing, available material about Medialogy.

3.4.1 MEDIALOGY AS A WORD AND AN EDUCATION

The first thing to note about the word "Medialogy" is that it cannot be found in any dictionaries, and has no official definition. The reason for this is that the study is still young and in development. Furthermore a definition might slow down or stop the developing process, so it becomes difficult to be forefront with what is going on [Appendix B, 1.2.4]. This also means that a description must be based on research into the word itself, its meanings as well as aspects of the education. One interpretation of the word Medialogy is that it consists of the word "media" and the suffix "-logy".

"Media" is plural form of the word medium, which means: "The main means of mass communication, esp. newspapers, radio, and television, regarded collectively; the reporters, journalists, etc., working for organizations engaged in such communication." [27] The suffix "-logy" is described as: "doctrine : theory : science" [28] Hence one interpretation of "Medialogy" is "science or discipline of media", i.e. "study of media".

Another interpretation of "Medialogy" is that it is a compound of the words "media" and "technology". Both interpretations are substantiated by Rolf Nordahl, study coordinator for Medialogy at CIT [Appendix B, 1.1.0], but he clarifies that Medialogy as an education is not only about studying how people use media, but also how medialogists would like them to use media [Appendix B, 3.4.1]. There have been attempts of giving a possible definition of Medialogy, e.g. by Rolf Nordahl, who has created a poster containing:

"Medialogy (noun): university education. Possible definition: To develop problem solvers in a digital media age independent of tasks" [Appendix E]

So, this is one possible definition of the education Medialogy.

The following will look into the education of Medialogy. One approach to explain the study is by looking at the development in the use of media in form of technical devices, such as televisions, mp3-players, computers and so on. Medialogy partially with analyzing how people use technology, and how developers want them to use it. [Rolf-interview, 3.4.1.] One great example is the iPod; with its distinctive design, intuitive usability and the fact that it is a technical device, study coordinator Rolf Nordahl states:

"So there you have a lot of different things in play. From the most technical things to the more conceptual things. And it have to be a creative process all of it, to create such an end result of a problem that you have." [Appendix B, 3.4.1]

One can say that a medialogist can work as a bridge between the technical, the creative and the human psychological aspect. He or she is able to design and create something, taking into consideration both how it should work in relation to individual consumers, and how the target group will best perceive and comprehend the product. But also how it can function best, from a technical point of view. The education is interdisciplinary and covers aspects of science, technology, design and creativity as well as humanistic disciplines. These are combined to provide a strong base of knowledge, and make the medialogist able to cope with problems and maneuver within all fields. One example of this is that a medialogist obtains the ability to speak the language of companies, which differs from company to company, and to understand the terminology used. [Appendix B, 1.1.8]

3.4.2 PROBLEM BASED LEARNING

The study form used at Medialogy is the so called Aalborg model, which is problem orientated and project based. It is called Problem Based Learning (PBL), and it means that instead of focusing on a solution, students find a problem and then analyze various aspects of it. In this way they will look into many possible solutions, before finding the one best suited for the problem [29].

Medialogy is a combination of creativity, technology and humanism. The unity of these was the purpose of the education from the beginning, as it was thought that medialogists should be able to solve problems within a variety of areas. When Medialogy started, PBL was not practiced but after a while it turned out that this method was most fitting for Medialogy, because of the interdisciplinary nature of the study [Appendix B, 2.2.0]. Also this way of working, on the school, resembles the way one would work for a company, after finishing the study.

3.4.3 SEMESTER EXPOSITION

One way of describing Medialogy is by describing the semesters, in detail. This is what will be done in the following section. However, only the bachelor semesters will be described here, not the master degree. This has been chosen because in the master one can become specialized in one of the subjects described in the bachelor. Therefore it is not necessary to describe the master degree to show what Medialogy is about. The content in this chapter was found in the Medialogy brochure, which is on the enclosed DVD.

1st Semester

The theme of the 1st semester is “Visual Means”.

On the 1st semester the students primarily learn to work with Problem Based Learning. The 1st semester is split between two projects, called P0 and P1 that basically just mean project zero and project one. P0 is the initiating project, its purpose is to introduce the students to Problem Based Learning and to make them comfortable with working in a group. P1 is mostly the same as P0 but in a larger scale and the students are more freely allowed to choose the approach, as long as it is within the semester theme. In the projects students work in groups of approximately seven members. It is within the groups that they find the ideas for the projects.

At the 1st semester students learn about the history of media and influences in society. There are also technical courses like Program Design and Math.

2nd Semester

The semester theme of the 2nd semester is Interaction & User Interfaces.

In this semester the groups will define their own project, which runs over the whole semester. This gives the students possibilities to solve a larger problem than in the 1st semester.

Beside the project the students have courses in Human-Machine Interaction, Media Sociology, Multimedia Programming and Experience Economy. The students will learn about cooperation and

project management and will at the end have better skills in project presentation and project cooperation with other students.

3rd Semester

The semester theme of the 3rd semester is Human Senses & Digital Perception.

On the 3rd semester students learn about human senses and how digital filters imitate human processes and how they work. They get knowledge about how data can be processed and how computers can interact with what they see and hear. In the 3rd semester students have courses like Human Perception and Computer Perception. They also have courses in Program Design, Multimedia Design and Mathematical solutions, for the problems they will run into with the project.

4th Semester

The semester theme of the 4th semester is Interface Design & Sound Effects.

In the 4th semester students learn about sensor technology and design devices made from embedded sensors and electronic micro-controllers, which can sense and present information. In the end students will even be able to make these interact with sound, and interactive sound models that they create themselves.

Students have courses in Sensor Technology, Programming and they learn more about Computer Perception with emphasis on audio design.

5th Semester

The semester theme of the 5th semester is Animated Environments and Visual Effects.

At the 5th semester students learn about the technologies that support the manufacturing of computer generated images and how they can support and develop different kinds of screen based media types with these. They also learn about different techniques used to present visual and auditory art forms.

At the 5th semester there are courses like Virtual Photography and Computer Graphics. To inspire the students they also learn about techniques and aesthetics in connection to animation and film.

6th Semester

The semester theme of the 6th semester is Computer Games and Immersive Technologies.

This is the last semester in the bachelor part of Medialogy and the project on this semester focuses on computer games and how to develop new concepts, technologies and ideas for interaction with games. The bachelor project focuses on designing future communication systems and developing advanced computer games and interactive systems that reach further than what one would normally find on the market.

The project is supported with courses about 2D and 3D Computer Games and Interactive Embedded Systems.

3.4.4 MATERIAL AVAILABLE ABOUT MEDIALOGY

As mentioned in section (1.1 Motivation) the material available about Medialogy is rather insufficient. In this section there will be a summary of what material is to be found and why it is insufficient.

UddannelsesGuiden.dk (the educational guide, located on <http://tinyurl.com/6cdlsv>)

UG.dk is a Danish website, where one can search for studies and read about most of the Danish educations. On the search for Medialogy, there is an entry about the education. There is a lot of information about how technology, creativity and design are the main parts of the education and what areas the education centers around.

However, the entry did not say much about the way of studying and working in groups at Medialogy. And in the entry it is stated that from the 3rd semester, if necessary, the lectures might be in English, but already at 1st semester math is in English. This is misleading since there is an extensive use of English from the 1st semester and because Problem Based Learning (described in section 3.4.2 Problem Based Learning) is an important learning method at the education.

The Website of Medialogy (located on <http://media.aau.dk>)

This is the official website of the Medialogy education, therefore there is a lot of information about the education, themes of the semesters, projects, how to apply, etc.

The main focus is on the products made at Medialogy during the semesters. Problem Based Learning is explained, but it still does not give an impression of the amount of work behind every product.

Medialogy Brochure (can be found on DVD)

This is a brochure given to students at high schools. It has a lot of the same information as the Medialogy website, but it also has some comments from students at different semesters, which makes it more personal. The impression, though, is the same as on the website; it sounds very good and interesting, but focuses a lot on the products. The comments from students are mostly focused on why they chose the study more than the substance of it.

Uddannelseskaravanen (the education caravan)

Uddannelseskaravanen is made up of students from different educations, who go out to high schools to tell those interested about their education. They make a stand and then talk to those who come by. The only written material they have is the brochure mentioned above.

In general it is possible to find information about Medialogy, but the impression is that it is insufficient, since it does not give a realistic impression of all the work that lies behind every product. This is important to show, when informing potential students about Medialogy.

3.4.5 SUMMARY

For a final description of the Medialogy education the main point must be media. The Medialogy education studies and analyses media and the use of media. It also solves problems using media, and creates new ways of using existing media.

Media is a main part of all semester themes; 1st semester is about Visual Means, the 2nd semester is about Interaction & User Interfaces, the 3rd semester is about Human Senses & Digital Perception, the 4th semester is about Interface Design & Sound effects, the 5th semester is about Animated Environments and Visual Effects, and the 6th semester is about Computer Games and Immersive Technologies.

The semester themes clearly show what the education is about, since they describe what is worked with on each semester. So to present these in the product of this project would be an effective way to describe the education, especially if it is accompanied by products created on the respective semesters. Furthermore the study form of Medialogy is very significant for the study, and the Problem Based Learning should also be incorporated in the product, to show that there is a lot of work done behind the products, and that there is a purpose of developing them, since they are solving a problem.

3.5 SPECIFICATIONS (SOLUTION REQUIREMENTS)

The following solution requirements are based on the research done throughout the pre-analysis and Analysis chapter. This section will look into specific requirements, which must be fulfilled in order to succeed with the project.

The Film

- The intention of the film is to inform potential students about the Medialogy study.
- The film should be able to inform potential students about the substance of Medialogy through the viewer's visual and auditory senses.
- The film itself must be captivating in order to catch the viewer's attention.

Time and Place

- The duration of the film will be approximately 5 minutes.
- The film is presented in classes at high schools and requires the selected target group to view the whole film, in order to perform the tests properly and receive qualified data.
- The film should not require prior knowledge nor experience, about Medialogy, from the viewer.

3.6 TEST STRATEGY

To test whether or not the product succeeds, a test strategy will be used [19]. This section will look at this strategy.

The perception and understanding of a film is very subjective and a quantitative method is therefore used to get a wide picture of the test. This method will be combined with a qualitative method to elaborate on the answers. In this case the target group will be divided into two new groups, one which will not watch the film, called Control Group, and one which will watch the film, called Film Group. The reason for not having one group, which will get a questionnaire before and after watching

the film, is that the questions in the 1st questionnaire might make it obvious what the test persons need to pay attention in the film, and so, might make them able to answer the final questionnaire better.

Control Group

In order to test whether the target group gains information about Medialogy, from watching the film, it is important to know how much information the target group had before watching the film. To find out, questionnaires regarding Medialogy will be handed out to approximately half of the test persons, without having them watch the film.

Film Group

This part of the test is the same as the Control Group test, but in this test the target group will watch the film before answering the questionnaires. It is extremely important that the Control Group test and the Film Group test are as similar as possible. If they are not, they cannot be compared. To achieve this the questionnaires will be identical, for both groups.

When both parts of the test is done, the results will be listed in chapter (6 Test and Results) and discussed in chapter (7 Discussion) to see whether the Film Group has gained information about Medialogy, by watching the film.

To make the two parts of the test as similar as possible a presentation manuscript is written. This will be read out loud to the target group immediately before starting the test. The script contains a brief introduction and states that questions can be asked after the test. The script will not mention anything about Medialogy because it could interfere with the answers. This script can be found in [Appendix C].

3.7 SUCCESS CRITERIA

When a product test is conducted, there are several things that need to be in a certain order for the product to be a success. The hypothesis that Medialogy can serve as an unknown aspect needs to be substantiated, i.e. if most of the test persons already know a lot about Medialogy, the motivational hypothesis would have been incorrect.

It is also very important that the product provides the viewer with the information needed about Medialogy in the most truthful way. It is important that the majority of the test persons notice the following elements:

- At Medialogy there is a lot of work in groups and doing projects together.
- The project focuses very much on solving a problem.
- Medialogy is both a creative and technical education.
- There are several different media themes, being worked with at Medialogy.

It is important, that the test persons feel better informed about Medialogy after watching the film, than they were before. One of the most important success criteria is whether or not the test persons feel they have gained sufficient information to know if the study is of any interest to them.

3.8 SUMMARY

In the Analysis chapter several subjects have been researched in order to execute the creative process and fulfill the problem statement in an effective way. The first part of this chapter deals with finding the most appropriate target group in order to test the product. The results of this analysis have turned out to high school students, in their graduating year. Since the purpose of this project is to make a film visualization, a former project film, and the concept “video visualization”, as an example of state-of-art, is looked into. Next, one would have to look into the best way of addressing this group. Since the choice of media, in this case a film, must be able to capture the attention of young viewers, research has been done to clarify what appeals to this target group. This is one of the primary concerns, as the film shall both inform and attract the viewer, and so different film genres, narrative structure, literary and cinematic techniques have been looked at. The analysis concludes that there are several possibilities when it comes to captivating the viewer.

Next a research has been carried out to survey the actual content of the Medialogy study. This is necessary to point out what specific information is to be included in the film. The word “Medialogy” has been explained through the inspection of former reports on the subject, as well as research on the Internet. Lastly an interview with Rolf Nordahl [Appendix B] has been carried out to clarify the concept of Medialogy. Next solution requirements are found, and a test strategy is formed, determining how to carry out the test. Lastly success criteria are set. The Analysis chapter will be the platform when starting the actual process of creating a film. The different findings in the Analysis chapter will be implemented in this process.

4. DESIGN

Before the film production could commence it was necessary to look into some basic, practical ways of how people work when they make a film. First up the workflow of a film production will be examined and discussed, to make the planning of the film easier. Then the design of the entire film will be created, including a description of the manuscript, and lastly production requirements will be listed.

4.1 SCRIPTING

4.1.1 PHASE 1 – IDEA

As mentioned above first step in the workflow of a film production is the scripting stage. To manage this phase the free script-writing software Celtx is used. Celtx can be easily formatted with headlines, page numbers, etc. giving a better overview of the sections of the film, length of the film, and so on.

The main objective of the film can be derived from the final problem statement: *"To what extend can Medialogy be described, and visualized through a film, in order to inform potential students, at graduating years in Danish high schools, about Medialogy?"* So, the film must inform about Medialogy by describing and visualizing it. The film will be in Danish, since the target group consists of Danish students. Some words and expressions will be in English, to show that the language is commonly used at the education. Furthermore the film will be in color, to represent the former projects' products as truthful as possible. I.e. if the former project films were in black & white, one would not be able to distinguish between important details in the films.

When looking at similar videos, in section (3.2.1 Analysis of Previous Project's Film), made to spread information about Medialogy, it was noticeable that all of them focus on the products made at Medialogy, and not on the way of working and research processes that go before. This quickly became one of the main focuses of the scripting phase, because the large theoretical processes of the semester projects were something that the members of this group did not know anything about before starting at the education (as described in (1.1 Motivation)). And so, it was decided that the film should give an overview of the entire work process, of the semesters, not only the end product, since this is misleading to new students.

Specific details such as location, length and requirements for the study are not the main focus of the film. Details and data like that can easily be found on many web pages, if the viewer wants more information. However, describing how a semester works is not quite enough to fulfill the problem statement, it is also necessary to explain what the Medialogy education is about, and so this became the next point of focus. Presentations of products made, in the form of existing project presentation videos, seemed like a good way to quickly give an idea of what Medialogy is about, in an interesting way. And thus, since it had already been decided to show the frameworks of a semester, it seemed

obvious to also show the semester themes, and to show examples of products made on each semester, to give an idea what Medialogy is about. A hypothesis was also put up, thinking that, for potential students, seeing the products made at the education would be entertaining, and that is another reason for choosing to show products in the film.

Since Problem Based Learning is a big part of Medialogy, this was also a big focus point of the scripting phase (as described in (3.4.2 Problem Based Learning)). The target group of the project is familiar with problem statements in general, and because of this an idea arose to show the problem statements of each of the products that will be shown in the film. This will also link the products to the rest of the film, i.e. the frameworks of a semester and the problem based learning.

The last focus point of the initial scripting phase was a way to actually show something that will be learned at the education, in the film. From the beginning it was considered using some sort of narrator in the film, to keep everything structured, and to make all parts of the film seem like one whole. At the same time it is important that the film is funny and interesting, and an animation seems like a good way to achieve this. The final choice was an animated stick figure, which would introduce and end the film, and also appear in several other places.

4.1.2 EFFECTS

These are the general effects, which will be used to guide the viewer through the film.

Hand Writing

To introduce the different sections of the film, scenes will be showing a hand writing a word on a blackboard. The word being the next section that will be shown in the film. The camera will then zoom out to give the viewer time to read the word/sentence. The shot will be in fast forward to maintain the pace of the film. The blackboard also reminds the viewer of a school or study and this way the film tells that the film is set in a learning environment.

The Animated Figure

One thing binding the content of the film together will be an animated figure: a yellow stick man. He is used as a narrative hook (3.3.3 Literary Techniques) to captivate the viewer from the beginning of the film, and continue as a sort of narrator throughout the film. He will be made similar to a classic stick figure to make it funny and recognizable. A lot of colors were considered for the stick figure, and the color yellow was chosen, because it is a light color that stands out on the dark green blackboard. He will appear both in the intro and the ending, as well as in several scenes throughout the film. The intro will show the animated guy walking into the screen, under the word “Medialogi” and he will figure through the whole film and symbolize a student at CIT.

The idea of using this animated figure first came when the semesters were to be presented. They will be visualized by the help of a drawing of a stairs, on the blackboard, with six steps, each one symbolizing one semester, starting with the first semester in the bottom of the stairs. The animated figure will walk up the stairs meaning that he is gaining new knowledge each semester. Each time he

gets to a new step, the semester theme of the corresponding semester will appear on blackboard underneath the stairs, and an introduction to the semester will follow.

4.1.3 PHASE 2 – SCRIPT

This section will go through the scenes in the film chronologically and sum up the thoughts and choices of each part of the film. The whole script can be found on the DVD.

Foreshadowing (3.3.3 Literary Techniques) was taken into consideration when writing the script, because the viewer expects the film to be structured chronologically, starting with an introduction, ending with an outro, having the semester themes in the right order, etc.

Introduction

To introduce the viewer to the university a bus is chosen to show where the university is located. Although it is not the main purpose to inform about the geographical location of the university, it will be included to give the viewer the information, by showing a sign on the bus saying “Ballerup st.”

The fact that the film will not start with an introductory text creates curiosity. To catch even more attention from the viewer the yellow man will jump out of the bus and head towards CIT next to a student. They enter the building together and this is to show that the yellow man symbolizes a student, this should also become more apparent when the viewer sees the figure on the blackboard, later.

After this, a black screen will appear with the word “Medialogy”. To show that the film is about finding out what Medialogy is, the yellow man walks into the screen, and a question mark appears above his head. He will then search for a red thread, find it, and pull it, so a new word tilts into the screen: *Semestergennemgang* (A walk through the semester). The viewer can identify him/herself with the yellow man, not knowing what Medialogy is, and the viewer is now introduced to the rest of the film. In Danish “a red thread” is used as an expression to describe a coherent, narrative structure in for example a film. Therefore it is here used to symbolize that now the explanation and understanding of Medialogy will follow.

Forming groups

To show the process of the group making it would make good sense to show photos from this year's (2008) group making. It is chosen mainly to use photos with more than one person in it, to show that this phase, like the rest of the process, is done in groups together with others from the study.

Choosing a problem

In this phase video and photos from the study are combined to make the film interesting and entertaining to watch. Showing pictures and videos of brainstorming, mind maps and discussions is chosen because the target group can relate to this way of working and to underline that the phase concerning the choice of problem is important and not coincidental. Again mainly pictures with more than two persons will be used to show that the students are working in groups.

Research

The research part is also an important part of the film. It is chosen to use film from lectures, from students using the web and from students using a library to find books. This way it is shown that research is a big and important part, which is done in many different ways.

Product Development

In this part it is chosen to use footage showing groups from different semesters designing and implementing their products. Also work sketches and different programs are included, to show that there is many ways of developing products.

Semester Themes and Products

After showing the product development phase, it would be obvious to have a look at the products previously made on Medialogy. Therefore this part in the film will show clips from products made earlier and in this way introduce the first six semesters.

Each semester will be presented by showing the semester theme, the stairs on the blackboard and the yellow man. This is followed by a suitable clip showing previously made projects at the Medialogy education. To make the clip more understandable for the viewer, a possible problem statement of the given project will be made. This is also done to substantiate the fact that the products made during the education are made to solve a problem.

1st Semester: Visual Means

The clip representing the first semester will be from the project, *The Humour Map*. This is chosen because it shows a creative visualization of Danish humor, which is a subject the target group, can relate to. It also does it in a way that the target group can relate to: by using the design of a train map.

2nd Semester: Interaction & User Interfaces

The 2nd semester clip is from the project *Nozart*. This clip shows how interactivity can be useful in learning about music, has a lot of recognizable elements e.g. a piano. Even though the video does not completely illustrate the semester theme it was the only proper, useable video from this semester that could be found. *Nozart* is made by Group 2 on the 2nd semester of 2007.

3rd Semester: Human Senses & Digital Perception

The clip used to show 3rd semester is from the project *Human Tetris*. It shows that the test person's actions are linked with the game because the game forces the player to stand, sit or lie in various, crazy positions. It is therefore funny and entertaining to watch, as well. *Human Tetris* is made by Group 384 from the 3rd semester of 2007.

It was discussed whether or not to include clips from another 3rd semester project called *Bombberman Evolved*, but it will not be included, since it is hard to tell what is going on in the video, it is not necessary to show more than one product, since Human Tetris illustrates the semester theme just fine.

4th Semester: Interface Design & Sound Effects

For this semester a clip from the project *Soundgrabber* will be used. The clip shows very clearly how audio can be made tangible, by using a glove with sensors and a speaker. One can then grab audio in his/her hand and adjust the volume by raising or lowering the hand. It is a very visual and comprehensible demonstration of the product. *Soundgrabber* is made by Group 482 from the 4th semester of 2007.

5th Semester: Animated Environments & Visual Effects

To show animation environments and visual effects a clip from the animation *Floater*, is used. It is made at Medialogy in Esbjerg, but is chosen because it is a good example of smooth animation and funny, cartoon-like storytelling. Another video could have been used, called *A Dinner Table Conundrum*, but this animation was rather dark and had less action. *Floater* is made in 2004, by Karoline Ørsted, Janus H. Clemmensen, Torbjørn Vinter, Martin Jensen, Thomas Holst, Joseph Philip, from Medialogy in Esbjerg.

6th Semester: Computer Games & Immersive Technologies

The last of the 6 semesters is presented with clips from the product *DigiBoard* which is an interactive touch screen game. The game is comprehensible and the target group can relate to both touch screens and board games. *DigiBoard* is made by Group 603 from the 6th semester of 2008.

Testing

To show the testing phase of a semester, both photos and footage will be used. It is important to show that one will have to follow up on produced products and that the way of learning is PBL. Therefore pictures and footage of test persons testing products and answering questionnaires will be included in this part.

Outro

At the end of the film a group will discuss whether or not their problem is solved. This is to show the conclusion and final stage in their work and again underline that PBL is the way of learning at the study.

Lastly a black screen will appear with the text: *Medialogi - Aalborg Universitet København - www.media.aau.dk*. The text appears to show where to get more information about Medialogy if needed and to end the whole film like it started, now just with more details; more information. The yellow man will then walk across the screen waving his hands, indicating the end of the film.

Sound

The film score should suit the pace of the film, without stealing focus. The song *Ghost Writer* by RJD2 from the album *Dead Ringer*, was chosen because it has almost no lyrics, and has a consistent pace, therefore fitting with the mentioned requirements. All other sound has been removed from the clips, with some exceptions. Sound in the 4th semester project, *Soundgrabber*, is necessary to make the product understandable for the viewer, e.g. to show that one can change the volume by raising or

lowering the glove. This will be achieved by adding the sound from the flash game *Winter Bells* [32], and replacing the original score when this product is presented. The volume of this music will then be raised or lowered consistently with the movements in the video, to show the viewer what can be achieved with *Soundgrabber*. The reason for choosing this *Winter Bells* theme is that it should be noticeably different from the main score. The original sound of the 5th semester project, *Floater*, is kept intact, since it adds to the quality of the animation.

4.2 PRODUCTION REQUIREMENTS

First of all a camera is needed in order to start the production. The requirements of the camera are as follows:

- It must be able to record in color.
- It will have to record in the 4:3 format, or a format similar to this, since the old project videos used is in this format, and so the look of the film will be consistent.
- A tripod is required for shooting steady scenes.
- A videotape or other media storage is necessary, depending on the camera.

When it comes to post-production the following is needed:

- An editing software that is able to capture footage from the camera, import a variety of video codecs, since a lot of external clips will be used. It should also be able to output the film in a standard format, such as QuickTime.
- Software that is able to create the animation is also necessary. This might be possible to do in the editing program, if not, another kind of software must be found.

4.3 SUMMARY

In this chapter considerations for the design of the film have been explained. All aspects of the film have been justified in regards to the Analysis chapter. A complete shooting script has been created, and can be found on the DVD.

5. IMPLEMENTATION

In this section it will be described how the film was created from the script and design part. The implementation of the planned pre-production, production and post-production is explained in details.

5.1 PRE-PRODUCTION

The first thing was to acquire a video camera for the production. A Panasonic AG DVX100A was used as it met the requirements mentioned in (4.2 Production Requirements). The camera records on miniDV tapes, and the DV-tape used was a TDK miniDV 60. To accompany the camera a Libec TH950 tripod was obtained for steady shots. All equipment was borrowed at the IT Library, at the CIT campus.

5.2 PRODUCTION

For the *Introduction* part, described in section (4.1.3 Phase 2 – Script – Introduction) the clips were shot outside of CIT. The arriving bus was filmed from different angles. First a pan of the bus turning and pulling in by the bus stop, with a slight tilt in the end, to focus on the bus' sign: "Ballerup st." This was shot using the tripod. Secondly two handheld shots of the next bus arriving were taken from ground perspective to fit with the stick figure. The first was where the bus was pulling in and the second was a zoom in on the bus opening its middle doors.

Then a steady extreme long shot clip of the pillars and a group member walking by was shot using tripod. The tripod was also used for the final introduction shot that was recorded starting with a close-up at the sign outside CIT's entrance and zooming out to a long shot of the doors and a group member opening and walking through them, leaving time for the intended stick figure to follow.

Each part of the video is introduced with a close-up following a hand writing the title of the next part of the film, on the blackboard. After the text is written the camera is pulled back so the entire text is visible at the same time.

For the *Forming Groups* part pictures were taken at the event using the 2 mega pixel built-in camera in an iPhone 3G. There was no video footage from this event, since it took place some weeks before the shooting started.

The part *Choosing a Problem* was shot with long shots of first semester students working in their group rooms, using both tripod and handheld camera. Also photos were taken of brainstorming on the blackboard.

For the *Research* part more steady shots of students were recorded. From a first semester math lecture panning full shots of the auditorium were shot. Handheld camera was used for the clips along the rows of students. The lecturer writing on the blackboard was shot in long shot, as well as pans

along the blackboard. Close-ups tracking the mouse on a computer screen and over-shoulders of researching on the Internet were shot handheld. In the library at the Copenhagen University College of Engineering extreme long shot pans were shot handheld. After this a group member typing on a PC in the library was shot in a long shot. Then handheld close-ups of a finger running along a row of books on a shelf were shot, and finally the camera was placed behind the books facing out, so it was looking into the side of some books, which were then taken from the shelf, to get a medium shot of a group member with the books.

Next are the clips for the *Product Development* part. Here some clips of students developing their products are used. However, mostly clips from films of products made by students on other semesters were used; gathered by contacting students on higher semesters. The films were already in digital form, and therefore ready for editing in the post-production phase.

For the walkthrough of semester themes, all clips are from films of products. Only exception is the first semester product "The Humour Map" where photos were taken instead. For the presentation of each semester theme, the camera was placed on a tripod and the blackboard was filmed from the exact same location. First a medium shot of a person in the far left side of the screen was recorded and then a shot with no persons, but with the semester theme written on the blackboard (the final result and explanation of how this is done can be seen in section (5.3.3 Editing & Adding Effects)).

For the *Testing* part clips from the product videos used in *Product Development* were used.

For the final clip a close-up of a hand writing "Problem solved?" was shot handheld, like the introduction for the other parts, but after the text was written the shot zooms out, while panning, to a total of the groups discussing.

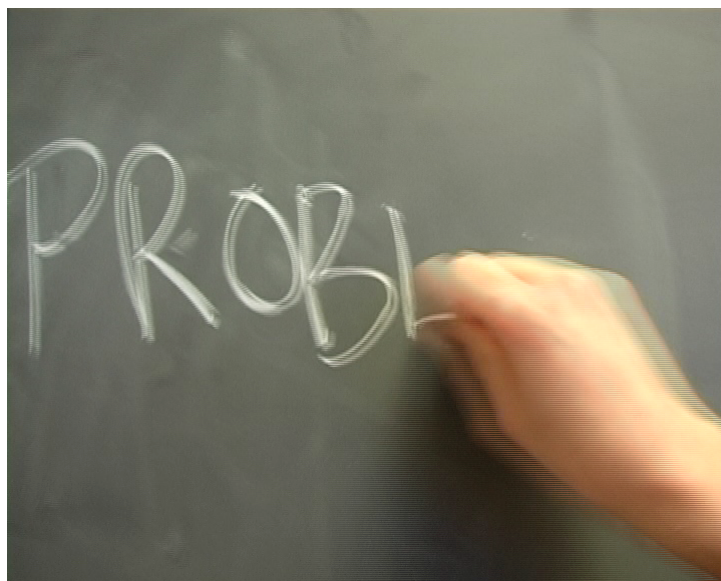


Figure 5: Still image from the end of the film.

5.3 POST-PRODUCTION

One of the final stages of a film production is the editing stage, also called Post-Production. The development of home computers has broadened the possibilities of aspiring filmmakers, because it has become possible to edit videos on personal computers. This was also an obvious choice for this project, and so, the popular editing software *Final Cut Pro 5.1.4* was chosen, since this meets the specified requirements in section (4.2 Production Requirements). Other editing programs could also have been used, such as *Windows Movie Maker*, *Apple iMovie* or *Adobe Premiere*, but since *Final Cut Pro* is one of the most popular editing programs in the world, it was certain that it had all necessary features [24]. The film will be edited on a *MacBook* laptop.

5.3.1 PLANNING & SETTING UP

This is where the basic workflow of the project is chosen, i.e. choosing input and output formats, choosing a logging and capture method (for the tapes), and an editing strategy.

All the footage captured by the Panasonic AG DVX100A camera is logged and captured into Final Cut Pro. Therefore the project in Final Cut Pro is also set up after the DV PAL preferences (DV being type of tape, PAL being the system used in all European countries). The standard aspect ratio for this DV template is 5:4, but will be outputted as 4:3 since this fits on all screens. The project is outputted as a QuickTime file and DVD ready files. Instead of the QuickTime video other video codecs such as DivX could also have been used, but since Final Cut Pro (and Mac computers) work very well with QuickTime files, that was chosen. The quality settings for the file will be set to "Intranet", giving it the highest possible quality for this video codec, and the resolution of the project then becomes 640 x 480 pixels, which is more than enough for showing the film on projectors. The DVD ready files are a so-called "m2v" file, holding the video and with a resolution of 720 x 576 pixels (DVD PAL standard), and an "aiff" file, holding the audio. When burned onto a DVD, these files can be played on almost all DVD players. The reason for outputting to a QuickTime file, and DVD ready files, is that it is unknown whether or not a DVD player will be present at the testing, and so it may be necessary to connect a laptop, and play the QuickTime file from that. There is another point worth mentioning about the resolutions: This project has a lot of videos downloaded from YouTube, and videos on YouTube have a maximum resolution of 480 x 360 pixels for high quality videos [25]. To fill the screen these videos need to be stretched, and this makes the quality of the videos worse, but, after testing this, it has been concluded that the quality of the final, outputted film will still be acceptable.

5.3.2 LOGGING & CAPTURING

Logging means identifying the shots on tape that needs to be captured. This is obviously only necessary for the tapes, putting existing videos into the program is done with quick drag-and-drop gestures, and so, the import needs no other previous planning.

Final Cut Pro has a built-in log and capture window, the program automatically detects cameras connected via FireWire ports³, and the camera can then be remotely controlled from the program. The tape is played, and in and out points for each clip are logged. Usually a person on set would note all scenes and their time code points, during shoots, but this seemed like an unnecessary amount of work, since the amount of clips is rather small compared to a feature-length movie, for example. When it came to logging and capturing, this did not present any problem either, and all the clips were logged and captured successfully with *Final Cut Pro*. As mentioned, all existing videos were quickly imported by dragging them into the software.

5.3.3 EDITING & ADDING EFFECTS

This is the main phase of the Post-Production. Here the editing strategy is carried out, putting everything together to make up the final product. Effects are usually added in the end of the post-production, but since the effects of this project is very simple, they will be added simultaneously with the editing.

Final Cut Pro

Setting up a project in *Final Cut Pro* is quite simple. The workspace is divided into the following windows:

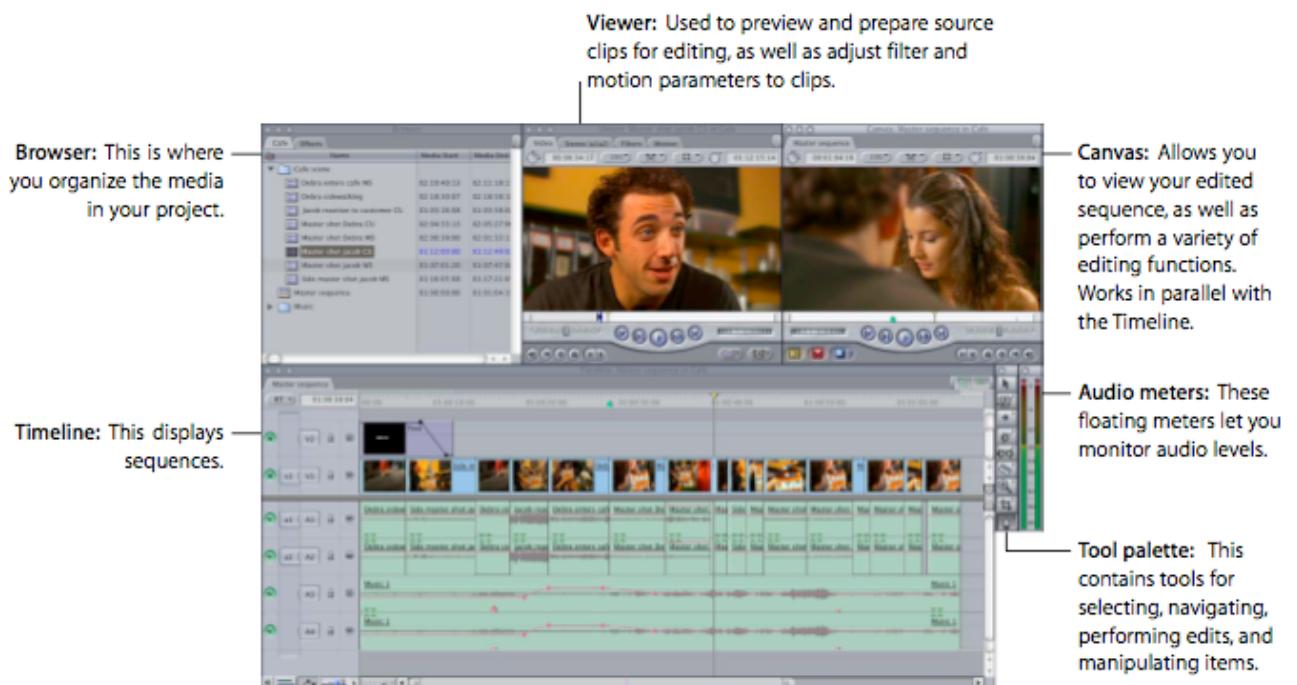


Figure 6: Overview of the interface of *Final Cut* [18, p. 44].

Sequences are video, audio, effects, etc. all put together; it is simply the entire film. The Browser holds these sequences, as well as all media clips, and bins, which are just folders used to organize the

³ Standard for high-speed connections.

files. The general workflow is similar to most editing programs; a clip is opened, in and out points are chosen, and this part of the clip is then added to the timeline.

And so, with all clips captured and imported in Final Cut Pro, the editing can begin. Looking at the shooting script made in the Design chapter, all the clips are put together in the right order, creating a rough cut, without smooth transitions, sound fixes, etc.

The following are a list of the common tools in Final Cut Pro, and some special features that is used to achieve the effects described in the shooting script, i.e. the animation and the black board introductions.

Selection Tool

The basic tool of the program, it looks like a regular cursor and is mostly used to select and move sequences, clips, effects, etc.

Select Track Forward Tool

This tool simply selects all clips ahead of the current place in the timeline, in the selected track. This is very useful for closing gaps in the timeline, without moving clips out of sync. Variations of this tool are, amongst others, the "Select All Tracks Forward Tool", which selects all tracks ahead of the clicked clip.

Razor Blade Tool

This tool is simply used to cut clips in two, for example used if one has a large part of a clip that needs to be deleted.

Crop Tool

This tool is used for masking things, in some of the clips. This is done by making a slug, a completely black clip that fills the entire screen, on top of another clip, and then shaping the slug into a smaller shape, to cover something in the underlying clip. In Figure 7, 8 and 9 on page 47; an example of the Crop Tool can be seen. In the beginning of the video an animation of the stick figure drags a wall down to cover the text "Medialogy". Because the text is added separately from the animation images, it also had to be covered manually. In Figure 8 and 9, a slug has been created, and, with the Crop Tool, shaped to cover the part of the text that is supposed to be behind the wall.

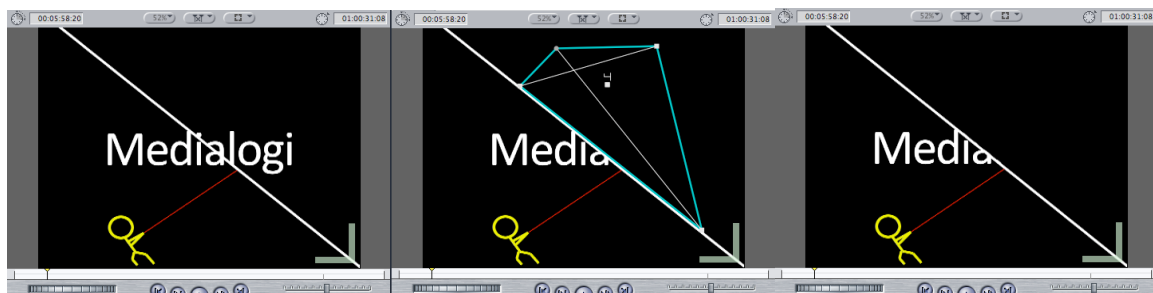


Figure 7, 8, 9: Using the Crop Tool.

Some basic and advanced functions have also been used to achieve certain effects in the film, these are:

Four-Point Garbage Matte

This matte is used for the blackboard-shots, where text, written with chalk on the board, seamlessly fades onto another video shot, with the blackboard. As seen in Figure 10 to 13 on page 49, this is achieved by filming the blackboard twice, from the same position. One shot is without the text, and with a person to make it obvious that it is live video, and the second shot is with the text. In Final Cut Pro the text from the shot is then isolated with the Four-Point Garbage Matte effect, and faded into the shot.

Figure 10 shows the first recording of the black board, which is used in the film. Here, no text is present. The next Figure, 11, shows the recording with the text. In the third figure, 12, the text has been isolated with the *Four-Point Garbage Matte*. *Feather* has been applied to the edges, making the transition between the two shots less jagged. The fourth Figure, 13, shows the final shot, as it appears in the film, with the text fading onto the blackboard, and also with the stick figure animation.

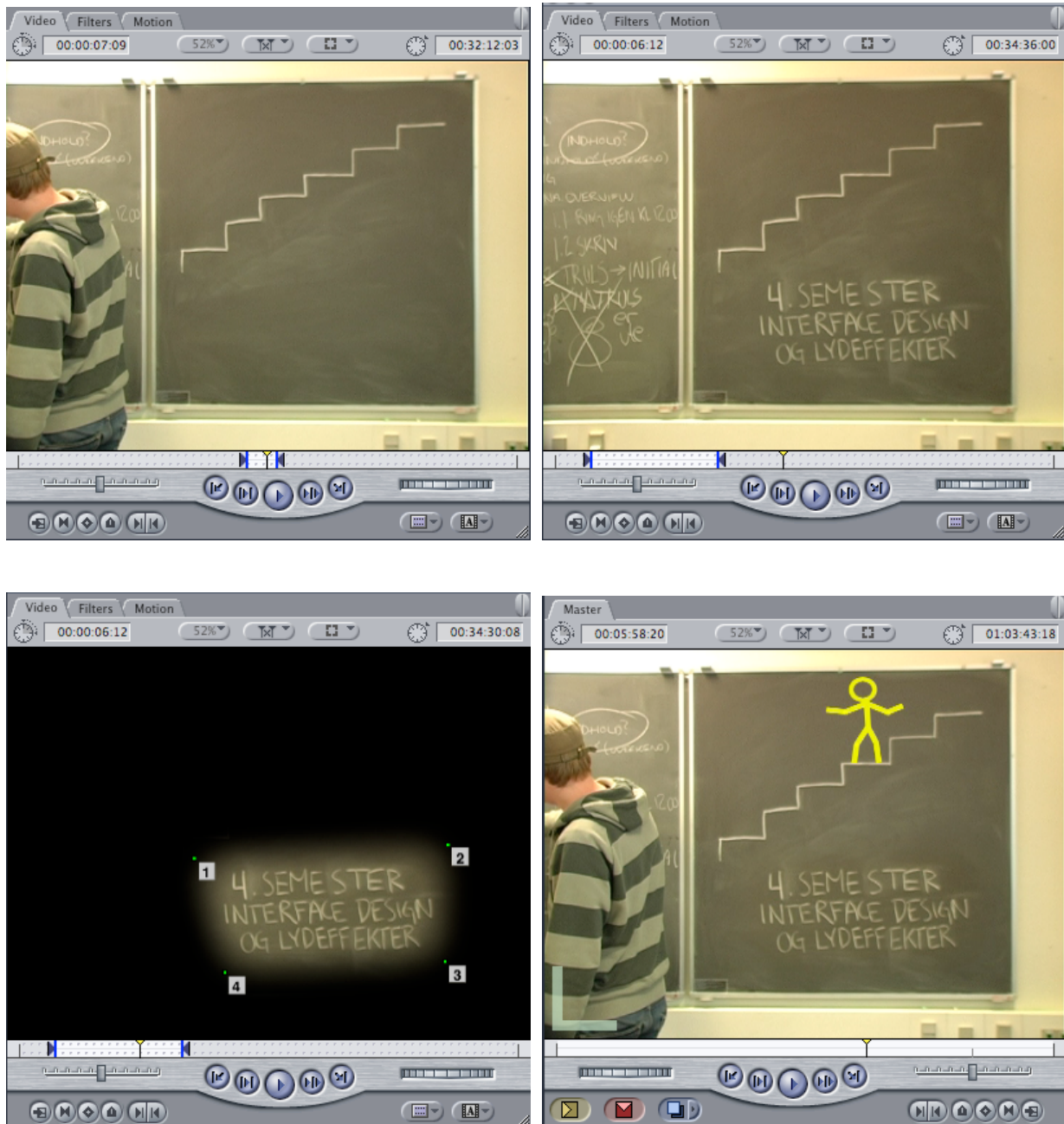


Figure 10, 11, 12, 13: Using a Four-Point Garbage Matte

In Final Cut Pro this effect is found in Video Filters, Matte, Four-Point Garbage Matte.

Motion Keyframes

This is not really an advanced function, but it is used extensively in the film. Keyframes can be inserted at specific places in a clip (or still images, effects, etc.), and properties of the clip, at that point, can then be adjusted. If another keyframe is added later in the clip, and different set of properties is set, the clip will automatically change from the first set of properties to the next set, as the clip is played. For example, one can put a keyframe at the beginning of a clip, without changing any settings, and then insert another keyframe at the end of the clip, and then change the size of the clip at this location. Then, when the clip is played, it will slowly zoom in or out, to the new size of the

clip. In this film, this is mainly used to add movement to still pictures, making them more dynamic and interesting. An example of this can be seen in Figure 14 and 15, on page 50, here a still image is being viewed in the *Canvas*. In Figure 14 the entire picture is being shown (the turquoise lines being the borders of the picture), and Figure 15, a second later, the picture has been zoomed in, by increasing the size of it.

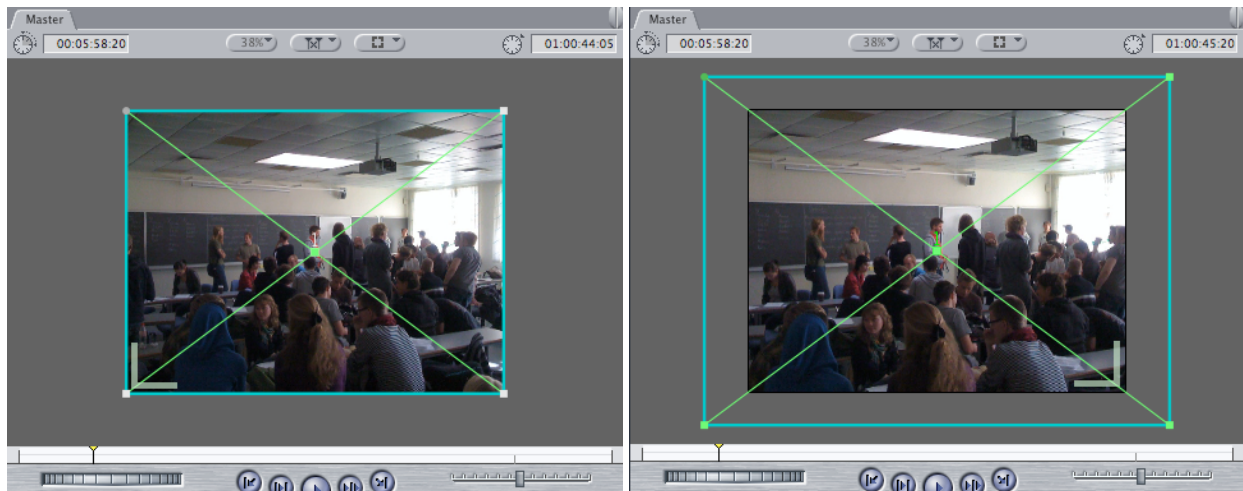


Figure 14, 15: Using Motion Keyframes to make a dynamic zoom

In *Final Cut Pro* keyframe are inserted by pressing the "Add Motion Keyframe" button, in the *Canvas*.

Stick Figure Animation

No effects were used to create the stick figure animations. The individual frames of the animations were simply imported as PNG (Portable Networks Graphics) files with transparent backgrounds, and then put together, each with short durations, building up the animation. The stick figure is drawn in Photoshop, explained later in this section. All the frames of a part of the stick figure animation can be seen in Figure 16 and 17. They each have a duration of 5 frames (~0.21 seconds, since there are 24 frames per second).

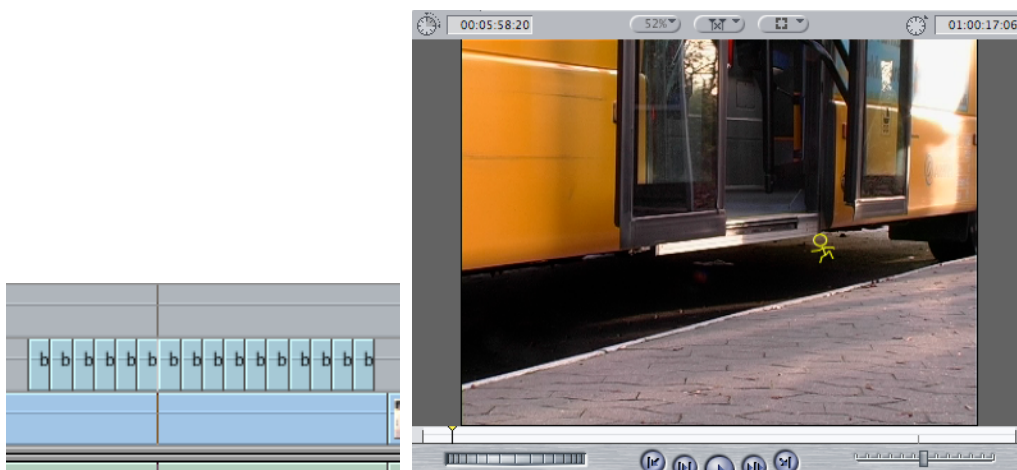


Figure 16, 17: Some of the frames from the stick figure animation.

Dissolves and Fades

Another set of very simple effects, they are quite self-explanatory, and are used to make transitions in both sound and image smoother. In Final Cut Pro a default dissolve is built into the program, and can be easily added by right clicking an edit point in the Timeline, with the selection tool, and then clicking "Add transition 'Cross Dissolve'".

Speed

Some clips have their playback speed altered. This can mostly be seen at the introductions to each part of the semester, e.g. *Produktudvikling* (Product Development). The speed has been altered, because it takes too long to see the entire headline being written, and this ruins the flow and pace of the film. This is also the reason why the speed has been increased for some other clips in the film.

The speed is changed by right-clicking on a clip in the timeline, and pressing "Speed".

A look at the Timeline

The following will give a look into how it is being edited. As it can be seen in Figure 18 four video and four audio tracks are used. It was necessary to use three video tracks for the semester introductions on the blackboard. The introduction for the first semester can be seen in this figure, the bottom track holding the entire clip, the 2nd track holding the cropped out text, fading onto the blackboard and the 3rd track holding the animation of the stick figure. The 4th track is only used for a slug, covering some text in one clip. The small grey icons with the text "Cross" inside of them are cross dissolves, making the transitions smoother. The four audio tracks could easily be reduced to two, but since the sound is in stereo, two tracks are automatically created, one for each speaker. The first two audio tracks hold the sound from some of the clips, and the two last audio tracks hold the background music for the entire video. The background music is locked, shown by the crossed lines, meaning it will not move with the rest of the clips.

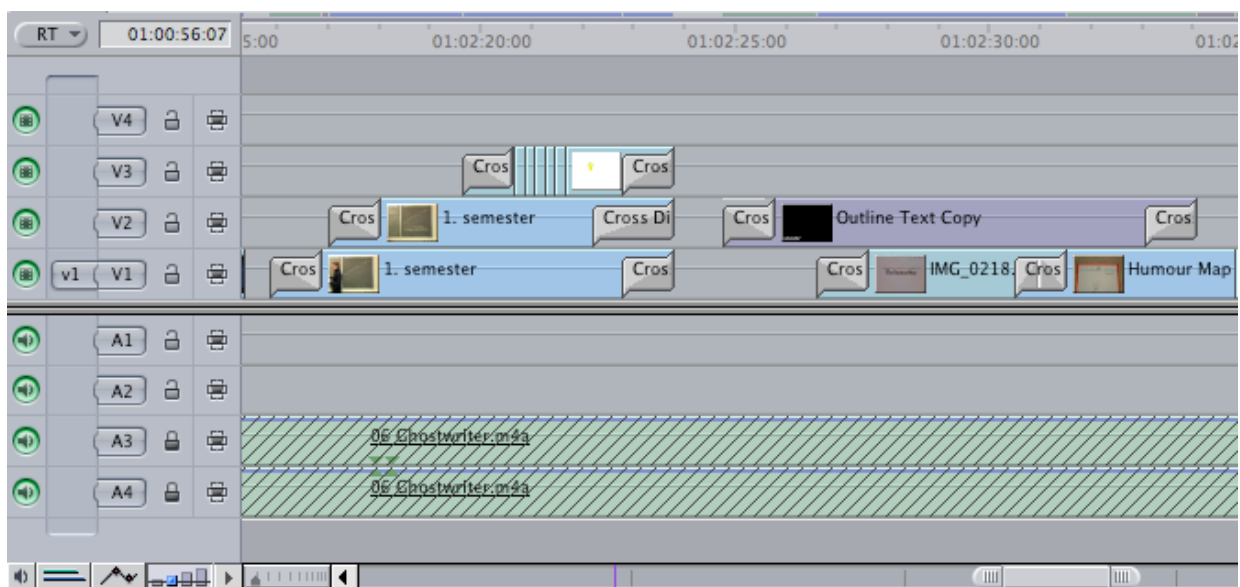


Figure 18: The Timeline in Final Cut Pro.

Photoshop CS3

Photoshop CS3 (Creative Suite version 3) is used to make the stick figure that is shown through the film. The method used for creating the figure is by drawing a series of layers in .PNG format (Portable Network Graphics), which is a format that is easily employed in the film editing program Final Cut Pro. The design progress is rather simple. A marking tool and a line tool has been used to draw the figure. Strategic placement of lines in the different layers makes the figure look like it is walking/running/jumping. The Photoshop marking tool is used to create the circle for the figures head and the line tool to draw the body of the figure. Both lines and circles are drawn as layers on top of a screenshot that are copied directly from the film, in order to ensure correct dimensions and position of the figure. In total 82 layers have been drawn, divided on 5 different scenes, to create the different motions of the figure throughout the film. The figure has been drawn in yellow (color code (cc):e9f10a). The other colors include black (cc:000000), white (cc:ffffff) and red (cc:ff0000). Some scenes have required more layers than others to ensure detailed graphics and thereby better understanding of the figure in the scene. Figure 19 shows what the layers look like when put on top of each other in Photoshop. At the same time it gives an idea of how the figure is drawn.

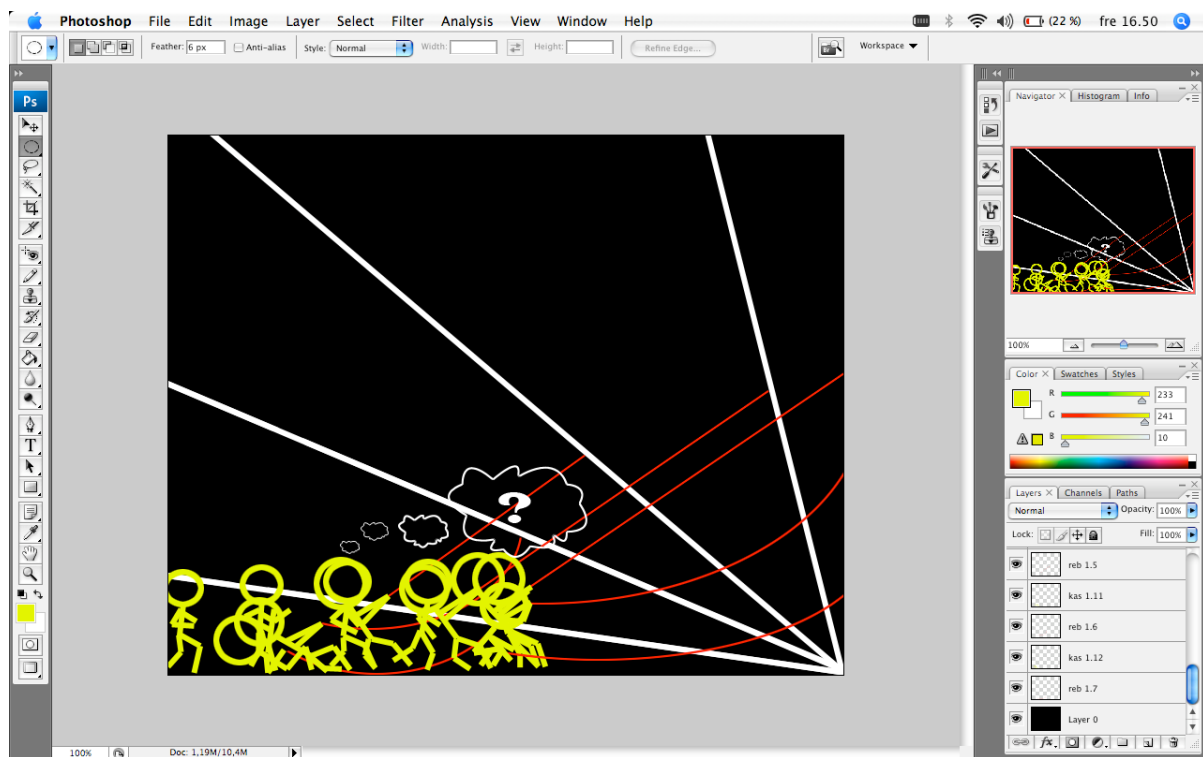


Figure 19: Several layers of the stick figure animation, in Photoshop.

Mixing audio

When the film is completely edited, meaning nothing will change on the visual parts, the audio mixing start. This is where the sound effects are added, background music is synced to the video, etc.

The audio mixing was rather easy, the background music is locked to audio tracks, and most audio has been removed from the older projects videos. But since the 4th semester centers on interface

design and sound effects, the audio is an important part of the project video for *SoundGrabber*, the project used for this part of the film. In *SoundGrabber* a person uses a glove to change the volume of a certain sound. To show this the background music fades out when this part begins, and a new music piece starts, the volume of this piece then follows the actions of the person in the video. Afterwards the original background music starts again.

5.3.4 OUTPUTTING

The final stage, this is where the film is outputted. In this case the film is outputted as DVD ready files, and a QuickTime video file. The DVD ready files are burned onto a DVD, ready to be played on a DVD player, and the QuickTime video file is put on a laptop, that will be brought to the testing as well.

5.4 SUMMARY

In this chapter all the parts of the creation process of the film was explained, including choice of equipment, planning of the production and post-production, the editing tools and effects used, and how the visual effects were implemented. The film can be found on the enclosed DVD.

6. TEST AND RESULTS

To test to what extent the film fulfills the problem statements, a test has been conducted following the test strategy in section (3.6). The questionnaire is made up of three main parts, one with personal data such as age, gender, etc. The next with questions regarding what the test persons know about Medialogy. The 3rd and last part is regarding the amount of knowledge the test persons feel they have gained. Both the Control Group and Film Group answer the two first parts, but only the Film Group will answer the questions from the 3rd part of the questionnaire. The questionnaire and the manuscript for the test can be found in [Appendix D;C]. The answers range from multiple choices, to checkboxes and a range of numbers from 1 to 5, with 1 being “Not at all” and 5 being “To a High Degree”.

In section (2.4 Target Group) it is concluded that the target group for the product should be students at their graduating year at high schools, in Copenhagen. It was, however, not possible to get an appointment with any of the high schools in the centre of Copenhagen, but it was possible to get appointments with high schools in Vordingborg (Vordingborg Uddannelsescenter) and Hellerup (Øregård Gymnasium), in a total of 11 graduating classes.

The test was done in stx-, hhx- and hf-classes, but there will not be special focus on the different courses at high school, as they are all potential Medialogy students, as discussed in section (2.4 Target Group). Also there will be no special focus on any geographical differences in answers. The number of students in the different classes will of course differ a little as it is not certain that all students were present at the test, and some classes are larger than others.

The first test was at Vordingborg Uddannelsescenter, the 26th of November, with the Film Group test, described in section (3.6 Test strategy). The film was shown with a video projector to four classes (two stx and two hhx) and afterwards the questionnaire was handed out. 67 persons filled out the questionnaire. Afterwards the Control Group test was done in three classes (one hhx and two hf). These students did not see the film. 46 persons filled it out.

The Film Group test at Øregård Gymnasium in Hellerup took place the 28th of November. The film was shown to two stx-classes together in an auditorium. Here 37 persons filled it out. Also, here a test of the Control Group was done afterwards, 2 stx-classes filled out the questionnaire without seeing the film. 44 persons filled it.

6.1 RESULTS FROM QUESTIONNAIRE

The entire test was done on 193 test persons all in all, 104 of them, the Film Group, were shown the film before answering the questionnaire, and the last 89, the Control Group, were not. There were 106 females and 87 males; they were all between the ages of 17 to 37 years. It should be noted that only 5 test persons were over the age of 21. 81 persons were tested at Øregård Gymnasium, and 112

persons Vordingborg Gymnasium. 29 out of 193 test persons had heard about Medialogy before. All were at their graduating year.

Some of the test persons have chosen more than one answer to some of the questions, where only one answer was intended. In these cases, the answers have not been counted in, as they are not seen as valid.

6.1.1 CONTROL GROUP

The Control Group did not see the film, and consisted of 44 students from Øregård Gymnasium and 45 from Vordingborg Uddannelsescenter, 48 females and 41 males, in the age 17 to 31, only 4 of them were over 21 years old. 12 of them had heard about Medialogy before (13,5%).

Out of those 12 persons, only one knew that one can study Medialogy at Aalborg University, and no one knew where the department in Copenhagen was situated. 3 of them knew that Medialogy is about technology and creativity, and 2 persons knew that the main working method at the study is project work in groups. None of them knew that the first phase of each semester project is about choosing a problem statement and analyzing a problem, or that the primary goal of making a product is to solve a problem.

6.1.2 FILM GROUP

The Film Group saw the film, and consisted of 104 high school students, 37 at Øregård Gymnasium, and 67 at Vordingborg Uddannelsescenter. They were 58 females and 46 males, in the age 17 to 37, though only 1 person was over the age of 20. 17 of these had heard of Medialogy before (16,4%).

Hvilket universitet udbyder uddannelsen Medialogi?

(What university offers the education Medialogy?)

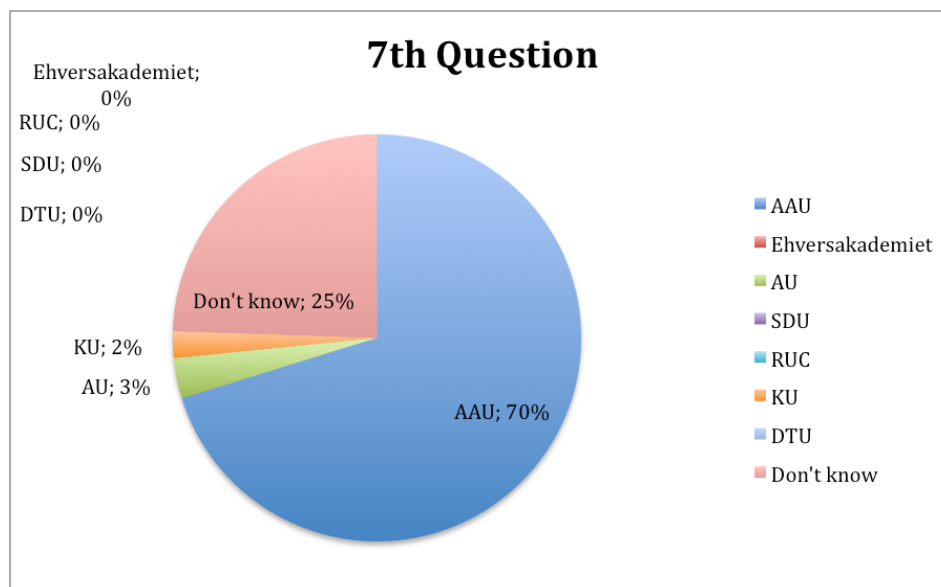


Figure 20: Graph for question 7.

Hvor ligger den københavnske afdeling af Medialogi studiet?

(Where is the Copenhagen department of Medialogy?)

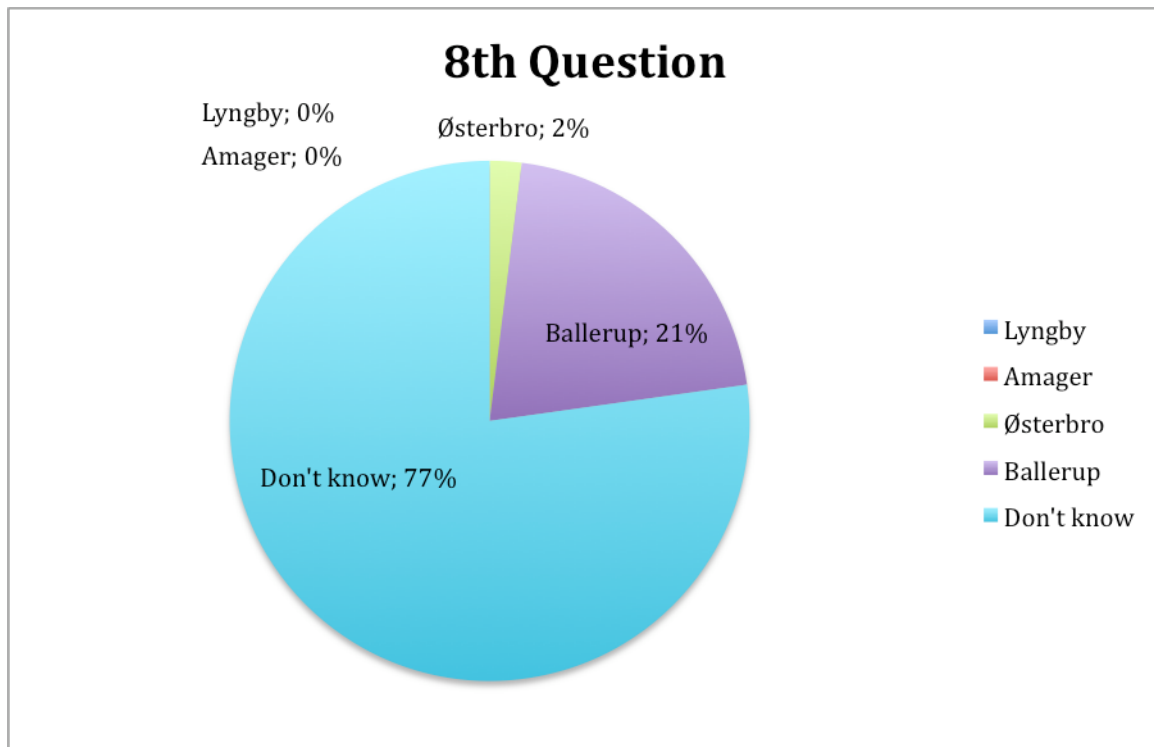


Figure 21: Graph for question 8.

In question seven, 70% knew that Medialogy can be studied at Aalborg University, but only 21% knew that the department for Medialogy in Copenhagen is situated in Ballerup in question eight.

Hvilke områder kommer man til at arbejde med på Medialogi studiet?
(What areas do one work with at Medialogy?)

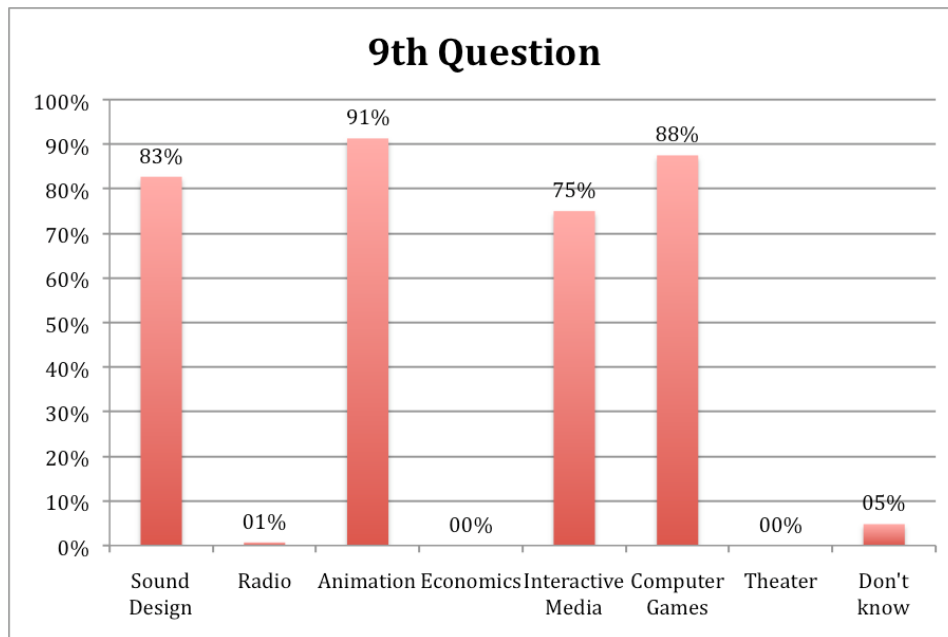


Figure 22: Graph for question 9.

In question nine and 10 the test persons were asked to mark more than one answer, and therefore the percentages do not add up to 100%, instead each series on the x-axis states how many percent of the 104 test persons that answered each option.

To question nine, 5% answered, "Don't know", 1% answered "Radio", 83% answered "Sound Design", 91% answered "Animation", 75% answered "Interactive Media", and 88% answered "Computer Games". This means that many of the test persons answered a combination of the last four mentioned.

På Medialogi arbejder man primært med?

(At the Medialogy education one primarily works with?)

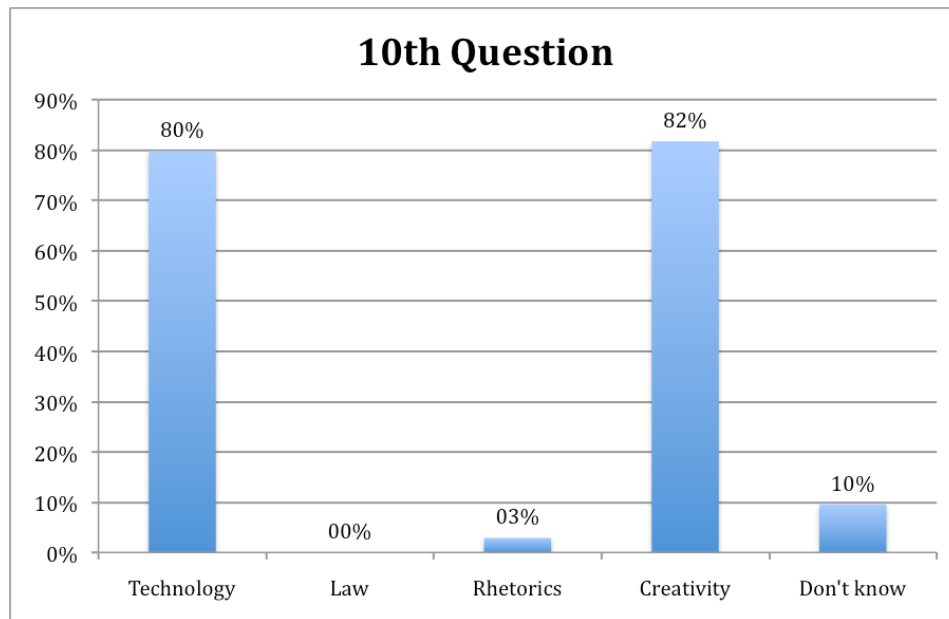


Figure 23: Graph for question 10.

In question 10, asking what one primarily will work with on the education, 80% answered “Technology”, 82% answered “Creativity”, 3% answered “Rhetorics” and 10% answered “Don’t know”.

Hvordan er den primære arbejdsform på Medialogi studiet?

(What is the primary method of working at the Medialogy education?)

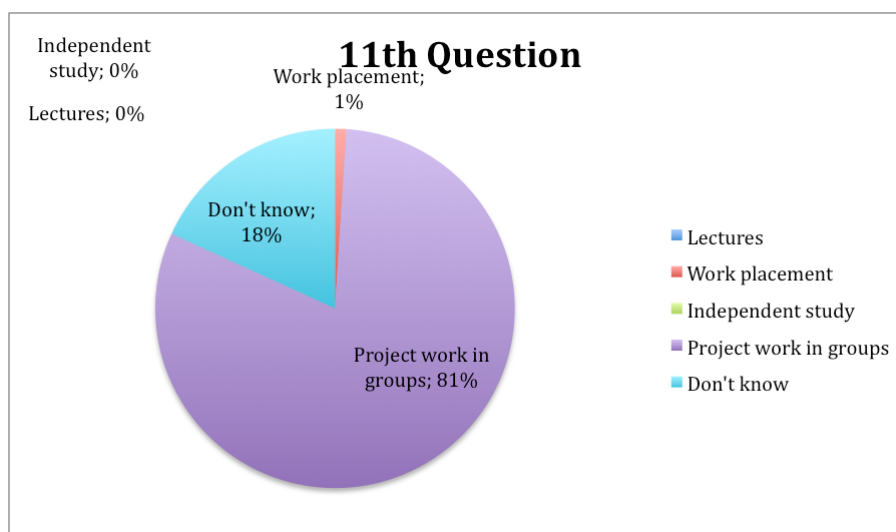


Figure 24: Graph for question 11.

81% of 104 test persons knew that the main working method is project-work in groups.

Hvad er den første og grundlæggende fase i hvert semester?

(What is the first and fundamental phase in each semester?)

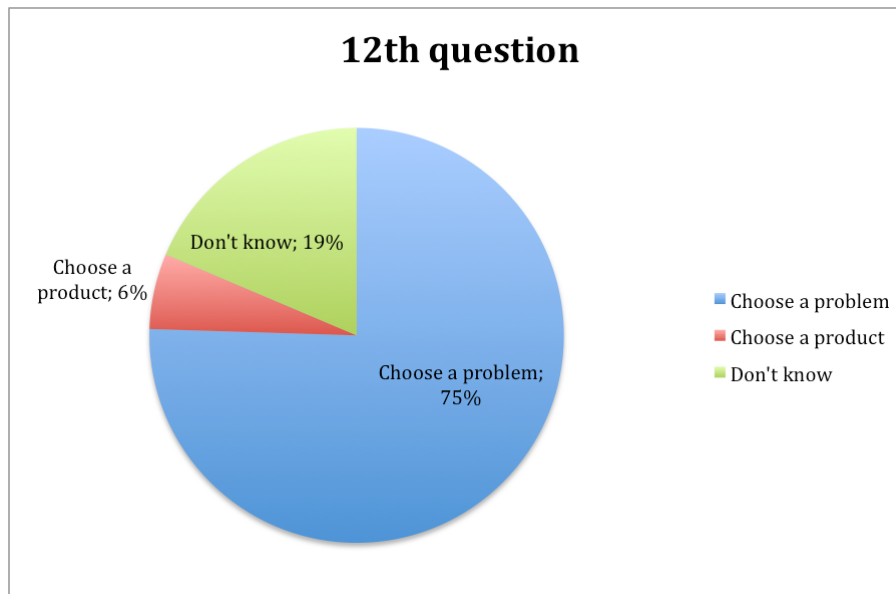


Figure 25: Graph for question 12.

In question twelve, 75% of 104 test persons answered that the starting phase of the project is about choosing a problem, research and analysis.

Hvad er det primære formål med at lave produkter på Medialogi?

(What is the primary aim of developing products at Medialogy?)

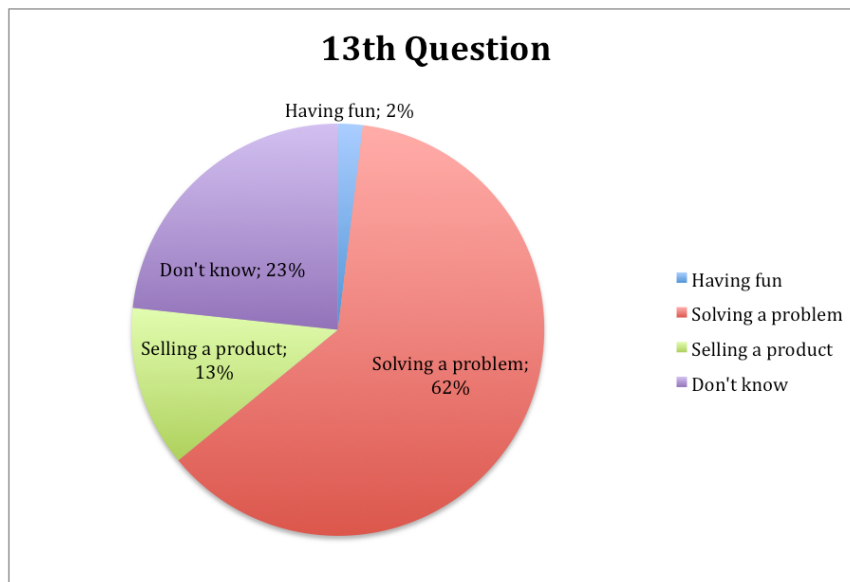


Figure 26: Graph for question 13.

In question thirteen, 62% of 104 test persons answered that the main goal of making a product at the Medialogy study is to solve a problem.

**Jeg føler mig bedre informeret om hvad Medialogi er efter at have set filmen end jeg var før:
(I feel better informed about what Medialogy is after seeing the film than before:)**

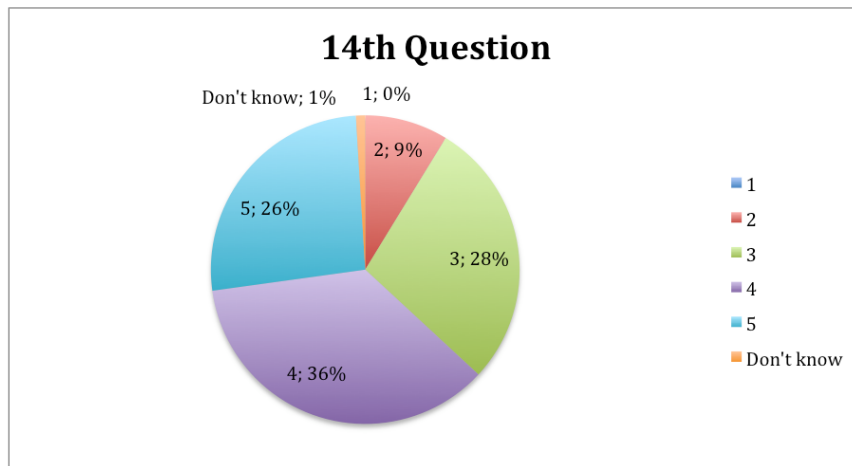


Figure 27: Graph for question 14.

In question fourteen, on the scale on whether they felt better informed after watching the film, the scale ranging from 1 (meaning not at all) to 5 (meaning to a very high degree), 9% answered 2, 28% answered 3, 36% answered 4, 26% answered 5 and 1% answered "I do not know".

Out of the seventeen, who had heard about Medialogy before, all answered at least 3 out of 5; two answered 5, twelve answered 4, and three answered 3.

**Filmen gav mig nok information til at vide om Medialogi studiet har interesse for mig eller ej:
(The film gave me enough information to know whether the Medialogy education has interest for me or not:)**

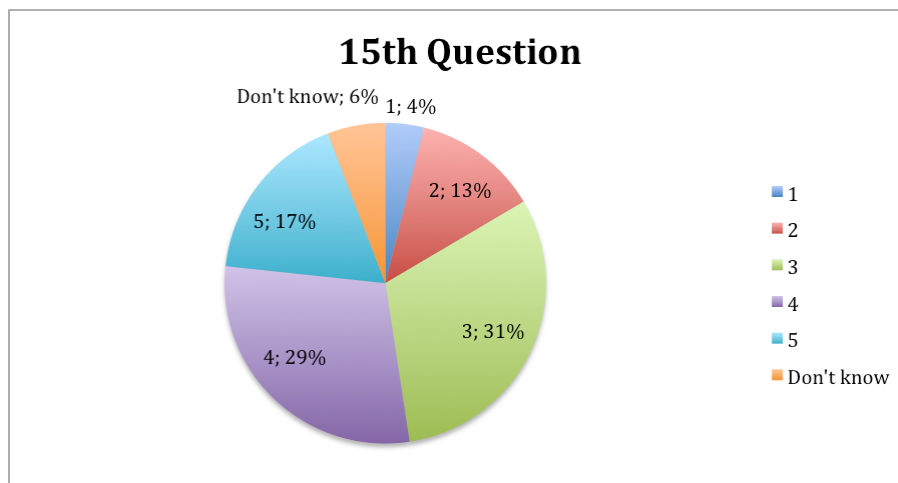


Figure 28: Graph for question 15.

In question fifteen, on the scale on whether they felt that the movie gave them enough information to know if the education was of interest to them, 4% answered 1, 13% answered 2, 31% answered 3, 29% answered 4, 17% answered 5, and 6% answered "Don't know".

Only four of the persons, who had heard about Medialogy before, answered less than 3 out of 5 on the scale of this question. Four of them answered 2, five answered 3, seven answered 4 and one answered 5.

6.2 INTERVIEWS

The understanding of the film is very subjective. The questions asked in the questionnaire are more general to check whether the test group understood the information given in the film, and of course also to see whether those who saw the film became better informed about Medialogy than those who did not see it. In this way it was possible to reach many students to make the test more reliable.

The disadvantage by using this quantitative method is, that it is not possible to go very much in depth with the answers. Therefore a couple of qualitative interviews were also made with some of those, who had seen the film, to get more detailed comments on the film. The persons for the interviews were chosen on a randomized basis. The first on the pupil-list of each class in Vordingborg (except the first class, due to problems with the equipment for recording), who saw the film, was taken outside to talk about their opinion of the film. The interviews were video recorded and can be found on the DVD, and so can the transcription of the interviews.

There were made no in-depth interviews in Hellerup, as the interviews from Vordingborg gave a satisfying impression on how the film affected the viewers.

6.2.1 INTERVIEW NUMBER 1

The first interview was made with a girl from the second test class who saw the film.

The girl was quite certain that the education Medialogy was not a possibility in her choice of study, because she did not have the media course and media was not one of her interests. She did think it was a good film and that it showed what Medialogy is in a more interesting and personal way, than it was presented from Uddannelseskaravanen, from where she had heard about Medialogy before. She found it good that it was presented almost without spoken and written parts, as it made one concentrate better; put all focus in what happens in the film instead of what is said. She thought the film was creative, and that the music and the yellow man together made it more interesting.

In general, she found that the study sounded interesting and that the film was good, but she did not have any interest in studying Medialogy.

6.2.2 INTERVIEW NUMBER 2

In the second interview a boy and a girl from the third and fourth test class, who saw the film, were interviewed at the same time, to make the interview more dynamic. Neither of them had heard about Medialogy before.

The girl thought it was a good and different way of making a film to inform about an education. She also mentioned the yellow man as a good way of putting a story in the film instead of a lot of boring information being stuffed into ones head. She found it obvious from the film that there was a lot of work in groups at the study, because people in groups, designing and discussing, were shown all the time. She noticed that there is a lot of focus on solving problems at the education and called Medialogy a "Problem-Solving-Education".

"Man sidder jo ikke bare og læser en bog, men man gør det selv, ik'? Man prøver at praktisere det en lille smule, de teorier man har." (Translation: One doesn't just read in a book, but does it oneself, right? Trying to use ones theories a bit in practice.) (Quote from the interview on the DVD at time code 8:55 to 9:01.)

The only thing she thought was bad in the film was the lack of concrete information about the admission requirements, where Medialogy can be studied and so on. The girl was quite sure that the study had great interest for her. She found the way of working at Medialogy really good and exiting.

The thing that made her a bit insecure of whether the study was the right one for her or not was, that she noticed that there is a lot of independent work on research and discovering information and she preferred to get given facts, better than searching, analyzing and discussing material. The boy found it really good that the information was shown in this different way, so that one doesn't just see a list of the courses at the education, but see some of the work made earlier, how students work at Medialogy and the products made there; one gets a quick overview of how things are done at the education. He thought it was easy to see that the main work was done in groups, due to the things written on the blackboard, seeing people discussing, developing and testing products together and since the products were pretty advanced, he thought it was necessary to work together with others. He had answered, in the questionnaire, that the beginning phase was to choose a product, because he noticed a lot of development and designing in a different way during the process, but he also noticed a lot of focus on the problems, so he actually wanted to answer both, but had chosen the first. He felt totally informed after seeing the film. He thought that, for a film at approximately 5 minutes, he had learned a lot. He had gotten all the information necessary, because he thought that all the more concrete and practical things could be found afterwards. One was given a good view of the education, what it consists of, the way of working and solving a problem, in a way that a brochure could not have done.

"Hvis I både lavede en film, men samtidig havde en folder med, (...), så ville man jo have alt hvad man havde brug for i løbet af 5 minutter." (Translation: If you both made a film, but at the same time brought a brochure (...), then one would have everything necessary in 5 minutes) (Quote from interview on the DVD at time code 6:54 to 7:04)

He suggested, if the film should be used for branding, that the film should be shown as it is, but that one should bring brochures with more practical information about the education, that people, if they

wanted to know more, could find the answers in. The boy himself, wanted to take some sabbatical years after high school, but if he was to study more, he was sure that this education would be among his considerations.

6.3 OBSERVATIONS

Results from the questionnaire and the interviews give a good impression of the effect of the film. However, it is also interesting, how the students reacted during the test. Therefore some observations were noted during the presentation of the film and afterwards.

6.3.1 OBSERVATIONS AT VORDINGBORG UDDANNELSESCENTER

Film Group

The students were asked not to speak to each other during the test and most of them did not. Afterwards, when they were allowed to ask questions, they asked the following questions: *"How long time does the education take?"*, *"Which job possibilities are there after ending the education?"* and *"Why were we to see this film?"*. The questions led in all of the cases to a conversation about the education, the project and possibilities after ending the education. After the tests were finished, a teacher of one of the classes came and said, that the class had been talking very positively of the film afterwards. They had found it easy to follow and understand, and they thought it was a good idea using the yellow man to "tell the story" instead of making an ordinary and boring presentation.

Control Group Test

The students were not told the purpose of the test before filling out the questionnaire. When they afterwards were allowed to ask questions, they asked what the test was about. They also asked: *"What is the education about?"*, *"Which possibilities of career are there after the education?"* and then there was a conversation about the education. Most of them wanted to see the film, and therefore a link, to where they could find it on the Internet, was written on the blackboard.

6.3.2 OBSERVATION AT ØREGÅRD GYMNASIUM

The students were silent during the test and a few people wanted to know a little more about the education after the test had ended.

Students in the Film Group test (2 classes at the same time) asked no questions.

Students in the Control Group test (also 2 classes at the same time) were shown the film after filling out the questionnaire. Afterwards they asked the questions: *"Which job possibilities are there after ending the Medialogy education?"* and *"Where is the education situated?"*.

6.4 SUMMARY

The test was carried out on 193 test persons in two different high schools, one in Vordingborg and one in Hellerup. 104 of the test persons were shown the film, and the last 89 test persons served as a

Control Group. In addition to this quantitative test, there were done smaller qualitative interviews with three random test-persons. Observations were also done and presented.

The results presented in this chapter will be discussed in chapter (7 Discussion).

7. DISCUSSION

In this section the results from the test will be looked into and discussed. Both the data from the questionnaires, the qualitative interviews and general thoughts and considerations on the test and the product in light of the results and reactions collected.

7.1 DISCUSSION OF THE TEST RESULTS

The first notable result from the questionnaire is the number of test persons that had heard about Medialogy. Out of the 193 persons that participated in the test only 29 knew about Medialogy beforehand, corresponding to 15%. This seems few when one bears in mind that the target group is high school students at their graduating year, and therefore are being informed about future studies (as mentioned in (2.4 Target Group)). This confirms that Medialogy can serve as the “unknown” aspect within the theme “Visualize the Unknown”.

In the Control Group only 1% knew that Medialogy was studied at Aalborg University, while 71% of the Film Group answered correctly that Medialogy is studied at Aalborg University. This indicates that the test persons who saw the film paid enough attention to the movie to read the text in the last image of the film saying:

Medialogi
Aalborg Universitet København
www.media.aau.dk

This proves that the film succeeds in informing about where one can study Medialogy, although this was not the main purpose of the project.

For the 9th question – “*What areas do you work with at Medialogy?*” it was possible to choose several answers. The results show that the vast majority were informed about what the main aspects of Medialogy are, while almost none in the Control Group got the answers correct. It should be noted that multiple choice questionnaires are also influenced by the available answers; since these can be leading. In this case, the possible answers were as follows: “Interactive media”, “Radio”, “Theatre”, “Animation”, “Sound design”, “Economics”, “Computer Games” and “do not know”. The options “Theatre” and “Economics” are not very well considered because they are very different and far from the subjects shown in the film. This makes it unlikely that anyone would choose these answers.

It is plausible to believe that the word Medialogy gives certain associations to some subjects, such as media, which could lead to the answers Interactive Media and Radio. However, the test persons in the Film Group do not choose “Radio”, they have a clear idea of what the Medialogy study is about. The fact that most of the test persons in the Control Group do not answer correct in this question, shows that the film provides the information about the different aspects of Medialogy.

In question 10, regarding which subjects one primarily works with in the Medialogy education, the problem with leading answers could also be present. Almost everyone chose the options “Technology”, “Creativity”, or a combination of the two. The other options were “Law”, “Rhetorics” and “Don’t know”. Both law and rhetorics are subjects far from the subjects shown in the film, which makes it very unlikely that anyone would choose these two. If there had been given other options, more similar to the correct ones, the results might have been different, meaning more people might choose the incorrect answers. Therefore these answers are seen as invalid, in this case.

In question 11, the test persons were asked about the main working method at the education. By far, the majority knew that it was group work. It is also clear from the qualitative interview (6.2 Interviews) that this is easy to understand when watching the film. This was an important goal with the film, which has succeeded.

In question 12, when it comes to knowing what the first and fundamental phase of each semester is, 3 in 4 answered correctly. In the Control Group no one chose the right answer. In the qualitative interview, one girl noticed that there is a lot of focus on solving problems on the education, she called it a *“problem-solving-education”* (6.2.2 Interview Number 2). Based on this, it can be concluded that the Film Group learned about the fundamental phase of each semester from the film.

Even though every semester at the Medialogy education does not start with forming a group and choosing a problem, this option was chosen because the film emphasizes on the fact that the problem is chosen before the product is chosen. The question should rather have been *“What is the first and fundamental phase of each semester project?”*

For question 13, *“What is the primary purpose of developing products at Medialogy?”* - 62% answered the correct answer: “to solve a problem”. Even though the majority understands this from the film, it should have been made clearer by better linking each product to a problem. In the film a problem statement was shown with each product, but this has not been enough to establish the link. The 13% who answered “selling a product” might not have thought of developing products in relation to a study, but instead in relation to the corporate world and therefore thought of making a profit.

To the 14th question – *“I feel better informed about what Medialogy is after having watched the film, than before?”* the Film Group answered an average of 3.8, with 5 being the maximum. Those who had heard about Medialogy before actually answered a bit higher, 3.9, but this is such a small difference from a small group that it is not relevant to focus on. The fact that the Film Group rated the informational aspect of the film this high indicates that the film was able to pass on the information it was intended to. But it is important to note that a few test persons have given incorrect answers in many of the previous questions in the questionnaire, and still felt a lot better informed. This seems contradicting, but it might be because they feel informed on other areas than the ones asked for in the questionnaire.

The final question, 15: *“The film gave me enough information to know whether I am interested in the study or not”* was rated 3.5 on average on the 1-5 scale. Those who had heard of Medialogy before answered 3.3 on average. This might be because those who had heard of Medialogy were somewhat interested in the education, and therefore require more information than the others.

Giving the potential students enough information to know whether they are interested in the Medialogy education or not, was one of the main goals of the film. Even though the optimal result would be that everyone answered 5, the result is still considered satisfactory, as 3.5 is in the high end of the scale. Also only 17% answered 1 or 2, while 77% answered 3 or above. It might be possible that some have rated based on how big an interest they have in the study, and not if the given amount of information was sufficient to know if they are interested or not.

7.2 DISCUSSION OF THE PRODUCT AND GENERAL CONSIDERATIONS

Many of the results from the test indicate that the film worked as intended; most of the students became better informed after watching the film. However, to make the amount of informed students even higher, some adjustments and improvements should be made.

The description of Medialogy is based on the substance of study, rather than concrete facts (3.4 Medialogy). As mentioned the test showed that the intended information reached most of the test persons, but it seemed there was a demand for more concrete information from the interviewed (6.2.2 Interview Number 2) as well as the test persons (6.3 Observations).

In this project it was chosen only to show the themes of the semesters in the bachelor degree. This was interpreted by the girl in interview number 2 (6.2.2 Interview Number 2) as if the education is finished in 3 years. This is of course also possible, if one finishes after the bachelor degree, but it could also be noted in the film, that it is possible to take a master degree. However, the information about the length of the study can be found in other ways, and the purpose of this project was to inform about the essence and working methods of the study. The hard data about the education, such as length, admission requirements and SU⁴-possibilities, can be found in many other ways.

As a way to help the test persons find this information, the website address of the Medialogy education was put in the end of the film, so that people, who wanted to know more, knew where to find it. Perhaps it should have been more clear what kind of information that can be found on this website, as it may seem like the website contained the same information as the film gave.

Many of the test persons were interested in knowing the career possibilities after ending the education. This is one thing that would have been relevant to show, because it is not easy to find elsewhere. This might be a reason why some test persons do not feel sufficiently informed to know

⁴ Statens Uddannelsesstøtte (Economical support for students in Denmark).

whether or not they are interested in the education, as they probably want to know what they can end up working as or with.

The film was intended to be based on visual content, to ensure that it qualified as a visualization. It could have been created on a more textual base, e.g. by including quotes, citations and more text put in the film in the post-production. The semester themes are presented as text, but instead of being added in post-production they were recorded written on the black board and the visual effect of them fading in was applied. Instead of an auditory narrator the stick figure was chosen as a visual narrator, to keep the visual style. This was also noted by all the interviewed persons; the girl in the first interview finds it good that the information is presented without written or spoken parts, and the interviewed mention that the stick figure makes the film more interesting (6.2.1 Interview Number 1) and creates a story (6.2.2 Interview Number 2).

For the test it was chosen to ignore the gender, age and geographical location for all persons, as what makes them fit the target group is that they are high school students at their graduating year. Hence it also seems fair that the control group can be used in comparison with the test group as intended. If one looks specifically at the number of persons who have heard of Medialogy beforehand, it is almost the same (13.5% and 16.5%). Also if one looks at the answers of the control group which are presented in (6 Test and Results), it is clear that those who had heard about Medialogy beforehand almost have no specific knowledge of its substance, and so the same must be assumed to apply for those in the test group having heard of Medialogy before. Therefore they are assumed to have been informed by the film, and do not distort the results.

Regarding the form of the questionnaire it should be noted that when having multiple choice questions, there is always a chance that someone can guess and still answer correctly. To try and eliminate this factor all test persons were told that it was very important that they did not guess, but checked the “don’t know” option for the question if they were not sure about the answer.

8. CONCLUSION

This entire project started out with a questionnaire that showed that the initial problem, regarding the lack of information about Medialogy existed. The Pre-Analysis contains an analysis of the target group and different ways of visualizing, and led to the final problem statement:

“To what extent can Medialogy be described, and visualized through a film, in order to inform potential students, at graduating years in Danish high schools, about Medialogy?”

In the Analysis chapter, the following subjects were analyzed; “Target Group”, “Film as Visualization”, “Making a Film” and “Medialogy”. The subjects were looked into as part of deciding the content of the product. Based on the Medialogy (section 1.1 Motivation) it was decided that the best way of describing Medialogy was by showing the working methods, the substances of Medialogy through the semester themes and products, and showing Problem Based Learning. These elements were visualized in the film. An animated stick figure was used as a narrator, and writing on the black board was used to guide the viewer through the film, with minimal use of static text, and no auditory narration, to ensure it became a visualization.

The film was tested on the target group; 193 high school students at their graduating year. From the results it was clear that the information available about Medialogy was not sufficient – very few test persons had heard about the study (15%) and those who had, only knew very little about the education.

The test clearly fulfilled the success criteria, i.e. the film succeeded in informing the students about the Medialogy education. As mentioned in chapter (7 Discussion) almost all the questions gave satisfying results concerning information about Medialogy and therefore the film is regarded as a success, and so it accomplishes the final problem statement.

Thus, the answer to the problem statement is that one can successfully describe Medialogy and visualize it through a film, in order to inform potential students, at graduating years in Danish high schools, about Medialogy.

9. FUTURE DEVELOPMENT

In this part of the report there will be looked at future development of the film, in order to clarify future perspectives and possibilities as well as limitations of the solution of this project.

9.1 TECHNICAL & ARTISTIC PERSPECTIVES

If there had been the possibility of using only live footage and no still photos, it would probably make the film look smoother. Better recording equipment would probably also make the film look more professional, and this might make the audience more interested, and thus, the viewer may be more invested in the film and then may become better informed.

Another way of making the film more interesting and entertaining, might be by improving the animated part with the stick figure, and the writing on the black board. The animated letters, more animations in general, a higher quality of the animations, etc might achieve this. This may also have informed the viewer more about what one is able to do as a medialogist.

9.2 INFORMATIONAL CONTENT

As mentioned in section (7 Discussion) the following concrete information might be added to the film:

- The length of the entire education, i.e. mention the Master
- The admission requirements
- SU-possibilities
- Career options when having finished the education

Furthermore the location of CIT could be emphasized more.

9.3 TESTING PERSPECTIVES

If more time had been available, the test would have been broadened very much. It would have been interesting to look at geographical differences, and fields of study at high schools, when it comes to how they perceive the information from the film. It would also have been relevant to look at whether different kinds of films were needed to reach potential Medialogy students, in other places, such as those taking sabbatical year, international students, and students currently at shorter educations, that can be extended to a Medialogy bachelor degree in 2 years.

9.4 USING THE FILM IN REAL LIFE

The film can be used in several ways. It could easily be used by *Uddannelseskaravanen* to give a short presentation of the education in addition to the brochure they normally bring with them, since it gives a broader picture of the working form and substance of the education. At the website of the

education it would also be a good way of giving interested people another possible way of exploring what the education consists of.

It would also be a good idea to brand the Medialogy education with the film. An idea could be to combine the film, the website, posters and some kind of treasure hunt. The first phase of it would be to hang up posters at some high schools showing the yellow stick figure (in a big version) with a question mark above its head and a link to a website underneath. The website would have the film on the front page, a visitor counter and automatically move on to a side, where the viewer can either choose to answer a questionnaire about the informational level of the film or move on to the website of the education, after the film has finished. Thereby it would be shown whether the poster created any curiosity or not and whether the interest in the film could spread automatically.

This could also be tested by making the film publically available online. YouTube would be a good choice for this, because this site has some rather advanced features regarding the behavior of viewers. Apart from being able to see hits and popularity, one can also see how viewers find the video, the viewers' demographics, and what parts of the video the viewers are most interested in (by showing at what point viewers stopped watching, what parts they watched again, etc.). This information would be interesting to look into at a later point, to improve the film.

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11. APPENDIX

A. Pre-analytic questionnaire with results

Spørgeskema fra gruppe 151

Gruppe nr.: _____ Køn: _____ Alder: _____

1 Hvordan fandt du Medialogi studiet?

Ug.dk	Uddannelseskaravanen	Gennem en	Reklame i tog eller	Andet:
19	4	bekendt	lign	
		19	0	14

2. Hvad var det ved studiet der fangede din interesse og fik dig til at ansøge?

3. Var du sikker på at dette studie var det rette for dig, før du startede?

Meget sikker	sikker	middel	usikker	meget usikker
4	30	10	9	1

4. I hvor høj grad vidste du hvad Medialogi gik ud på før du startede?

I meget høj grad	i høj grad	medium	lav grad	meget lav grad
1	6	24	21	2

5. Hvordan var din motivation før start?

Meget stor	stor	medium	lille	meget lille
19	25	10	0	0

6. Hvorfor?

7. Er din motivation for Medialogi blevet øget efter studiestart?

I meget høj grad	i høj grad	medium	lav grad	meget lav grad
5	26	17	5	1

8. Er din viden om Medialogi blevet øget efter studiestart?

I meget høj grad	i høj grad	medium	lav grad	meget lav grad
5	24	19	4	1

9. Beskriv studiet med 3 ord:

10. Når du fortæller andre at du studerer Medialogi, har du så indtryk af at de ved hvad det drejer sig om?

I meget høj grad	i høj grad	medium	lav grad	meget lav grad
0	1	2	17	29

11. Har du læst om Medialogi på ug.dk?

Ja	Nej
45	8

12. Hvis ja, hvordan var dit indtryk af informationen om medialogi på ug.dk?

Rigtig godt	Godt	Forvirrende	Forældet	Ikke fyldestgørende	Andet:
1	13	9	7	18	4

B. Parts of the Transcription of Interview with Rolf Nordahl

The interview with Rolf Nordahl was made in corporation between all 1st semester students at Medialogy 2008. Here is only shown the parts referred to in this project. Transcription of the full-length interview can be found on the DVD together with 2 video-recordings of it.

1.1.0

I: The word “Medialogy”, what is the meaning of it? If we’re talking like the.. yeah.. Do you have a good example of what does the word mean?

Rolf: Well the word is very basic on it’s own, lets look at it, it’s knowledge of media. So that’s the first thing that drops to mind. Then I could guess you would want to talk about the mixture of media and technology and so on. That’s another thing, what do we put into this word, and I’ve written definitions of these things related to education, you can see them out in the hallways, and so on. In think my intention when I go out and talk to other universities and companies and so on. My angle towards the education is pretty clear, I think you can already see that around here.

1.1.8 :

I: Why is it complex? Is it complex because of Medialogy have a lot of competences so that it is relevant for a large amount of different corporations?

Rolf: Yeah, that’s one, could you mention others because you’re in on some of it. If I go out to Bang & Olufssen, I have to use other words than talk to IO-interactive, right? The people that are working in these companies, they have different competences, they have different words for subjects and topics. They have, what I like to call, “lingua fangua”, so they might mean the same things for these many companies but they use different skill sets to solve their problems, they use different terminology and what I think that is very good is that you can speak to all these different various natures of the companies, actually know what they are talking about. But you need to identify which language do they use.

And that’s just one of the obstacles, I mean.. It’s an obstacle, but I also think that it is very rewarding because you actually can go out... But I mean you have to know that terminology just to start talking about the important stuff. But then I could say, I mean, it’s very much what Medialogy is good at. Actually knowing these different languages.

1.2.4 :

I: You can’t write a definition before you have ended that process?

Rolf: Yes, the question is would you like that process to be ended. I have to ask myself, I don’t think so, I have, that as a member of the study board, education coordinator here, I always try to say, always try to be on the forefront of what is going on. By that, I’m not saying we should have brainless out to the unknown, but we should always try to always, try to see what is around us, try to update the very study plans every two years, to keep constantly track, because we know that, its going well

for our students, their all going good after their finished their studies. But, we have to keep up, with whats on in the field that we are in.

2.1.0 :

I: It is a bit what we are talking about now, how the development of Medialogy has occurred, do you know?

R: I know a lot.

I: Any major changes

R: Yes, for god sake you are sitting here today. Think just that in the start, there wasn't even a basis, there wasn't a master studies. Yeah, a lot of changes do you want me to go through them all?

I: No, anything that was groundbreaking

R: I think the first really groundbreaking thing was to make the revision that actually introduced the whole Aalborg concept into the education, because in the first version there was no PBL for example, it wasn't, there was no division as such. It was mentioned for example, PE and SE classes. But I wouldn't say as a student back then that I felt that it that the person that described it had any clue about what it actually meant

I: OK, in praxis

R: yeah

2.1.1 :

I: But at the, at that time did they use PBL at other educations at Aalborg University.

R: Yeah that has been the very foundation at Aalborg university, (I: But not here) but what was very funny to see was that the studyboard that has originally been sitting there had been approved the study plan had actually, they have been sort of cool in saying, ok lets try a new way, but then later on they had to say ok, this is clearly not working, something has to be done.

2.1.2 :

I: When was the first revision?

R: I think I mentioned that earlier it must have been around 2004, around there I think.

2.2.0 :

I: Well that actually leads us on to the next question. The Aalborg model so to speak wasn't in Medialogy at the start.

R: not at the very start

I: But what, was it normal university education?

R: It was thought out as I understood it and as I remember it here. You have to remember the remembering. That they tried to introduce a study. You have the studyboard where you have Aalborg University and PBL as a governing principle, but here they actually said ok, the studyboard said ok, lets try to make it beyond the frameworks that we usually work within, PBL and so on, where they later found out ok it was actually most suitable for the study to work within PBL.

I: Yeah, because I would say that the study is actually very much suited for working within PBL

R: Yes and there are other studies where I would say that no you wont need PBL that much. But it was found later on to actually be, a principle for learning that you actually did PBL, that actually work extremely good, extremely well for this I'm rather doubtful that the guy whom we first, first what do you call it. Yeah the first outcast for this agreed with the studyboard but that's another story.

I: So do you think the reason why Medialogy is so suits the Aalborg so well is that because, what is that because, is that because the interdisciplinary stuff or.

R: Very much so, Its very much I think, I believe its very much because of this interdisciplinary nature of the study. You have different taxonomies for interdisciplinary and all I can see is that if we aim for the really high and with high and the really deep levels of interdisciplinary you actually have to use PBL for example as a methods, I'm not saying or excluding other methods, but its one that really works for learning these areas.

I: so other disciplinary studies would they have as much success PBL with that

R: once again I didn't understand

I: If other disciplinary studies at Aalborg University, do they have as high success rate with it as well.

R: I think so, yes

I: You talk about different levels within interdisciplinary, can you explain that

R: You can find it

I: Is it within the Aalborg University or is it described on that or?

R: No its something which, its not written by me, I simply take it from the literature and then try to analyze this. But you can find it, it's among the papers.

3.4.1 :

I: One example is maybe, is it's.. maybe, can you, is it, has it something with Medialogy that the youth is for example dealing with a lot of different media at the time, like young people can watch the telly while.

Rolf: Then we go back to what we talked about Dupree(?) and so on, and also about like for example convergence, media convergence and convergence culture and so on, yes we are talking about Medialogy to its finest extend, I mean, what is an iPod? It's a piece of electronic, yes. Is it a cultural signifier? I would say very much so. What actually happened with iPod, how many different kind of competences did you need to actually design that? Because it's very much about knowing, okay, how would we like people to use media as well as it is about, how do people use the media. How would we like to have people use media, and how do we actually make this damn thing work? Make it work in an intuitive way and so on, right? So there you have a lot of different things in play. From the most technical things, to the more conceptual things. And it have to be a creative process all of it, to create such an end result of an problem that you have.

C. Test Manuscript

Manus til test med film

Hej

Vi har fået lov til at låne jer til en test. I vil nu blive præsenteret for en video på 6 minutter og efterfølgende blive bedt om at udfylde et spørgeskema hver. I kan ikke stille nogen spørgsmål, før vi har indsamlet spørgeskemaerne, men derefter svarer vi gerne på eventuelle spørgsmål. I må heller ikke tale sammen under testen, og hvis I ikke kender svaret på et spørgsmål, er det vigtigt, at I ikke gætter, men svarer: 'ved ikke'.

Vi håber, at I vil hjælpe os og være opmærksomme mens filmen vises.

Vi går i gang nu.

Manus til test uden film

Hej

Vi har fået lov til at låne jer til en test. I vil nu blive bedt om at udfylde et spørgeskema hver. I kan ikke stille nogen spørgsmål, før vi har indsamlet spørgeskemaerne, men derefter svarer vi gerne på eventuelle spørgsmål. I må heller ikke tale sammen under testen, og hvis I ikke kender svaret på et spørgsmål, er det vigtigt, at I ikke gætter, men svarer: 'ved ikke'.

Vi håber, at I vil hjælpe.

Vi går i gang nu.

D. Final Questionnaire Marked with Correct Answers

Spørgeskema om Medialogi

Sæt kun ét kryds for hvert spørgsmål, medmindre andet er angivet.

1) Dit køn:

☐ Mand

☐ Kvinde

2) Din alder:

_____ år

3) Er du på sidste år af dit studie?

☐ Ja ☐ Nej

4) Hvilket postnummer bor du i?

5) Har du før hørt om Medialogi uddannelsen?

☐ Ja ☐ Nej

6) Hvis ja, hvor har du hørt om den?

☐ ug.dk ☐ Uddannelseskaravanen ☐ media.aau.dk
☐ Gennem en bekendt ☐ Andet, hvorfra: _____

7) Hvilket universitet udbyder uddannelsen Medialogi?

☒ Aalborg Universitet (AAU) ☐ Roskilde Uddannelses Center (RUC)
☐ Erhvervsakademiet ☐ Københavns Universitet (KU)
☐ Aarhus Universitet (AU) ☐ Danmarks Tekniske Universitet (DTU)
☐ Syddansk Universitet (SDU) ☐ Ved ikke

8) Hvor ligger den københavnske afdeling af Medialogi studiet?

☐ Lyngby ☐ Amager ☐ Østerbro
☒ Ballerup ☐ Ved ikke

9) Hvilke områder kommer man til at arbejde med på Medialogi studiet?

(Sæt gerne flere krydser)

☒ Lyd design ☐ Radio ☒ Animation
☐ Økonomi ☒ Interaktive medier ☒ Computer spil
☐ Teater ☐ Ved ikke

10) På Medialogi arbejder man primært med:

(Sæt gerne flere krydser)

☒ Teknologi (Programmering, videoredigering, sensorer mm.)
☐ Lovgivning (Økonomi og juridiske principper)
☐ Retorik (Formulering, ordbrug og kropssprog)
☒ Kreativitet (Udvikling og design af nye produkter)
☐ Ved ikke

11) Hvordan er den primære arbejdsform på Medialogi studiet?

☐ Forelæsninger ☐ Praktik ☐ Selvstudie
☒ Projektarbejde i grupper ☐ Ved ikke

12) Hvad er den første og grundlæggende fase i hvert semester?

- ☒ Vælge et problem, researche og analysere det
☐ Vælge et produkt og starte på design og udvikling af det
☐ Ved ikke

13) Hvad er det primære formål med at lave produkter på Medialogi?

- ☐ At have det sjovt ☒ At løse et problem ☐ At sælge produktet
☐ Ved ikke
-

Svar kun på resten af spørgsmålene, hvis du har set Medialogi filmen.

I hvor høj grad er du enig i disse 2 udsagn, hvor 1 er slet ikke og 5 er i høj grad.

14) Jeg føler mig bedre informeret om hvad Medialogi er efter at have set filmen end jeg var før:

- Slet ikke I høj grad
☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ Ved ikke

15) Filmen gav mig nok information til at vide om Medialogi studiet har interesse for mig eller ej:

- Slet ikke I høj grad
☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ Ved ikke

Tusind tak for din hjælp!

E. Rolf Nordahl's Definition of Medialogy Poster

