

# Master Degree Project



UNIVERSITY  
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## **To what extent can interactive documentaries affect the engagement of secondary school children?**

Master Degree Project in Media art, Aesthetics and Narration

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## **Abstract**

This study will base on the following research questions:

*To what extent can interactive documentaries affect the engagement of secondary school children?* To understand what the research question exactly asks, it is classified into three sub categories.

- a. Does an interactive documentary make secondary school children pay more attention to the narrative than an ordinary TV documentary?
- b. Does it motivate them to explore the artifact or object?
- c. Does it change their mood to start expressing their experiences of the subject?

To be able to answer these questions, two films designed with identical narrative but differ on basis of structure. The films were viewed by twelve respondents aged 16-19 years. Afterwards, an interview was held with respondents to explore how they found the presented interactive elements. The respondent's subsequent views indicated that interactive documentaries do not lead to increased engagement. It also indicates that this method was not sufficient to response the question about increased "attention".

To increase engagement: interactive elements alone were not sufficient to allow viewers to engage more on the topic of the film. Interactive documentaries should include multi-factorial elements to work effectively.

**Key word:** Interactive documentary, TV documentary, engagement, teenagers, web vs. TV

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# 1 Introduction

Interactive documentaries are achieving fame and many people are engaging in the technology. However minimal research means the benefits of interactive documentaries remain unexplored. This project investigates the actual benefit of interactive documentaries. It also relates to exploring the benefits of this genre and studying how interactive media can engage youths.

The hypothesis studies how films implement interactive functions and whether this implementation is a positive or proactive influence on the user's engagement. Additionally, it will be argued that the interactive narrative gave a more positive effect on the young audience than was recorded for the TV documentary. In particular, and since it is the targeted audience of the research project, the study will discuss how youths paid more attention to the narrative, were motivated to explore the artifact or object in question, and facilitated mood change allowing greater expression and understanding of the subject. It is argued that interactive functions can provide these effects because they allow a user to go inside the content (Manovich 2000, 206). In other words, the user's participation becomes active rather than passive within interactive media content.

To address the research question, a research plan was put in place and is as follows:

- A short web documentary was created, with Interactive functions, and evaluated with the target audience.
- An identical film was produced without interactive functions.
- Both versions were presented to the target audience, and interviews were conducted to monitor and evaluate audience participation.
- The results were summarized with comparison and analysis for study presentation.

The production of a film was required to describe interactive functions. Another film formed content for a chosen short documentary about the cultural history of an archeological item. This documentary is available in Västra Götaland Museum at Skara and focuses on when, where and how the archaeological item was found and what it symbolized in terms of cultural significance. The documentary film had a chronological narration, including archive photographs, videos materials, and also featured an interview. One particularly interesting story was chosen from a number of Museum pieces. It should be noted that the Västra Götaland Museum had a website which was popular viewing for a significant numbers of teenagers.



## 2 Background

The background provides the opportunity to explain available theories within the subject of this study. Since interactive documentary positions itself within new media, there is a need to define this concept and present previous literary research.

### 2.1 What is new media?

According to Lev Manovich (2000) new media is described as popular press referring to: Internet, Web site, computer multimedia, computer games, CD-ROMs and DVD, virtual reality, and television programs. All these new media items require computer literacy and programs are edited on a computer. From these examples the understanding of new media is associated with a computer for spreading, demonstration and production. Media such as television, film, radio, photograph and text are the leading ones and if there is the term new media, there is also the term, which refers to old media. However what exactly is new media and how it is distinguishing new from old media? Manovich states a long list of the differences between new and old media. The most important and interesting difference is that new media is interactive. In distinction to old media, where the order of lineal presentation is permanent, the user can interact with new media content. In the process of interaction the user can select which details to show or which way to go, thus creating a distinctive work. In this manner the audience becomes a joint author of the work (Manovich 2002, 21-62). This means new media features can still be found in old media technologies as well. However what is new about new media in the way of presentation, accessing and interaction? New media allows a user an activeness, whereas old media allows a user to be passive. Due to innovative changes in media, the way of communication has changed. New media provides the user with a number of possibilities, such as interaction, participation, and even rating media content, which old media does not offer.

Manovich (2000) suggests that all types of computer-based media is considered interactive, as it allows a user to theoretically go inside the media content and change all the values in the image. When the image is digitally interactive and created, the user has the possibility of changing the image. Manovich proposes that the process of going from analog to digital has made media interaction innovative and improved the creativity of this medium. The digitalization of the medium means users can go inside the content and change every single point at any given entry point. It has no link with the image in a sense. Digitalization translates information or image into codes and analog direct hits to surface and there is no translation. According to Manovich, communication comes through by contact and thus,

communication predominates by asking questions. Contact is centred on the physical channel and the act of communication between two people (speaker and receiver).

It is only a machine through which the user continuously checks whether the information is appearing, he actually connects to the machine or the machine communicates to him. In this way the machine reminds the user of its existence and plays a role as speaker and receiver (Manovich 2002, 206).

It means the computer finds the solutions and pathways, with human interactions asking new questions to enact problem solving. When the user interacts with the computer it formulates new questions all the time. So, if the user chooses not to operate the computer it means there will be no narration or questions. This differs from analog media, which moves on even if the viewers stop interacting or watching the screen.

When looking at an education model, cognitive learning theory suggests that the degree of interactive participation, by the learner, is very influential in improving learning outcomes. Interactive participation improves the learning experience because the student actively participates in understanding and interpreting the learning environment (Bryant & Hunton 2000, 137).

Manovich's theory is not about the engagement at all. He theorizes about the digital potential of an image. Thus, it is not argued how it affects the user. But cognitive learning theory addresses learning and interactions, within an object, increases the ability for knowledge transformation.

## **2. 1 Television documentary**

According to Bill Nichols (2001) documentaries are what the organizations and institutions are producing. If an institution calls a program "documentary", it is considered as documentary before any work on the part of the audience or critic arises. The audience understands the film's documentary status as a program that promotes objectivity, reliability, and credibility. It is assumed that it has a non-fictional reality based status, with real people and events, rather than a world of fantasy made by the film producer. The central characters, codes and conventions of television documentaries are: the use of voice-over commentary, interviews, location sound recording, cutaways from a given scene. Additionally there may be pictures that show a point created within the scene, a reliance on social actors, or people in their everyday roles and activities. Another characteristic of TV documentaries is the structure of the narrative: the film begins with an introduction of the issue-based story; main characters are introduced, and the theme of the narrative can be

understood at this initial stage. The narrative may introduce a problem, which may occur in the middle of the film, and a resolution will occur by the end of the film. (Nichols 2001: 20-30). Nichols suggests that there are six main modes or styles of documentaries. The modes are a way of classifying different types of documentaries and are similar to genre categories in feature films. A documentary is usually based on different modes, with usually one mode being dominant.

The types of documentary filmmaking are: poetic mode, expository mode, observational mode, participatory mode, reflexive mode and performative mode. In general, mostly people identify expository mode with documentary. This mode emphasizes a variety of footage encompassing interviews, stills and archive material to support the argument. The content of this mode tries to convince the viewer of a specific point of view, often by appealing to logic and to the idea of 'a reasonable response'.

The poetic mode relies upon subjective representation of reality. The observational mode concentrates on a single camera presentation. Location shooting is used. No interviews are used and hardly any voiceover. The participatory mode presents the documentary maker as a participant in the documentary, often including direct narration to the camera and voiceover. Michael Moore is a famous documentary maker who normally uses this mode for his films. The reflexive mode relies on suggestions and opinions rather than facts. The performative mode is based on emotion and the documentary maker normally interacts with subject (Nichols 2001: 99-133).

## **2.2 Web documentary**

Web documentary is an achievement of new technology and it was created with Internet development. This new form of documentary is made for viewing on computer via Internet connection. As content, web documentary uses many of the representational conventions of television documentary. For instance, it uses interviews, sound, and commentary about content in the form of voiceover or text. Web documentary usually uses the same subjects as television documentary does, especially environmental, social and political subjects with an investigative or journalistic purpose. There are also similarities between web documentary and TV documentaries in terms of structure. Web documentaries use linear narrative structure and categorical (non-chronological) structure may be used as well (Kate Nash 2012: 204). Ersan Ocak (2012) claims web documentaries can use non-chronological narration, allow random access and often display open-ended narrative. These characteristics of web documentary operate with different "database structures" that are

central to computer culture. Ocak mentions that nearly all traditional documentaries have chronological narration with closed-ended narrative structure. But almost every web documentary becomes a non-linear narrative with an open-ended narrative (Ocak 2012: 961-963).

The name 'web documentary' is called sometimes webdoc, interactive documentary or webdocumentary. It describes a body of documentary work to spread through the Internet, which is both multi-media and interactive. Usually the organizations that make and broadcast television documentaries produce web documentary too (Nash 2012: 197)

Ocak also describes the past cultures of media delivery, which differs from present times. The main separation lines between present and past cultures of media content delivery has related to society's introduction to the computer. Earlier in time, programs were computer generated non-linear-edited footage and then placed on the Internet as a finalised product. Today's web documentary uses non-linear narrative and adds open-ended narrative structures, which are then accessed through the differing database structures that are central to computer culture. (Ersan Ocak 2012: 960) Interactivity exists in all web documentary as Nash purports "Interactivity" is a constant in all new media documentary projects" (Nash 2012: 203).

### **2.3 Definition of Interactivity**

Russell Richard (2006) claims the term 'interactivity' is not simply found in dictionaries. The first finding was in 2002 edition of the by *Shorter Oxford English Dictionary* and it was defined as an activity containing interaction and as the property of being interactive, giving the meaning a double possibility. Interactivity as an activity connects to the activity of communication exchanges, although interactivity is not just about communication between people. It is also about the exchange of produced content and as such enables the user to play and even re-design the content of documentary. The expression as a property, describes an aspect of technology usage that focuses on the design of interface and technique. As a property, interactivity provides distributed content to the user and additionally, the ability to spread content to other users (Richards 2006: 532-533).

Oliver Quiring (2009) discusses about this term too and says "*What do users associate with "interactivity"?: A qualitative study on user schemata*". Quiring says that interactivity takes place when users exchange communication, for example when the users enter into a

dialogue. The users have the option to get more control over the communication process with interactive communication. Interactive communication is therefore considered mostly as two-way communication. However Quiring refers to a “third-order dependency”: “Interactivity is an expression of the extent that in a given series of communication exchanges, any third transmission is related to the degree to which previous exchanges referred to even earlier transmissions”. He describes this characteristic third-order dependency as: “five important elements of interactive processes can be identified: exchange, dialogue, control, two-way communication and third-order dependency” (Quiring 2009: 901).

## **2. 4 Interactivity in relation with web documentary**

Interactivity can initiate a shift from passive to active audience engagement. Interactivity can have many senses and its use in the web documentary involve the user in navigation through content, immersion in a virtual world or participation in a community. The user might be interacting with a website, with other users or with the documentary maker.

When interactivity is considered in relation to documentary it is often understood that the users have the possibility to control content. At its most basic, the web documentary differs from film and television documentary in that the user plays a role in the presentation of the documentary by choosing the order in which they access content. Although a TV Documentary has a structurally defined and accessed ‘beginning middle and end’, accessing a web documentary may mean that the user can choose his or her own entry point into the content. This allows the participant to access the content in the middle or end at their own pace. While interactivity opens up the chance of multiple informational paths it challenges the idea of narrative unity that has been so dominant to television documentary

The web documentary invites the user to play a role in the presentational order of the documentary. Documentary filmmakers expect the audience to enter the content at any part and the filmmaker can design the navigation process to engage and simplify the audience uptake of desired content. Additionally the web documentary filmmaker expects the audience to access the content randomly and this expectation creates the ‘when, where and how’ they will join the content. The control that the user has over presentation forms an important difference between film and television documentary and the ability to modify or contribute content is generally thought to mark a more significant level of interactivity (Nash: 2012: 199).

Nash, interactivity provides many other user functions within the context of webdocumentary: “finding information from within or beyond the documentary, learning, furthering the narrative, personalizing the documentary, adding to the documentary content, play or searching ‘playfully’ for hotspots within an image –interface”. The users have the ability to find and learn information from within or outside the documentary. The users also have the ability to extend the content. By downloading the elements of content, and making additions, the user may produce a new version of the documentary. There are more opportunities for the user: compiling user contributions to the documentary content and sending related materials to the producer, playing, clicking, holding and searching through the interface (Nash 2012: 196).

Russell Richards (2006) argues the possibility for users to create content by being central to interactivity. He suggests it can only take place when the user is positioned in an active role. Richards suggests three types or forms of interactivity. A) Consumer interactivity means the content is created in a way that the user’s activity involves understanding, evaluating or acting in another area. B) Processor interactivity means that the users have some possibilities to support the content. For instance attaching a photograph or a segment of video or sending an email may increase support. C) Generator interactivity, is when the user can author content and correct or adjust the subject, i.e. creating a chat forum to discuss more about the subject with other users (Richard 2006: 540-543).

From Richard and Nash discussion about interactivity within web documentary it became clear that three aspects of interactivity are central or relevant to the web documentary. A) Control over content. B) User capability to support or contribute the content. C) User ability to make friends through discussion rooms and further argue the focus web documentary project.

### 3 Problem

After reading the literature about new media and web documentary specifically, there appears to be no clear evidence that shows the effects interactive narrative has on a young audience. Manovich's theory describes the digitalization and its potential for an image. Cognitive learning theorists speak about this subject and state that interaction within an object increases the ability to transform knowledge. Nash presents the scope of what interactive narrative can offer to audience. The writers theorize about the benefit of interactive media but barely examine the affect and engagement. The present literature review shows that deeply understanding affect and engagement has remained unexamined to a degree by academic experts. Even if Interactive documentaries are getting more popular and many people are accessing them, there is still inconclusive research conducted indicating what the affects are. Hence this current research opens the following topic for examination

*To what extent can interactive documentaries affect the engagement of secondary school children?*

To understand this childhood engagement research question three sub questions offer further exploration: 1) Does an interactive documentary make secondary school children pay more attention to the narrative than an ordinary TV documentary? 2) Does it motivate them to explore the artifact or object? 3) Does it change their mood to include expressing their experiences of the subject?

This study hypothesis centres on whether an interactive narrative has a positive effect on a young audience. Does interactive narrative give youths more attention to narrative, and make them more motivated to explore the narration? Will the process change their attitudes to expressing their understanding of the subject? Interactive narrative needs to be studied to examine the extent of influence youths may experience with engagement. Could a documentary film with interactive narrative affect audience engagement positively and, if so, how?

### **3.1 Method for the Initial Stage**

As an exploration of the hypothesis it was necessary to produce a film with interactive functions. The developed film was a short documentary presenting a culturally historic “archeological” item, which is available in Västra Götaland Museum in Skara. The story focused on the item description, what it symbolized and where it was discovered. Structurally the film was developed as a chronological narration and included archival photographs, archival videos, new video materials and an interview.

The plan was to create two versions of this film: one with interactive functions and the other without. Presentation of both films to the same audience will enable examination of the affect of the films on the targeted audience. Both film’s content was identical except for their interactive functions. Uniformity was required because if there was a narrative difference in these two films, affect and engagement would be too complicated to evaluate. The aim was to produce identical films, where the interactive functions were to be the only thing that would change respondent’s experience.

### **3.2 Respondents**

There were 12 participants, with a mix of girls and boys between 16 and 19 years old. It was important to explore a combination of respondent ages of people to not have an age bias within the research of seeking opinions and attitudes about the interactive documentary genre. The main study centred on interactive functions and how it impacts respondent’s mood, motivation and attention.

### **3.3 Film presentation**

The respondents were divided into two groups. The groups viewed both the films separately. To maintain unbiased viewing, one group watched the interactive film first and then the TV documentary. With the second group the viewing order was reversed and they watched the TV documentary first and then the interactive film. If all respondents had watched the interactive documentary first and later the other film or the opposite, bias may have

influenced the outcome of the experiment. For this reason it was meaningful to not allow all respondents to watch the same film first. This variation of film viewing allowed the pursuit of research to discover whether viewing order is part of an affect.

The participants accessed the films in a school classroom and viewed the traditional TV documentary on projector. The respondents sat on regular school chairs in groups of six with light powered off. This is the usual way of showing films in secondary schools in Sweden and for the purposes of this study the same environment was implemented. The students were accompanied by the researcher, as an observation measure, however the students were not allowed to enter into dialogue with the researcher. The environment was required to be a neutral to prevent result bias.

The interactive documentary will be accessed via laptop or Ipad at the same classroom. The respondents sat on chairs and watched the film individually on a separate computer screen each owned by the participating respondent. Interactive media, as Manovich suggests, can only be accessed via digital devices such as computer, laptop, smart phone, Ipad and so on.

After the groups saw the first film, they waited one day before watching the next film. Watching both films in row may have been boring due to repetitive narrative content and for this reason it was important to give one-day gap between watching the first and second film.

### **3.4 Interview**

As respondents finished watching each film, they were interviewed individually. The questions mainly focused on interactive functions and were open-ended questions, not “yes” or “no” questions. With open questions the respondents had the ability to motivate their answer with freedom, allowing discussion on topics that flowed from this form of questioning and on material that may not have been covered by certain direct questions. This allowed capture of further opinion by allowing more variety for analysis.

The respondents were not informed about the research direction, purpose or possible expected outcomes for evaluation. This was to prevent bias and skewed results, which occur when respondents may know what the researcher is looking for and inadvertently begin answering in a way that pleases or angers the researcher. For the purposes of valid research it was important that the respondents had no idea of what was being measured and with this in mind the respondent audience remained ‘blind’ to any expectations the study might have on the positive or negative uptake of interactive narrative.

### **3.5 Summary**

The qualitative analyses method has been used to study the responses and comments of the respondents. This means summarizing their answers in text, which presents how the respondents have found the interactive functions and have replied to the questions under the interviews.

## **4 Process of experimental design**

The process involved producing suitable content within the two filmmaking genres to ensure compliance with the required standards for the experiment.

### **4.1 Documentary film**

First of all, to conduct the research work, a documentary film was created to suit the purpose of the study. The content had to be suitable with and without interactive functions to justify and support the measurement of the engagement of teenager. There was little need for an expensive film, with high production values, for the purpose of this study, because the ultimate focus was on interactivity. A simple presentation of the Museum of Västra Götaland was suitable content to engage the interest of the respondents for measurement.

### **4.2 Beginning of the work**

At the start of practical process the Museum was visited to ascertain content values available for the making of the film. The film remained unscripted to allow freedom to exploit any opportunities a visit to the Museum presented for content inclusion. The first shooting of content began in the exhibition room and included archeological items from different angles. The profusion of items gave variety but also added an element of confusion when considering which item or items should be selected for the purpose of the film and subsequent study.

Few days later, after the first film recording the researcher took time to view two interactive documentaries called 'Prison Valley' and 'Becoming Human' that are available on the web. The later web documentary describes a subject that deals with ancient human fossils. The story of this documentary became inspirational as a directive for the study's film narrative. The film, 'Becoming Human' presented where, when, how and who found the fossils with different media in a non-linear storytelling. This online documentary inspired the structure and presentation of the study film. The other film called 'Prison Valley' enabled design of the interactivity for the study film. After having a clear image of what narrative would be produced the researcher visited Varnhem, where the archeological items were discovered. At this site the visuals of the excavation site were photographed and filmed. Additionally a video interview was conducted with archeologist Maria Vretemark who was leading the excavation project.

## **Prison Valley**

This web documentary uses interactivity both to move forward the documentary's narrative and to encourage the development of a community of interest.

It is about the prison system in the US city of Cañon, Colorado. The documentary explores the economics of the prison system and the effects for the town, the prisons, and for society in general. Structurally and stylistically the documentary could be classified as an example of a journey documentary. Viewers follow the journey of the documentary maker who meets with the residents of Canon City. The film is made up of cinematic shots of buildings, local people and the prisoners, and voiceover of the documentary maker adds commentary to the story (Nash 2012: 202).

The viewer is encouraged to interact with the documentary's narrative in many places and directed to a chat room. This room offers the viewer the ability to discuss film content with the documentary maker and other viewers. The film moves in a chronological order and contains a number of sequences or video segments. At the end of each video segment, the viewer is offered the option to either leave the 'film' in order to get further information, or 'hit the road' which means, move back to the film (<http://prisonvalley.arte.tv/?lang=en>)

### **4.3 Editing**

Editing began with around two hours of raw video footage, new and archival photographs and careful selection was carried out for inclusion in the study films. From this footage, production of a short TV documentary took place and then reproduction of the film, in an identical model, with the additions of interactive possibilities. From the start of the editing process the researcher had in mind to create a film with a linear presentation, with a chronological narration with introduction, middle and end (Nichols 2001, 22). It was also decided to follow the central characteristics of documentary and implement objectivity (Nichols 2001, 97). The topic of the film is real and not manipulated in any way. Since editing could also affect the engagement of respondents it was decided to avoid inserting special elements in the film such as light and sound. The film therefore only includes natural sound and lighting.

Voiceover from the interview footage is used to advance the narrative, provide commentary on event and enhance reality with basic factual inclusion. Among other interesting elements that are included in the film are still photographs. They are mainly added in the film to help authenticity and avoid the respondents feeling bored. The same repetitive material throughout the entire film could possibly make them tired and uninterested. The mode of the film can be identified as an example of the expository mode (Nichols 2001: 105). The film consists of a number of sequences, which is ordered chronologically and has different lengths. Moving from one sequence to the next has been with the tool of using a black background.

When the TV documentary was completed, editing of the web documentary began. As noted above, both TV and web documentary were identical, and the only difference between them is the web documentary would have interactive tools. Initially the web documentary was edited within a software program called Videopath. It allowed the design of the film to include interactivity for the viewer to interact at various entry points and it also guided them to get more factual evidence about the topic of the film. Interactive functions were added into the film and included video-linking, website-linking, quiz, text, non-linear access, and subscription. The disadvantage of Videopath is that it does not provide break tool. This tool has the function to stop the film automatically at any point of the film. With other applications the viewer is able to start the film again or move forward when the user hits the “play icon”.

Since hitting or clicking is one of the interactive genre’s main characteristics (Nash 2012: 196) and crucial for this research, it was decided to cancel the involvement of Videopath and Vidzor was chosen as the re-editing software. This editing program provides less interactive tools but it has “break tool”, and the researcher perceived that it was more important to have that than worry about the interactive tool lost with the change of editing software.

#### **4.4 Selection of interactive elements**

The web documentary was produced as a form of consumer interactivity, which means the content is formed in a way that the users activity involves understanding, evaluating or acting in another area (Richard 2006: 540). The film offers the respondents the options to access the film non-chronologically, platform for discussion, finding more information about the topic of the film, video-linking and Facebook-linking.

The film called 'Prison Valley' offers the viewer two options at the end of each video segment: to either leave the 'film' to get further information, or 'hit the road' and return to the film. This format was followed for the web documentary.

At the end of each sequence of the film, the viewers are offered the option to either leave the documentary in order to get more information about the subject of the film, or hit "continue" which will direct the viewers to the next sequence of the film.

The interactive elements that are implemented into the film are open access and non-chronological narrative, which are considered the main characteristics of interactive documentary (Nash 2012: 196).

Other elements are added into the documentary are website-linking and video-linking which enables the respondents to get further information beyond the documentary (Nash 2012: 201). Facebook-linking and chat forum for discussion with the filmmaker and the interviewee are among the other interactive elements.

#### **4.5 Pilot experiment**

When editing was completed the web documentary with the Videopath software, it was essential to make a pilot experiment or preliminary test a few teenagers to assure the projects validity. After the teenagers finished watching the film it was observed that none of the teenagers tried the interactive elements. This is because the film kept moving on and the teenagers focused only on the story. The film progressed as it does on TV documentary. It did not stop at any points of the film. For this reason the teenagers did not engage with the interactive functions. The researcher dispensed with any further questioning when the trial had proven a lack of engagement with the interactive elements.

The trial exercise it was necessary to check for another software in order to chase "break tool". When the Vidzor software was found to provide this tool and the film was re-edited. Another pilot experiment with presentation of the Vidzor version lead to a big difference in reaction from the trial teenagers. The participants hit and used the interactive elements of the film to move forward or discover more information thanks to the break tool. In this sense the new web documentary made within Vidzor software was better and practical for the study experimentation.

## **4.6 Ending**

An identical narrative was created for both film genres with the only difference between them being the element of interactivity. The duration of the completed films was around seven minutes long. This was the expected and planned for length, since the beginning of the project. The narrative as planned previously has a linear storytelling. During the presentation, it was essential the storyline made sense in order to keep the respondent's interest alive during the entire documentary. The length perfectly suited the purpose because had it been longer or shorter the audience may not have maintained engagement and this was a risk that may have affected the outcome of the experimentation. The length of seven minutes seemed to not overwhelm or bore the participants when they had to watch both versions for the study.

Initially the earlier idea was to select a specific archeological item and introduce it on the film. However, this idea proved to be unrealistic and instead the narrative presents the general process of the archeological discoveries. The inspiration resources influenced the choice of narrative and the end result was helpful for the study.

Another issue that arose concerned the number of respondents who participated on the final analysis of data collection. The prior plan was to test the films on 40-50 respondents and let them answer a questionnaire after they have finished watching the films. This plan changed because the respondents are teenager and this data collection method does not fit them well because there was a risk they were not reliable. Therefore it was decided that data collection would have less respondents, ending up with around 10-12 participants.

## 5 Experiment

The experiment took place on students in Älleberg Secondary School in Falköping. They watched both films, and viewing was followed with one-to-one interviews to seek their opinion on interactive elements. As mentioned in the earlier chapter the respondents were a mix of girls and boys between 16 and 19 years old. It was thought that it was important to explore a combination of distinctive respondent ages to observe.

### 5.1 Method

In this experiment semi-structured interviews were conducted. This means a list of questions were adapted to the flow of the conversation without relying on order. Additional unscheduled questions were asked if the interviewee brought up issues that had not been factored into original questions.(Briony J Oates 2006: 188). A pilot interview was conducted to ensure questions were suitable for the intended respondents.

Regarding the choice of respondents, it was decided to focus on students of Älleberg Secondary School in Falköping. Through social connections the researcher engaged different respondents in age, gender, and educational and social background to provide a good diverse cross section of the township society within a certain age framework. The researcher conducted the interviews so that the freedom of adding unscheduled questions to the respondents maintained a suitable fit for the purpose of the study that had been designed by the researcher. The sub-questions helped to develop each question and provided more widely spread data to use in the analysis. In addition, it gave some time to respondents to express their opinion and thoughts. Care was taken not to lead respondents into a specific direction. In this way, the researcher reached a better understanding of how they thought about the interactive elements.

During the interviews a recording device and notebook recorded everything. The benefits of audio recording supported the process of the interview. It also simplified the process of working with finding and participants and gave the opportunity to listen to the respondent's answers after the interview had taken place. Relying on the recording device had also disadvantages; for instance it did not capture the non-verbal communication and context of the interview. For this reason written field notes backed up recording equipment.

Information was recorded relating to context such as location, atmosphere, own perception about respondents and what the intent was behind some statement or observations of non-verbal communication such as body language.

Oates (2006) suggests the researchers should make small talk to help the interviewees feel relaxed and comfortable before moving onto the main body of the interview (Oates 2006: 192). For making them relaxed the researcher started the interviews by commenting about the context of their school and asked how they had progressed with the lessons and so on. After that introduction, the researcher moved onto the main body of the interview, started with an easy question where respondents were likely already to have well-formed views. The following questions moved deeper and asked further analysis on the topic. The interviews took place individually in the Ålleberg Secondary School, where it was a one on one face to face interview, in a quiet and calm atmosphere.

As mentioned above the selection of respondents happened through the researcher's connections from the initial approach to the Ålleberg Secondary School. Twelve voluntary students for the experiment in a classroom were chosen. Seven of the students were girls and five were boys and more information about each respondent is available in a later chapter. All the respondents study at the Ålleberg Secondary School and came from different classes. The interview was carried out separately with each respondent after they had watched each film. The only information they got before watching the films was that the test would deal with film. No mention was made about interactivity or the full nature of the study. The researcher did introduce himself with a brief overview of his background and the likely duration of the experiment.

The respondents were divided into two groups, six respondents in each group. The reason of separating them into two groups depended on three issues: 1) order of viewing, because the respondents might be affected by post-viewing knowledge. 2) Not enough laptops to allow everyone to watch the web documentary together. 3) Avoid noisiness, the classroom could have been noisy if all 12 respondents watch the web documentary together.

For simplifying the work the groups were named, A and B. Group A watched first the TV documentary on projector and watched the web documentary on laptops the next day. Group B went through the test in the same way but they watched first the web documentary and the TV documentary the following day.

## 5. 2 Questions, responses and interview length

The respondents in group A and B were interviewed individually with the same questions. The first question asked what they liked most and least when they watched the web documentary. Later they were questioned if watching the narrative of the film on the web documentary helped them to be able to pay better attention. Another question centered on whether the hitting or clicking on the web documentary helped them to engage more with the narrative of the film and had the use of video-linking or discussion forum helped them to engage or blend in more on the topic of the film. Also asked was whether the opportunity to click and interact with the film affect their mood, and finally the researcher asked which form of documentary film narrative did they prefer to watch. There were eight formal questions and a number of additional 'on the spot questions' to flush out opinion.

The duration of interviews was different. Some of the interviews took about ten minutes, while others took a longer time depending on how understandable and detailed the answers were and how many sub-questions were brought up. The below table represents the details about every respondent and the interview duration. The letter A stands for group A and B stands for group B. The numbers 1, 2, 3, and so on stands for each respondents.

<b>Respondent</b>	<b>Type of person.</b>	<b>Interview duration</b>
A1 girl 16 economy student.	Overconfident person with bossy qualities. Speaks loud and clear. Dressed in jeans and leather jacket.	10,07 minutes
A2 boy 18 technical student	Calm person. Take extra time to answer the questions. Dressed in jeans and jumper and wore a brown cap.	15,34 minutes
A3 boy 18 Vehicle and transport student	Smiley but shy boy. Speaks less and stare more. Unconfident. Dressed in brown pants and red T-shirt. His hands were	11.23 minutes

	constantly in the pocket of the pants.	
A4 boy 17 media student	Calm and nice person to speak with. Looks intelligent. Speaks clear and fearless. Dressed in black jeans and plaid shirt.	17,46 minutes
A5 girl 17 hotel-restaurant student	Simple, smiley, curious and fearless girl. Speaks much, loud and clear. Dressed in tight black pants and long pink jumper. Hanged rings and necklace.	22,34 minutes
A6 girl 18 nursing student	Very calm and reserved person. Does not speak much. Speaks low but reasonable. Dressed in cardigan and skinny pants.	11,13 minutes
B1 girl 16 nursing student	Energetic and confident girl. Speaks with smile and loud. Dressed in skinny pants and tight wool jumper. Hanged necklace.	17,21 minutes
B2 girl 19 hotel-restaurant student	Unfriendly, fearful and still person. Speaks short, low and unclear. Dressed in shirt, vest and jeans.	11,09 minutes
B3 boy 18 electricity student	Calm and still person. Speaks short but sensible. Dressed in pants and cardigan.	10,56 minutes
B4 boy 19 Industrial student	Energetic, confident and curious boy. Speaks clear with constant smile on the face. Dressed in pants and T-shirt.	22,19 minutes
B5 girl 17 Media student	Reserved and uninterested person. Take extra time to speak. Dressed in waist pants and shirt. Hanged big earrings.	13,32 minutes
B6 girl 17 Natural Sciences student	Fearless girl with curious qualities. Speaks loud and long but not much sensible. Dressed in skinny pants and long jumper.	21,16 minutes

The answer of the respondents had differences and similarities. With the question, “what form of film do they prefer to watch the narrative of the film ?” respondents answered differently. The respondent B3 like both the forms equally “I like both the forms, but at the same time I dislike them. They both have advantages and disadvantages; the TV documentary was good because I did not need to click to go forward in the film. The web documentary had an interesting structure but as I said it was unnecessary to click through the film” (B3). The respondents A2, A3, A4, B1, B2, B4 found the narrative of the film was more interesting on the web form than the TV form. A2 claimed “It is undoubtedly the web documentary that I personally prefer as it feels more interesting and contains more facts if you want to deepen your knowledge about the subject” (A2). The rest of respondents had another view about the web form than the respondent A2. They found the TV documentary was the better version. The respondent A1 added, “I prefer the TV documentary because it had an end. The web documentary made me irritated and I just wanted the film to end quickly” (A1). The respondent B5 liked the way the web version was designed but found the narrative of the film made more sense on TV form than the web, “at the start I found clicking was good in the film but in the end it was frustration. Clicking once or twice during the entire film had been acceptable but doing this activity repeatedly made me tired and unfocused of what is going on in the film. For this reason I prefer watching the story of the film on TV form than the web because the TV documentary moved on by itself” (B5).

For the question that says what you like most and least when you saw the film via the web form, most of the respondents showed that they liked being able to click interactive applications on the screen, as well as being able to find related links about the topic of the film. In addition, one respondent claimed, “It facilitates that there were related links to the area the archeologist talked about. It expanded my knowledge about the subject of the film” (A3). Another respondent stated, “I most liked the web documentary because it allows the viewer to watch it where he wants as well as when he wants to stop watching it and start watching again when it is possible” (B4). When it comes to what they least liked about the web documentary, the respondents claimed different things in relation to this question. Some of the respondents mentioned that it was disturbing when you have to hit the screen repeatedly to make progress in the film. Others mentioned that they felt confused about the web documentary contains that much possibilities and additional information. One respondent said, “it was difficult to concentrate where on the film I was and when it would end and sometimes it appeared it had no end” (B4). Another respondents mentioned that the TV documentary had less information to present but I was most comfortable with that, “I

least liked the web documentary when you tried to see the additional information, it was tiring and unnecessary application” (B5)

The question if the web form helped them to be able to pay better attention, gave a variety of responses. Not all the respondents found the narrative presented on the web form helped them to be able to pay better attention. Most of the comments the respondents left were connected to the structure design of the web documentary. One respondent mentioned, “No”, not at all, I did not pay better attention to the story just because the film was structured” (A5). Another respondent responded, “The web documentary that offers tools to understand the subject better and divide the story into different parts makes the viewer to an overall picture of the subject which leads to giving the film more attention” (A2). One respondent stated differently from the rest, “Yes and no. I liked the structure of the web documentary. It was fun to navigate through the film in the way I desired but it was puzzling too” (B4).

In response to the question, “did having the opportunity to click and interact with the film affect your mood”. The respondents A2, A3, A4, B1, B2, B5 mentioned that the use of hit and interact affected their mood in a positive way. One of these respondents mentioned, “Yes, the opportunity to click with the film made my watching experiences more interesting and fun” (B2). Another respondent stated, “It does not matter, I felt no difference” (B4). Other respondents A1, A5, A6, B3, B6 said that the use of hit and interact did not affect our mood. B3 mentioned, “However, I lost interest of the film when I needed to keep clicking, just because I would progress on the film” (A5).

The question asking if the use of video-linking, Facebook-linking, discussion forum and watching the film in the desired order helped you to be more motivated?, gave the most affirmative responses. All of the respondents answered this question except three. The three respondents who did not reply to this question had skipped these applications. Most of the remaining respondents were positively affected and the comments they left were related to the discussion forum implanted into the web documentary. One student mentioned, “The film with the interactive functions was more interesting and informative as it enables you with only one-click to find out more facts and also allow you to discuss about the subject with the other involved participants” (B4). Another respondent replied, “Yes, I became more motivated, these functions stopped me from "falling asleep" during the documentary viewing. Since I did not have any interest in the subject of the documentary, it was easy to fall asleep and lose interest (A4). The respondents A5 had another opinion about these functions and

commented, “no, it is not necessary and they make no sense” (A5).

### **5. 3 Importance of viewing order**

There is no obvious sign that indicates the responses of respondents were affected by the order of viewing. The majority of the both groups thus have not been addressed most one film because of they saw it first. As commented earlier, in capital 5.1 group A would first watch the TV documentary and then the web documentary. Group B would initially view the web documentary and later the TV documentary. Three respondents in group A found the narrative of the film was more interesting on the web form than the TV form, even if they viewed the wed documentary secondary. The respondents A1 and A6 preferred TV documentary, while A5 liked both versions equally. This shows that half of the respondents supported the web documentary and two respondents disliked it, while one respondent was neutral. Another instance that shows the viewing order had no affect is three respondents of group B (B1, B3, B5) found the TV version fitted them most despite they watched the web version primarily. These cases show only two instances indicating the researcher's assumption that respondents are affected by what was seen first is not correct.

## 6 Analysis and conclusion

Analysis of the experiment's result and the answer of the respondents in a more detailed way is required after explaining the general overview of the results. A description is required of the conclusion reached, how the research method worked and whether the hypothesis has been answered with acceptance or rejection.

### 6.1 Analysis

The result of the study addresses that all the respondents who joined the experiment had a variety of responses and comments. They did not share the same opinion at any point. All the respondents thus have answered differently.

The researcher experienced, for example during the interviews, that the respondents who found TV version most suitable for them tend to have critical view almost about all issues that characterize the web version, except the issue about discussion forum, which the majority of the respondents found interesting. According to their responses this application made them feel encouraged and a part of the film because it enabled them contact and connection with the archaeologist and the filmmaker.

The result demonstrated that not all the respondents paid attention to the interactive elements. Some of them had just clicked on the "continue" icon to bring them forward and skipped hitting on the other icon that covered further information about the subject of the film. The rest of the respondents had paid attention to these options but none of them had clicked on everyone. Regarding the respondents who ignored joining the additional information, there was a dependence on the narrative of the film. The additional information possibly did not draw their attention because the topic of the film did not interest them. If a subject that relates to youths had been chosen, perhaps it would have been more interesting and these respondents would possibly connect them to the additional information.

The structure of the web documentary was not either helpful to enable the majority of the respondents comprehensive motivation. Four of the respondents disliked the structure of the web version and one respondent neither liked it or disliked it. The question for the researcher could be : " what I should have done differently to make them pay better attention and therefore been able to rescue my hypothesis.?" Had the researcher designed the web film with longer video segments and fewer breaks the respondents may have been more

interested or motivated. For instance one respondent found the structure of independent sequences interesting but clicking every minute to come to the next sequences was frustration. The hypothesis may have been accepted if the web version was added only with one break, with the additional elements appearing in form of “text icon” simultaneously as the film moved to the end of the film. One respondent who disliked the web version addresses special effects. In addition, the respondent mentioned, “No, absolutely not. The film helps me to give less attention to the story. Young people, especially, are used to movies with great effects both audio and video. As we see this film gives no sound effects or images. 2015 films are almost unreal, nice effects, such as music or visual effect” (A1). There may be some truth to this statement. Possibly an effective web documentary is a combination of interactive elements, sound/visual effect, less breaks and these issues together perhaps help teenagers to work effectively and engage more with the story.

Almost half of the respondents experienced their mood changed positively about the opportunity to click and interact with the content of the film. For the other viewers it did not make a sense and they found this possibility useless. Additionally the researcher may wonder, what should have been done differently to make the majority of the respondents feel their mood had changed positively? One thing that had a huge influence or importance on this study was the subject of the film. Certainly, the result would look different if the topic of the film had have attracted the respondents. The story of the film deals with culture and an historical subject that is perhaps not the most popular topic for the teenagers. Possibly, a subject that is current in their society would help gain attention. In this way the respondents would probably engage more with the film.

Regarding the selected data collection method that has been used in this study seems to have worked well to a larger extent. It was found that the interview was a successful method to study this research question. The questionnaire may have been negative good data collection method for this study. It did not give the complete image of what the respondents meant and liked. With semi-structured interviews the opportunity to go deeper with every respondent extended the data collection well. With the questionnaire method only, this opportunity would not be possible.

After consideration, the interview data collection method does not work fully to answer the question of this study. In other words, it did not help to gain a response to all the research question. However, this method fits to response the second and third sub-question, “does it motivate them to explore the artifact or object” and “does it change their mood to start

expressing their understanding of the subject". It can be asked: does an interactive documentary make secondary school children pay more attention to the narrative than an ordinary TV documentary? In answer the selected method did not fit this sub-question. This part should not be taken away from the research but it may have been more effective to have measured participant's attentiveness by the observation method in. An observation method, conducted by the Research could have observed the way in which each and every respondent watched the web documentary. Details relating to: did they watch the film as expected? Did they go through the entire film? Or did they stop watching the film as they saw other respondents finished watching? Possibly, each respondent should have watched the web documentary alone and at the same time had their attention activities carefully observed and recorded. In this way answers to the first sub-question may have been more appropriate.

The number and the variation of respondents were practical additions and enough to get an understanding of how the major opinion about interactive documentary was effective. It was felt by the researcher that adding more respondents would not have changed the data. The evaluation was conducted in March when students were stressed with National examinations. Had the experiment run in May the data outcomes may have added more attentiveness. Therefore more data may have been collected if the experiment was run earlier. Importantly, another issue experienced related to the respondents' behavior and body language. Such differences between respondents, mostly shy and reserved participants meant there may have been something added to their verbal statements.

The questions used during the interviews were open and gave different answers to help answer the research question. Another consideration would have been to ask more questions during the interviews. One question that would have added more was: *if you could change one/more thing about the way interactive documentary is produced, what would it be and why?* This question could possibly help to figure out what could be done differently to create a successful web documentary in the future.

Another issue that is worth to bring up is what would have happened if the film were fictional or semi-fictional. Would the respondents have been more interested in consuming the narrative then?

## 6. 2 Conclusion

The purpose of this research was to study the affect of the use of interactive application on the web documentaries. Particularly, to see to what extent can interactive documentaries affect the engagement of teenagers? To summarize the whole work the method worked well to a larger extent, excluding the question about “attention”, the method did fit properly. It would have been advisable to have added an observation method to enable a fuller answer of the research question. Another consideration was to have chosen a different film topic and tested it on more respondents. Despite this, the research question has been partly answered. As it is mentioned earlier, the opportunity to get additional information about the story of the film may have increased attentiveness, however this remains speculative and with no certain answer. If the study was to be repeated the researcher would prefer to include the observation method or delete the related question.

In answer to the question relating to the possibilities of clicking and interacting in a better way, the web film is structured on the web documentary and that helps the user to change their mood and react more with the narrative of the film. The selected methodology answered this section.

Finally, the main question of the study “to what extent can interactive documentaries affect the engagement of teenagers?” was answered and the result indicate that the interactive documentaries did not lead the majority of the viewers to increase engagement. At least, according to this study’s result, the interactive elements itself could not increase the engagement of the user. The effective interactive documentary would include video/audio effect, appropriate subject, long video sequences, less break and text icons (additional information) appear in the end of the film. Strongly put, a combination of these elements will increase the engagement of the viewers. But interactive elements alone on the web documentary cannot compete with the TV documentaries.

### **6. 3 Future work**

In this study the interesting question was to find out to what extent interactive documentaries affect the engagement of teenagers. Since the study's method had some disadvantages, however there was no need to re-create the web film and implement the missing issues.

A future consideration would be to use the web documentary, with the observation data collection method, to be able to fully response the question about "attention". This would give more data but it would not change the major result drastically. The researcher still believes interactive documentaries have the potential to increase the engagement of the viewer, but with a design based on already mentioned issues.

The study of the future would be: to what extent could the use of interactive storytelling affect the learning of teenagers. In other words, could interactive storytelling increase the learning experience of secondary school's students? Interactive tools may expand its territory and influence western methods of teaching.

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