Chapter V
RESULT AND ANALYSIS OF THE DATA

5 INTRODUCTION

Data analyzing is not a direct process that starts only when all data have been collected. On the contrary, the analysis in qualitative research is an ongoing process starting from the moment the very first data collection is carried out (Postholm, 2010). It is nevertheless a dissimilarity between an informal, ongoing analysis done by the researcher during the process of the data collection, and the more formal analysis carried out when all the data have been gathered and structured. This chapter will first focus on the methods used for the analyses. Descriptive, thematic presentation of the material will be given by the researcher. The latter should be looked at as the outcome of the triangulation carried out with the material gathered from the data collection methods described in chapter 4.

Postholm (2010) uses the terms descriptive and theoretical analyses. She emphasizes that in the theoretical analysis the researcher makes use of theory to analyze and interpret the material (ibid., p. 86). Since this chapter is purely a descriptive presentation of the analyses, all discussions and links to theory will take place in the next chapter. To avoid repetition, the choice of making a distinction between pure descriptive analyses on the one hand and theoretical discussions, on the other hand, has been made. In the end, the observation and evaluated of digital storytelling have been described.

5.1 METHODS OF ANALYSIS

Analysis of data is to a large extent about organizing the text material, searching for patterns and looking for the meaning behind the words (Kvale, 1997). A subject-based analysis has been used to structure most of the data in this study, i.e. the open question from the questionnaires, the interviews, and the reflection logs. Section 5.1.2 presents how this analysis
was carried out, with the purpose of establishing categories. The researcher will however first briefly comment on the analysis of the closed questions in the questionnaire.

5.1.1 Quantitative Analysis

The 18 closed questions in the questionnaires from the 20 respondents were analyzed quantitatively. The researcher, to get an overview and a first impression of the material, structured the data in an Excel spreadsheet. He carried out very simple statistic univariate\(^1\) analyses, where he looked at average scores, as well as minimum and maximum scores. He next compared the answers given, constantly looking for what could be interesting aspects to include in the interview guide. Based on this, he made a few tables, simply for the sake of giving himself an even better overview of the material. A few bivariate\(^2\) analyses were also carried out. These were mainly related to looking for differences between genders, as one of the variables, compared to various other variables.

5.1.2 Qualitative Analysis

Twenty interviews constitute the primary source of data in this study. The focus was on the meaning and the content, not on how the research participants expressed the meaning. Kvale (1997) distinguishes between five approaches to analyses of the meaning of data from an interview and the researcher has used meaning categorization. According to Thagaard (2009), meaning categorization involves in principle either to look at common themes in all interviews or to establish categories within each of the single interviews. In the first level of the coding process, the researcher reads through the transcriptions several times to identify classification. Postholm points to such an intensive re-reading of the material as important in the process of analyzing the data (Postholm, 2009).

This researcher will hence claim that he has approached his material hermeneutically, keeping a focus on data relevant to the research questions as well as the two hypotheses outlined at the outset of the study. The hermeneutic approach to the material implies that he has considered the empirical data as a whole, at the same time as he has been trying to
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understand each individual part of the data. When carrying out the analyses and later the interpretations of these, he has constantly moved between the whole body of data and its individual parts, as well as he has moved between the data and the context and also between the data and his own interpretation of the data. This is in accordance with the hermeneutic circle (e.g. Johannessen et al. 2005, p. 315), and is based on Martin Heidegger’s concept, and further developed by his student Hans-Georg Gadamer (Kjørup, 2008, p. 63).

According to the established subjects (Table 4.1), the empirical material was investigated and classified. In the continuation of this section, the researcher will therefore also structure the presentation of the method of analysis around the same subjects. According to Kvale (1997), categories can emerge either from the empirical data itself, from theory or from the researcher’s own vocabulary. All classification was build up after the meeting and interviews had been conducted, and they were established on the basis of the students’ original comments as these showed up in the transcripts.

5.1.2.1 Learning

The investigation of this subject is based on data from the questionnaires surveys, the logs, and the interviews. Most of the classifications emerged from the material itself, such as working with DST and receiving good grades, to mention a few examples. In addition, the theory was also used to establish a few of the classifications. Self-efficacy and something constructed by and with peers are examples of the latter. Socio-constructivism, which in chapter 3 was described as one of this study’s main theoretical framings turned out to relevant also with respect to build up classifications.

The respondents were asked to define learning, as well as to explain how they understood learning to take place. 13 classifications were set up and have appeared in Table 5.1, they are all defined as different acts (Norman 20011). The classifications related to learning emerged from the empirical data itself, as e.g. learning something new and being able to teach others. Finally, socio-cultural learning theory was also important for the establishment
of some of these classifications, e.g. building knowledge. The categories also cover how they approach and carry out their work, who they work with and reflections on the outcome of the work.

<table>
<thead>
<tr>
<th>Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning something new</td>
<td>To learn something is related to learning something new, either with respect to content or to skills</td>
</tr>
<tr>
<td>Self-efficacy</td>
<td>Related to the learner’s belief in his or her own capacity to accomplish a task (Bandura, 1997)</td>
</tr>
<tr>
<td>Working with DST</td>
<td>Positively related to the use of DST as a learning activity</td>
</tr>
<tr>
<td>Variety in working methods</td>
<td>Positively related to the use of various approaches to learning</td>
</tr>
<tr>
<td>Memorizing facts</td>
<td>To learn something is related to the ability to remember factual knowledge</td>
</tr>
<tr>
<td>Receiving good grades</td>
<td>Related specifically to an external outcome in the form of good grades</td>
</tr>
<tr>
<td>Receiving knowledge</td>
<td>To learn something is related to teacher centered learning and transformation of knowledge</td>
</tr>
<tr>
<td>Building knowledge</td>
<td>To learn something is related to student centered learning and being active in own learning process</td>
</tr>
<tr>
<td>Something constructed by and with peers</td>
<td>Related to the importance of peers, and as something that can be enhanced with peers</td>
</tr>
<tr>
<td>Developing further something you know</td>
<td>To learn something is related to taking as a point of departure something familiar and reinforce the existing knowledge by adding new information</td>
</tr>
<tr>
<td>Being able to teach others</td>
<td>To learn something is related to being able to present to someone what has been learned</td>
</tr>
<tr>
<td>Educational achievement</td>
<td>skills improvement and increased content understanding (without any specific reference to grades)</td>
</tr>
<tr>
<td>Working with motivating topics or activities</td>
<td>To learn something is linked to motivation</td>
</tr>
</tbody>
</table>
To allow for transparency with respect to how the meaning categorization was carried out, the researcher as an example presents in Table 5.2 an extract of the relation between some units of meaning and the classifications.

<table>
<thead>
<tr>
<th>Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning something new</td>
<td>I can say that, to get the hang of something intends to gain some new useful knowledge that I didn't have the foggiest idea.</td>
</tr>
<tr>
<td>Self-efficacy</td>
<td>There is a link between inspiration and feeling of success when you feel that you are able to be an expert on something.</td>
</tr>
<tr>
<td>Working with DST</td>
<td>It inspires me very much when we working with DST.</td>
</tr>
<tr>
<td>Variety in working methods</td>
<td>DST itself does not encourage me. However, it motivates me to work with various new methods.</td>
</tr>
<tr>
<td>Memorizing facts</td>
<td>learn only when I think of material for later usage.</td>
</tr>
<tr>
<td>Receiving good grades</td>
<td>If the work affects the final grade, I am ready to put an extra effort</td>
</tr>
<tr>
<td>Receiving knowledge</td>
<td>Learning means learning something with teachers’ help</td>
</tr>
<tr>
<td>Building knowledge</td>
<td>I will learn when I need to find something out by myself. if I only listen to a teacher, I can't learn as much as when I am active.</td>
</tr>
<tr>
<td>Something constructed by and with peers</td>
<td>I am inspired by my friend’s motivation. If they are inspired by doing an assignment I am simulated too.</td>
</tr>
<tr>
<td>Developing further something you know</td>
<td>Learning is that you can understand something and can proceed further. Moreover, learning is learning more about something that I have already known. when I am learning, I tried to do create in mind map of what I learn and I seek for some connection of relevant reason.</td>
</tr>
<tr>
<td>Being able to teach others</td>
<td>Learning something is that you are able to elaborate that knowledge to other people. if you learn something through roughly, you should pass on the knowledge to someone else.</td>
</tr>
<tr>
<td>Educational achievement</td>
<td>Inspiration is that I would like to be better. I tried to be as good as possible in speaking English comfortably.</td>
</tr>
<tr>
<td>Working with motivating topics or</td>
<td>If I am interested in a certain object or a topic in a question, my learning ability is increased.</td>
</tr>
<tr>
<td>activities</td>
<td></td>
</tr>
</tbody>
</table>

Table 5.2, Meaning classification for the subject “Learning” (extract)
As can be seen from Table 5.1, no subcategories were built up for the subject learning. This is basically identified with the way that the material did not require such some subcategories for all of the classifications. Even though a few of the classifications could have been established with subcategories, this was nevertheless an exception. In order to make an intelligible table and presentation, this researcher, therefore, decided to use only main classifications for these two subjects.

5.1.2.2 Digital Storytelling as a Second Language Learning Activity

The researcher used Norman’s classifications for Digital storytelling as a Second Language Learning Activity, (see table 5.3), the researcher essentially inclined toward the interviews but triangulated these data with data from the reflection logs and the questionnaires, where this was relevant. Questions were related to how and what we can learn when using digital storytelling as a learning activity in second language learning. Norman (2011) believes that respondents and interviewees could reflect freely on the subject because the classifications

<table>
<thead>
<tr>
<th>Classification</th>
<th>Sub category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic skills</td>
<td>Oral skills</td>
<td>DST as a tool to practice and document oral skills</td>
</tr>
<tr>
<td></td>
<td>Written skills</td>
<td>DST as a tool to practice written skills</td>
</tr>
<tr>
<td></td>
<td>Digital skills</td>
<td>DST as a tool to practice and document digital skills at the same time as developing English linguistic competence</td>
</tr>
<tr>
<td>Content Understanding</td>
<td>Core knowledge</td>
<td>DST as a tool to develop and personalize basic, factual content knowledge on specific topics</td>
</tr>
<tr>
<td></td>
<td>Personal reflections</td>
<td>DST as a tool to present personal reflections related to the content of the digital story</td>
</tr>
<tr>
<td>Learning Strategies</td>
<td>Find and evaluate information</td>
<td>DST as a strategy used to look for and evaluate relevant information related to the content of the story</td>
</tr>
<tr>
<td></td>
<td>Manipulate and rephrase information</td>
<td>DST as a strategy used to re-use the relevant information in a personal way</td>
</tr>
<tr>
<td></td>
<td>Present and share information with and for peers</td>
<td>DST as a tool to present content understanding, content knowledge and basic skills in English</td>
</tr>
</tbody>
</table>

Table 5.3, Classifications for the Subject "DST as a Second Language Learning Activity" (Norman 2011)
were built up only after the collection of the data.

The classification for this subject was build up as a mix between deductive and inductive analysis. The three main classifications were deductive in the sense that they were build up in the light of the modified TPACK model (Figure 2.3). This was also the case for the three subcategories within basic skills, which were based on what Engestrom refers to as rules and regulations in her model of the Activity system (Figure 2.1), i.e. they were established with reference to the Knowledge Promotion (2006). Subcategories for content understanding were based on an inductive approach since they appeared from the empirical data itself. Finally, the subcategories related to learning strategies were established as a mix between a teacher own background and experience and the empirical data itself. In table 5.4, examples of the meaning categorization for this subject are done with respect to one research participant only. The researcher considered that to give a best possible understanding.

The last level of the investigation was to re-read all the interviews once again, one by one, to check for misunderstandings or wrong interpretations, and to see the established categories were complete and covered all relevant aspects from all the twenty interviewees. Such a final re-reading is, according to e.g. Thagaard (2009), important since subject-based analysis can sometimes be accused of missing out on the overall understanding precisely due to the researcher’s subject focus when going through the interviews. With the two previously mentioned subject-centered analyses and built up categories as points of departure, this researcher will next make a descriptive analysis of the structured material.

5.2 DESCRIPTIVE PRESENTATION

In accordance with the previously built up subjects, the structure of the rest of this chapter will be to present the material thematically. In section 5.2.2 the researcher will present respondents’ and participants’ reflections on the subject learning and, findings related to digital storytelling as a second language learning activity will be presented in section 5.2.3. This researcher will begin by sharing some empirical data related to his respondents’
knowledge and understanding of digital storytelling as a learning activity. The researcher observes this to be pertinent with a specific end goal to get a best possible understanding of the presentations.

Aside from a couple of exemptions, where a direct comparison between sexual orientations is better given a rate distribution, the researcher will allude to the particular numbers or the particular names in order to make an exact picture and hence to open up for transparency and avoid ambiguity.

<table>
<thead>
<tr>
<th>Sub category</th>
<th>Classification: Basic skills</th>
<th>Statements from interviewee Ravjot</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral skills</td>
<td>An essential learning result from using digital storytelling is connected to an all aspect. Set story mood while practicing how to use your voice. you can practice intonation also. I can stop my pronunciation mistakes by listening to any own voice. then I can correct the mistakes by the second narration or I can ask someone to help me out if I can't recover a pronunciation on my own</td>
<td></td>
</tr>
<tr>
<td>Written skills</td>
<td>For digital stories, it is important to stick to the gist plan how to narrate, and if there is no word and think about words used for the story. limit, like in other genres, you end up using unnecessary words which are not related to the overall meaning. The fact that digital storytelling should be short with 200 to 300 words, it is normally not a problem for me. If you keep writing without planning your text is not better. You have to think about quality instead of quantity when you write a script for a digital story</td>
<td></td>
</tr>
<tr>
<td>Digital skills</td>
<td>Technology is the future of all education systems. I feel that I can comfortably work with technical aspects of any project.</td>
<td></td>
</tr>
<tr>
<td>Sub category</td>
<td>Classification: Content understanding</td>
<td>Statements from interviewee Ravjot</td>
</tr>
<tr>
<td>Personal reflection</td>
<td>I believe that my own reflection is able to be seen in a digital story because I can use illustrate them through my word choices, my narration tone and my selected photos along with a voice.</td>
<td></td>
</tr>
<tr>
<td>Core knowledge</td>
<td>Before this project I didn’t have any idea about DST, however you always learn more when you are getting involved of digital story making.</td>
<td></td>
</tr>
<tr>
<td>Sub category</td>
<td>Classification: Learning strategies</td>
<td>Statements from interviewee Ravjot</td>
</tr>
<tr>
<td>Find and Evaluate information</td>
<td>Relevant sources, comparing the information and choosing the most important places are required when you are going to create a digital store.</td>
<td></td>
</tr>
</tbody>
</table>

**Table 5.4.** Meaning classifications for the subject “DST as a second language learning activity” (extract)
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Since this researcher has a great deal of data, he has exhibited some of it in the tables. This is at the same time a good visual summary as well as it is less space demanding than if he was to describe all findings with words. References from the students are utilized all through the presentation. The latter is not only added as illustrations but also as a way of showing transparency in the presentation. At long last, to allow for an easiest possible reading of the presentation, all references to subjects and classes are written in italics. The latter also applies for the citations from respondents and participants.

5.2.1 Respondents’ Background Knowledge on Digital Storytelling

The researcher from the quantitative analysis of the questionnaires saw that the most of the respondents were not familiar with digital storytelling as a learning tool. Data showed that 1 out of 20 respondents had received informal instruction in digital storytelling. The researcher, based on the question in the questionnaire was keen on discovering how the students would define digital storytelling. 17 of the 20 respondents picked the option beneath as their favored option out of four choices:

To work with digital storytelling means to create a digital story based on a self-written script which is later recorded, in addition to using images and perhaps music to further emphasize the story’s plot.

This was fascinating since it demonstrates that they do relate working with digital storytelling to more than basically working with the software tools, which was one of the alternate options. This information was likewise important as to the second hypothesis (section 1.6), and will consequently be remarked on later. Based on this information and other information from the questionnaires, the researcher considered that the respondents had adequate essential information and understanding of the idea digital storytelling for reflections on potentials for learning to be made.

5.2.2 Findings Related to the Subject ‘Learning’

Since reflections on learning are central keywords in the researchers’ main research question, the researcher was keen on discovering how students would describe learning and
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how they would look at second language learning outcome from digital storytelling as compared to other ways of working in English. Analyses from all three bodies of data (questionnaires, interviews and reflection logs) form the basis of the triangulations carried out for this subject and show that the research participants conceive of learning in different ways. Comparison of interviewees (Appendix 8), presents a comparison between the 20 research participants, with regard to the subject Learning.

Ravjot first describes learning as receiving knowledge, however, when she is tested to clarify how she realizes that she has picked up something, she communicates her perspectives on learning by indicating a connection amongst learning and introducing to and for others:

*If you are going to explain your knowledge to others, understanding about the topic is compulsory. For example, you learn it unknown when you are preparing a presentation because deep knowledge of creation topic is a must. I, therefore, believe that in this kind of situation motivates you to learn it better.* (Ravjot)

Other research participants also point to learning as related to the degree to which they are able to use actively what they have learned. 18 of the 20 interviewees relate learning to be active in one way or the other. This movement could be to build their own knowledge by finding and rethinking data or to instruct others. Along these lines of defining learning was absolutely in accordance with the information from the questionnaires. This researcher found a division between those who describe learning as something transmitted, as opposed to those who relate learning to be active in his or her own learning process. One of the respondents from the questionnaires makes intriguing reflections precisely around this distinction:

*learning something is being taught by a teacher. On the contrary, if I am active I can learn better than when I am taught. Making a PowerPoint, a DST to write something by myself or a fantastic way for me to learn something new* (Respondent 19).
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For Gurleen, an M.Phil. student, learning is connected with *educational achievement* in overall, nevertheless more precisely with receiving *good grades*, a point she makes somewhere else in the interview. Gurleen and Ankur, highly proficient students, are the only students who talk about motivation in a way that the researcher interprets as being about *self-efficacy*. Ravjot is primarily concerned with the importance of motivation as a decisive factor with regard to whether good grades and or educational achievement are obtained.

Working with digital storytelling is basically a way of working that demands active participation from the students, as opposed to more traditional teaching where knowledge is understood as transmitted and students are often seen as passive receivers of knowledge. One could hence expect that students who favor being taught, in the traditional way, would be reluctant to define digital storytelling as a good way to enhance learning.

In one of the questions, the respondents were asked to select how important 17 different declarations were when deciding whether to choose digital storytelling or another way of working with a topic in English if there was a choice. The Likert⁴ measure was used with the following answer alternatives: “Particularly significance”, “considerable amount of significance”, “some significance”, and “no significance”. Investigation of the surveys demonstrated that 17 of the 20 respondents said that the following declarations had either "particularly significance" or "a considerable amount of significance" for them if they somehow managed to pick digital storytelling as a favored learning movement in English: “Digital storytelling is a learning tool I can use to develop several of my basic skills in English”. The researcher observed that there was a dominant part of young ladies who had selected the following declarations as having “Particularly significance” or “considerable amount of significance” “Using DST in English is a way to work on which means I can Be more active and engaged in my learning work than when I work in others ways. It helps me a lot to enhance vocabulary and even teach lots of vocabulary to the audience.”
Based on the second hypothesis of this study, students were also enquired (in the questionnaire) to consider their own learning result when working with digital storytelling as compared to other ways of working with a topic in English. A learning outcome is here defined as “the specification of what a student should learn as the result of a period of specified and supported study”. Four answer alternatives were given for this question, and students were additionally asked to justify their choice of answer. No such correlation as suggested above was however found.

Table 5.5 demonstrates the distribution of a number of respondents for each answer alternative. The researcher has additionally added a few representative examples of reasons given by some students, to justify their answers. These justifications are based on an open question, which means that the respondents were not restricted to predefined categories. The table below, from the questionnaires, shows that 7 of the 20 respondents do not see any difference in learning outcome between using digital storytelling and other ways of working with a topic in English. At the same time, there are also 10 students who point to digital storytelling as giving them a different learning outcome as compared to other learning activities. What this researcher finds most interesting is, however, to look at the reasons stated.

Respondent 10 from the questionnaires points to digital storytelling as opening up for a different way to learn, even though increased learning is not a result. Some of the respondents who reflected on digital storytelling as a different kind of learning justified this by relating it to increased ability for carrying out the learning activity.

This was an interesting finding from the questionnaires. Since the researcher also interviewed all the students, he was able to go more in-depth on this finding and explore more specifically how various learning potentials from digital storytelling were understood. The latter will be presented in section 5.2.3.

The main objective of this study is to learn more about students’ reflections on potentials for second language learning through digital storytelling. Linked to this, and based
on the presented analyses related to learning, it is interesting to look at whether students would actually choose digital storytelling as a tool for second language learning or not if there was a choice. What are the significant factors that would either speak in favor or in disfavor of choosing digital storytelling, as perceived by the respondents?

<table>
<thead>
<tr>
<th>Answer alternative</th>
<th>Number of respondents</th>
<th>Reasons given by students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greater learning outcome from digital storytelling activities as compared to other learning activities</td>
<td>3</td>
<td>for making an interesting content, I have to elaborate it in a personal way. That is helpful for my learning. (Respondent 6) for creating a script, I have to work with different sources and personalize my material. Moreover, I have to put an effect on finding appropriate images for my script in order to work well. (Respondent 7)</td>
</tr>
<tr>
<td>Equal learning outcome from digital storytelling activities as compared to other learning activities</td>
<td>8</td>
<td>creating on English digital story is as same as practicing English orally by talking to someone or by reading out loud. (Respondent 2) for my experience, it is the same as doing something else. (Respondent 10)</td>
</tr>
<tr>
<td>Lesser learning outcome from digital storytelling activities as compared to other learning activities</td>
<td>1</td>
<td>I have learned only one thing for Digital storytelling which is Adobe Premier. The best way for me to learn is from writing longer texts. (Respondent 20)</td>
</tr>
<tr>
<td>Different kind of learning as compared to other learning activities</td>
<td>8</td>
<td>Comparing to writing a text, I don't learn anything more however it is more exciting and I learn how to use the computer and how to work with images. I learn it differently. (Respondent 4) I don’t learn more, but I learn it differently. (Respondent 18) In the same activity, you can practice oral skills, work with images and text writing. It is funnier and more motivating. (Respondent 16)</td>
</tr>
</tbody>
</table>

**Table 5.5:** Respondents’ reflections on learning outcome and examples of justifications

The result of questionnaires showed their feeling to choose digital storytelling as a preferred learning tool at the university. The result shows that a surprising number of students actually referred to the importance of variation and enjoyment and saw digital storytelling as
a learning tool in this perspective. If we do not account for gender, a majority of the sample from the questionnaires (5 of 7 boys and 12 of 13 girls), pointed to “Digital storytelling is an enjoyable working method” as the most significant factor for choosing digital storytelling, if there was a choice. Reasons stated for not choosing digital storytelling were also checked. 16 of 20 students pointed to “Working with DST causes too many challenges not related to the learning aspect, such as software crash, no computer available, no separate room for recording the audio” as having “Particularly significance” and “It is difficult to access computer at University” and “I do not have access to the necessary enixcomputer equipment at home (such as PC, Internet, editing software, audio recording capabilities” as having “Particularly significance” here. The researcher in the interview came to know that these 16 students are happy to work with DST as a learning method if they don’t face the mentioned challenges. It means they agree with the spirit of DST.

10 respondents from the questionnaires also pointed to the embarrassment of listening to their own voice as having “Particularly significance” or “considerable amount of significance” in the decision-making. The latter is a commonly known obstacle for everyone who creates digital stories, not only for young learners. Very few people actually like to listen to their own voice. The researcher will discuss the latter aspect in the next chapter, where he will also look at this as a contrast to another finding pointing to developing oral, basic skills as one of the most important second language learning potentials in digital storytelling.

5.2.3 Findings related to the theme digital storytelling as a second language learning activity

As presented in section 5.1.2.2, three classifications and also several subcategories were built up for this subject, have been used. The presentation that follows will be done according to each of the categories, as you can see in Appendix 9, titled: Comparison of interviewees' reflections on the subject "digital storytelling as a second language learning activity".

Together, the categories embrace what the respondents pointed to when reflecting on their learning potentials from working with digital storytelling in second language classes. It
is interesting to note that analyses of interviews and reflection logs support each other to a very high degree for this subject. The below, Table 5.6, presents a comparison of log respondents’ reflections. Among the 20 students who pointed to learning from digital storytelling as learning of basic skills, several of them also made reflections with regard to several of the subcategories within that main category *basic skills*.

Before this researcher looks more in detail at the various categories, he wants to point to one more general aspect. There is no significant difference between genders related to reflections on learning potentials from working with digital storytelling. Both boys and girls are represented within each of the main categories.

<table>
<thead>
<tr>
<th>Category</th>
<th>Number of respondent within each category</th>
<th>Sub categories</th>
<th>Number of respondent within each sub category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic Skills</td>
<td>20 of 20 students</td>
<td>Oral skills</td>
<td>20 of 20 students</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Written skills</td>
<td>18 of 20 students</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Digital skills</td>
<td>17 of 20 students</td>
</tr>
<tr>
<td>Content Understanding</td>
<td>17 of 20 students</td>
<td>Core knowledge</td>
<td>16 of 17 students</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Personal reflections</td>
<td>14 of 17 students</td>
</tr>
<tr>
<td>Learning Strategies</td>
<td>15 of 20 students</td>
<td>Find and evaluate information</td>
<td>15 of 15 students</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Manipulate and rephrase information</td>
<td>2 of 15 students</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Present and share information with and for peers and Confidence</td>
<td>13 of 15 students</td>
</tr>
</tbody>
</table>

*Table 5.6:* Comparison of log respondents' reflections on the subject "DST as a second language learning activity"

### 5.2.3.1 Basic Skills

A very distinct finding from this study, which is quite connecte to hypothesis 1 (section 1.6), shows that all 20 students in the total sample reflect on digital storytelling as a good tool to
practice and develop various basic skills. This category is furthermore split into three subcategories; oral, written and digital skills. They will be treated separately below

5.2.3.1.1 Oral Skills

All 20 respondents speak or write about digital storytelling as a working method that allows them to practice and improve their oral skills. According to one of the students:

*Digital storytelling works effectively as its tool for documenting and presenting oral proficiency. The reason is that it permits you to show whether you can add emotions to your voice. additionally, you can listen to your voice pronunciation that allows you to realize what you have to improve.* (Respondent 20).

Lovleen is another student who speaks about the importance of digital storytelling as an efficient tool for working with oral skills. Lovleen additionally argues that for her, recording her own voice as part of a digital storytelling project is something that allows her to improve her own pronunciation even without receiving feedback from peers or the teacher. *You can improve your pronunciation by yourself when you listen to your record that voice. You understand how you actually pronounce.* (Lovleen). She is not the only interviewee who points to the advantages of being able to listen to one’s own English. Even though listening to own voice is a frustrating part of a digital storytelling activity for many of the students, this is not the case for everyone. Listening to his own voice does not bother Ankur. *I wasn't aware of the way I speak English before starting digital storytelling after digital storytelling project, I am quite pleased with the way I speak English.* (Ankur).

When asked to specify areas of oral skills practice, a majority pointed to pronunciation and intonation as the types of oral skills they might develop in a storytelling project. According to the M.Phil. student Ruchika, it is even more important to stress pronunciation when doing a narration than when speaking to someone: *Before recording your script, you need to practice more on pronunciation.* (Ruchika). The difference between speaking and doing a voice-over is related to what the Common European Framework of Reference for Languages (the CEFR)
refers to as a difference between oral interaction and oral production (Council of Europe, 2007). The researcher will discuss this difference more detailed in the next chapter, and also point to which role digital storytelling might have in that matter.

Some of the interviewees also mentioned a slightly different aspect with digital storytelling and oral skills development. They said that in cases where a student is reluctant to speak English aloud in class because he or she is shy or feel embarrassed, digital storytelling works well as an alternative way of both practicing and documenting oral language skills. This is also in line with the researchers’ own experience.

5.2.3.1.2 Written Skills

Whereas all research participants reflect on the oral aspect as an important learning outcome, not all, but most of them (18 of 20) see learning potentials related to written skills development in digital storytelling activities in English. Those who do mention the written part as an important learning outcome, point to various aspects related to writing a script. Lovleen mentions working on the high level of vocabulary, whereas Ankur points to practicing spelling and grammar.

For some of them, the fact that digital stories are short, terse stories where the writer is told to restrict his or her text to around 150 – 300 words is actually a good thing, especially for those students who are not fond of writing longer texts. Komal is an M.A student. she hence finds script writing for digital stories to be a good way of practicing and documenting her written skills. This is also why she believes that teachers should assess all parts of a storytelling production, not only the oral part.

Anmol, another M.A student, thinks of the opposite opinion when it comes to the written part of a storytelling production. One of many reasons to why she does not like digital storytelling is that she feels that the limitations with regard to length restrict her, and prevent her from showing her best English: *When I have to write as short as this, I feel like I am not allowed to show my ability in English.* (Anmol). With reference to what Anmol says here, the
researcher finds it interesting to compare the reflections made by the two students Gaurav and Anmol. Whereas Anmol does not find digital storytelling to be a good way of developing her written skills, Gaurav points to an interesting aspect when he says that:

For a digital story, it is important to only stick to the most important and plan how to express this and which words to use. If there is no limit with regard to a number of words, like in other genres, the result is often that you use unnecessary words that are not important for the overall meaning. The fact that digital stories should be short stories, around 200-300 words, is normally not a problem for me. Very often it is like, if you continue writing without thinking, your text doesn’t get better, quite the contrary, maybe. You have to think quality instead of quantity when you write a script for a digital story (Gaurav).

What Gaurav talks about here, is however not something he manages to do without a great deal of effort. During the interview, he explained how he was working with the script for his digital story. He always prefers to start by writing a short intro, to make it easier for the viewers to connect to or follow her story:

I have a short introduction for my digital story. I think the Viewer should understand some information first because it gives the idea of the story I am going to narrate; (Gaurav).

When he continues working on his script, he always writes everything he wants to tell first, based on his work with the sources. I always whatever I believe to suit the story first. (Gaurav). Then only in the second phase, after having read and reread his script, and as he says after having spoken to myself about the script I have written does Gaurav take away what he finds to be unnecessary and unimportant information. The point that Gaurav makes about quality vs quantity and the way he thinks about the target of his story already when working on the script are interesting aspects that will be discussed later.
5.2.3.1.3 Digital Skills

Everyone in the data samples, both from the logs and from the interviews, made reflections around the use of digital storytelling as an activity to develop and practice their digital skills. Anmol does not, however, see this as being related to her skills development in English. She believes that how good you are at using digital tools has got nothing to do with your oral or written skills in English. *talking and writing are the only two things which illustrate how good you understand a topic or your language proficiency.* (Anmol). Nevertheless, Anmol is a student who works thoroughly with finding pictures for her digital stories. She makes a folder with pictures she believes to suit her already written the script. Then she reads through the script several times and adds to her Word document those pictures she finds most suitable.

_I use abstract pictures sometimes because they Express deed meaning with more feelings. I have to find so many pictures with a different solution to satisfy myself. In the end, I understand the script by my heart because I have reread it many times while I am working with pictures* (Anmol).

Anmol’s comment shows that she is as a typical representative of 21st century learning, (section 3.1.3), where the focus on visual literacy and the use of many modalities are important and related to the fact that meaning is expressed in many forms, not only in the written.

Nehrika another M.A student feels that she has developed, with regard to editing her digital story. During the interview she talks about how important it is to think of the use of effects as a kind of literary means in a digital story:

_I think it gets very messy and incoherent if you use effects all the time. I’m personally in favour of keeping it simple and only use effects if there’s anything you want to contrast or underline, as a kind of literary means. If you have been talking about something very sad in your story, then you might want to use fading as a good transition. It hence becomes a literary means, the way I see it* (Nehrika).
Nehrika is also a student who has developed an advanced way of using photos in her digital stories. She additionally believes that this has relevance for her skills in English. *When I am searching for pictures from the Internet, I use English keywords. Moreover, I explain the pictures in English also,* Nehrika says. She also thinks that digital storytelling is a way of working that allows her to use and show her creativity, for example when working with the visuals. She explains this in the following way: *For instance, you may choose a right picture to suit exactly what you narrate. Or you can select different pictures for deeper meaning.* (Nehrika). What Nehrika actually talks about here, is the difference between using pictures that elaborate the meaning and pictures that extend the meaning presented by the narration or the text displayed.

Palak, another student of M.A. English, considers the visuals and the personal voice to be the most important aspects of a digital story. *If you have worked hard for the right pictures to accompany your narration, the script doesn't have to be in details.* Palak tells the researcher during the interview. I understand this to be linked to the fact that digital stories convey meaning in many forms, not only in the written form. A poorly developed written script will be compensated by the use of good visuals.

5.2.3.2 Content Understanding

The researcher found that 17 of the 20 respondents from the logs and all research participants interviewed made reflections around digital storytelling not only as an activity for *basic skills* development but also as an activity related to *content understanding*. As shown in Table 5.3, two subcategories were used. The respondents either reflected on digital storytelling as a tool to develop and personalize their core knowledge on a topic or as a tool to present personal reflections related to the topic of the story.
5.2.3.2.1 Core Knowledge

“I already knew something about digitalizing before this project, but you always learn more when you have to put yourself in the situation, the way you have to when you are going to make a digital story” (Gurleen).

Avneet, second-year M.A student shares many reflections during the interview, and in the quotation, above she touches upon digital storytelling as a tool to develop and document core knowledge. She later also describes the importance of having worked well with the play King Lear prior to starting the digital storytelling production. She actually mentions this preparatory phase as a reason why the digital storytelling activity contributed to developing her own content understanding.

It means so much for me because we have worked digitally in class for the play ‘King Lear’ before working on the script of digital stories. If we hadn't argued in the book, we wouldn't have realized how our students indicated on the book contented. In addition, if we didn't discuss essential parts of the book together, we might not know that those parts were important. (Avneet).

Gagandeep, another M.A student, is of the same opinion. He says that for him, it was important that we were discussing various aspects of the play ‘King Lear’ before we started working on developing the digital stories. All misunderstand something when I read the book on my own but after discussing some parts with my friends, I was clear of all my doubts. (Gagandeep). Sonu also liked the joint discussions about the book, even though she did not take very active part in these discussions. Even so, she says: I have learned a lot from listening to discussions. It helps me understand the overall issue for the digital story that I am going to create better. (Sonu). However, not all students agree that digital storytelling is also a good way to work with content understanding in their second language English. One of the respondents actually describes digital storytelling as being a lot of work and a bad result. According to this respondent, presenting content understanding in the form of a digital story only leads to a superficial result because the script has to be so short (respondent 9).
5.2.3.2.2 Personal Reflection

14 out of 17 students commented on the use of digital storytelling as a tool to express personal reflections. Most of the students believe that the script itself is an obvious way of showing personal reflection. It is perhaps even more interesting that they also point to the use of their own voice as a way of presenting personal reflections, and more specifically, the way they use the tone of their own voice to express Cordelia’s thoughts and feelings when her father offers her the opportunity to profess her love to him in return for one third of the land in his kingdom, she refuses and is banished for the majority of the play. This is closely interrelated with the subcategory of basic digital skills. It is in that respect yet another example of how learners of this century make use of a variety of literacy skills to express meaning and demonstrate their understanding and reflections.

Tina is the other student who also speaks about personal reflections as one type of learning in digital storytelling productions. Tina actually says that she can show personal reflections by the way she uses the various modes in her digital story, whether these are the verbal, the visual or the aural modes: *Writing along with pictures and music can explain your impression.* (Tina). Another student, a male respondent, made the following reflections in his log, related to reflections:

> When Supposed to create a digital story based on the book that with that we have studied in class, I have to understand more about books’ content. I therefore, learned and understand the book more. (respondent 12).

The researcher will argue that this student actually approaches both subcategories related to the main category content understanding. He sees increased core knowledge of the topic as a result of his personal reflections. Another interesting comment came from the same respondent’s reflection log:

> For an audience, the digital story which is full of information will be dulled to watch but a story with critical aspects and personal appreciation will be more
attractive. Good sources are revised for me, then I don't write everything in my script. (respondent 12).

What we actually see here is that the student has the target group in mind during the production of a story. This is an interesting finding also within the perspective of socio-cultural learning theory, as commented in chapter 3.

5.2.3.3 Learning Strategies

15 out of 20 participants made reflections on the use of digital storytelling as a learning strategy. Since respondents were rather brief in their comments and reflections on aspects that the researcher placed within the category learning strategies, this section is relatively shorter than the two previous sections, related to basic skills and to content understanding.

5.2.3.3.1 Find and Evaluate Information

The importance of working well with the sources in order to find and evaluate good and useful information for their script was emphasized by several of those interviewed, as well as commented on in the logs.

Ashita says: “I need to find good sources so that I don’t write just anything in my script”. She makes it clear that she needs to do his work with the sources thoroughly. When the researcher encouraged her to tell him how she used the sources she had found, she said that she did not copy directly but always tried to manipulate and rephrase the information, so that it ended up close to her own way of expressing herself. She said: I learn or if I explain things in my own way.

5.2.3.3.2 Manipulate and Rephrase Information

“I always want to paraphrase from the sources if I don't do this it's never become my own information.” (Ravjot). Ravjot always finds it hard to rephrase and manipulate the information she finds in various sources and hence make it more personal. As shown in the quote above, she nevertheless emphasizes the importance of doing this job. Gaurav also reflects on the necessary steps to take when he goes from searching for and evaluating relevant information, to making the information more personal. he says that he always tries to reduce
the amount of information by sorting out the most important, and then use what is left as a point of departure for reusing that information in a personal way.

Anmol introduces a slightly different perspective. She actually points to rephrasing as related to developing her vocabulary in English. She gives an example:

*Because a digital story script has to be short, I always look for a way to use one great word instead of three words. For example, if I use otherwise instead of if not, then I can save one more word* (Anmol).

Anmol continues by explaining how it is possible, after all, as she puts it, to obtain learning when working with digital storytelling, also for someone like her, who sees progress in English primarily as a result of writing long, comprehensive texts of 6-8 pages:

*a key to learn from digital storytelling activities for me is replacing words. First, I start writing without paying attention to the length, then I further process for of paraphrasing my script to deduct a number of words used.* (Anmol).

The way this researcher sees it, this is clearly a learning strategy, but instead of only rephrasing the sources, Anmol takes the process of rephrasing one step further when she also rephrases her own first edition of the script simply. This is linked to rephrasing information and is an aspect that can be discussed in the light of navigationism (section 3.1.3).

5.2.3.3.3 Present and Share Information with and for Peers

“A digital storytelling advantage is that you can submit your all assignment in advance. Therefore, you aren't going to be nervous for the presentation.” (Ravjot) In the questionnaires, the respondents were asked to define their understanding of digital storytelling. The answer alternative “Working with DST is about presenting knowledge through telling and sharing a story” was ranked as their second choice. This tells the researcher that the respondents not only define digital storytelling as a tool to practice their basic skills or as a tool to develop content understanding. They also see digital storytelling in the perspective of sharing and presenting.
Based on this, this researcher, therefore, finds that 13 of the 15 respondents made reflections along this line.

What Ravjot talks about in the quote above, is actually a comparison between various ways of presenting and sharing knowledge with a classmate. Here, she compares digital storytelling as a presentation tool to giving a standard oral presentation. According to Ravjot, doing everything in advance, as the situation is when digital storytelling is used as a presentation tool, has both advantages and disadvantages. She emphasizes e.g. the advantage of preparing it all in advance for students who are not very self-confident with respect to presenting in English in front of their classmate:

I guess many of those who don’t like to speak English in the class would rather use digital storytelling as their presentation tool instead of a PowerPoint presentation where speaking in public is compulsory. (Ravjot).

Anmol agrees and says that this is a good way to become more confident about using English as a presentation language. “To do a formal presentation in English in front of the class is something totally different than speaking informally with your classmates around the table” (Anmol).

### 5.3 The IMPACT OF DIGITAL STORYTELLING ON STUDENT OUTCOME

In addition to observations of the above methods, a scoring rubric was used to assess the quality of digital stories. This stage had two different aims; firstly, to assess the level of student engagement, and secondly to document the provision of better education outcomes through digital storytelling. The role of digital storytelling in realizing student engagement in authentic learning has been assessed by means of an evaluation rubric (See Appendix 6).

The evaluation rubric included nine criteria; in conjunction with the DST framework, these criteria have been classified in the DST framework under four different categories as follows:
• **Story aspects**
  a. Plot.
  b. Pacing of the narrative.
  c. Dramatic question.
  d. Emotional content.

• **Learning aspects**
  a. Purpose.
  b. Grammar, vocabulary and language usage.

• **Digital creation aspects**
  a. Story content.
  b. Technological Competence.

• **Combined aspects**
  a. The economy of content.

Therefore, these criteria were used to evaluate the students’ final digital story.

5.3.1 **Finding and Comparison Digital Storytelling on Student Outcomes**

The evaluation rubric included nine criteria; in conjunction with the DST framework, these criteria have been classified in the DST framework under four different categories (see 5.4.1.1). The rubric has been used to collect the data while the DST framework was used to interpret the meaning of the data. the comparison of.

5.3.1.1 **The Digital Storytelling Framework**

As mentioned in the literature review, Digital Storytelling Aspects (DSAs); are divided into four categories: Story Aspects (SA), Learning Aspects (LA), Digital Creation Aspects (DCA) and Combined Aspects (CA). The discussion will pass on the main findings related to framework aspects in order to understand the difficulties and challenges students faced when they created their digital stories; these findings will be used to finalize the DST framework.
Based on these aspects appendix 8 demonstrates a comparative picture of different built DSTs in this study and show that which story is the most successful or less successful.

5.3.1.1.1 Story Aspects

These aspects are related to the structure of the story and the methodology used to create it. These include plot, the pacing of narrative, the dramatic question, story characters and emotional content.

The findings of this research indicate students performed very good and some of them excellent in story aspects such as purpose, plot, the pacing of the narrative, etc. The majority had planned their storyboard quite efficiently. The key to student success is the fact that students spent more time writing and editing their story before the creation stage. As a result, they received high marks for Pacing of Narrative and Plot criteria. They tried to use suitable vocabulary with grammar in their stories, in English. However, students performed as effectively in the Dramatic Question criterion.

In agreement with our findings, Bull & Kajder (2004) found that students needed to write an initial script, and plan an accompanying storyboard before starting the digital story creation. Also, Garrard (2011) pointed out that to balance the audio-visual content with the narrative layers of the story, the storyteller needed to create a storyboard. The findings of this research mirror the viewpoint of Garrard (2011), who reported that the storyboarding process helped students work independently, by providing them with the necessary ‘scaffolding’.

5.3.1.1.2 Learning Aspects

Learning aspects relate to what is expected to be achieved through the story, in terms of learning outcomes, and the complexity of the language used to present the story, which includes purpose and language usage.

The findings of this research indicate students scored very good and excellent in Purpose and Grammar and Language Usage criteria. However, students performed effectively in grammar and language usage especially use of vocabulary since their knowledge of English was high as they were studying in a higher level of education. According to Lambert (2007),
it was imperative to identify the purpose of the story so that all parts contributed. The grammar and vocabulary used in the story can be anything from simple to complex.

**5.4.1.1.3 Digital Creation Aspects**

Digital creation aspects are linked to elements and the technology that is used to create and present the story, and these include story content, technological competence, production, and presentation.

The findings of this research show that in terms of technological components, students did perform *good* and *very good*. Their technical literacy helped them, which is directly related to their age group. The technological competence is associated with the complexity of technology needed to create a story. The risk here is that some students are more focused on the technology than the actual story. For this reason, sometimes the final product can be a good quality technical piece instead of a story with a clear message. Therefore, it is suggested to start with the story structure before considering the technological aspects (Ohler, 2006).

Sadik (2008) reported similar findings where it was observed that students used PhotoStory software in a creative fashion. The biggest challenge for students proved to be synchronization between audio and photos. Some stories had sound problems where the sound was either not audible or inappropriate for the visual content.

**5.3.1.1.4 Combined Aspects**

Combined aspects are linked to economy and quality of digital storytelling elements. Considering these aspects, a good story should be told as simply as possible without excess content and the quality of the story should always be evaluated (Ohler, 2008). Combined aspects include economy of content and evaluation.

Similar to digital creation aspects the findings of this research indicate that because of their age and knowledge in computers and the internet, students received *very good* and *excellent* scores for “Economy of Content”.

Consequently, the results of the rubric measurement indicated the majority of students were able to include the important aspects in their digital stories. However, there were
significant differences between some students. Students used the storyboard to scaffold their ideas and visualize their stories; therefore, their positive results on story aspects were significant. However, when it came to the digital creation a less number of them did not perform as well because of their lack of computer skills. However, they were able to complete their digital stories on time with the help of the researcher in some cases.

The findings of this research indicate that ability to learn technological subjects have an impact. However, students constantly worked on their stories, both in and outside of class. The researcher observed that students were learning without realizing. Provided they are clearly informed about the task required, digital storytelling can be powerful as an all-round skill development tool; the use of digital storytelling can reinforce various skills. Ryan and Prim (2010) found that performing the role of a digital story producer in a collaborative environment enhances concepts pertaining to learning and increases learning outcomes.

The researcher appreciated the fact that digital storytelling helped students in a task they previously found very difficult. Lovleen, first year M.A student, believes that digital storytelling increased and will continue to increase student outcomes. For example, she was glad that digital storytelling assisted her with challenging tasks. She was completely convinced that digital storytelling increased her outcomes including spelling skills, sentence formation, and building and forming the entire text; the use of digital storytelling contributed to improving these skills substantially. This finding concurs with Yang and Wu (2012), who concluded in their comparative research that a digital storytelling learning environment yielded better outcomes than other lecture-based technology integrated teaching environments. She mentioned that digital storytelling may have profound impacts on curriculum and business, as it compensated for students losing their IT classes for Art class replacement.

5.4 Chapter Summary

A subject-based analysis has been used in this study. All categories were established after the data collection. Descriptions of the categories and examples of the process of meaning
categorization have been presented. A descriptive, thematic analysis of the triangulated material from the 20 questionnaires, the 20 interviews, and the 20 reflection logs has been presented. The presentation was structured around the two subjects, *learning*, and *digital storytelling as a second language learning activity*. Furthermore, the impact of digital story on student outcome based on four aspects has been presented.

**ENDNOTES**

1 Analysis carried out with the description of a single variable (Johannessen A, 2005)

2 Analysis of two variables simultaneously (Johannessen A, 2005)

3 All four answer alternatives can be studied in the questionnaire, in appendix 3

4 A scale where respondents specify their level of agreement to a statement (Johannessen et al., 2006)


6 One of the characters from the play “King Lear” by William Shakespeare