Chapter IV
METHODOLOGY

4. INTRODUCTION

This chapter explains the design and implementation of the methodology used to investigate the research questions. Firstly, research questions are expounded and an overview of the research methodology is then presented. Important concepts, such as the case study approach, its advantages, and selection of a case study for the research presented in this thesis are examined. Following these fundamental concepts, the instruments utilised in this research, the details of the participant, and data collection are described, as well as the overview of the framework, and the different levels and aspects are also presented. In this way, a fuller picture of research methods and design tools required for this research are presented in this chapter.

4.1 RESEARCH QUESTIONS

The objective of this project is to explore the pedagogical benefits of digital storytelling. Therefore, the overall research questions are:

1) What are the potentials for learning when digital storytelling is used as a second language learning activity? Here the kind of learning would be self-learning, as perceived by the students and expressed through their reflections.

2) Can DST offer a diverse interactive learning experience and improve the involvement of students in the process of learning?
4.2 RESEARCH OVERVIEW

This research presents an experimental and an exploratory study intended to address the above stated and the rationale for the project is to explore the pedagogical asset of digital storytelling. The overall purpose of the study is to learn about and describe learners’ reflections around their own learning potentials when they use digital storytelling as an approach to second language learning. This research explores the use of digital storytelling in higher education. In the selected classrooms students were given the opportunity to engage in innovative learning experiences based on digital storytelling. In order to enhance the reliability and validity of the research results, data collection and analysis used qualitative method. A specifical questionnaire, reflection log, interviews, and observation were used to collect and analyze qualitative data.

4.3 RESEARCH DESIGN

This research project aims to explore the impact of digital storytelling on students’ learning engagement and outcomes. It focuses on exploring the potential of digital storytelling as an innovative teaching and learning approach in Higher Education. And further, the impact of digital storytelling on apprentice learning when students use digital stories is investigated. The scripts of writing would be based on Shakespeare’s tragic play, King Lear (1608).

The selected students had the opportunity to engage themselves in innovative learning experiences based on digital storytelling. In order to enhance the reliability and validity of the research, multiple methods of data collection and analysis have been used. Data are collected primarily in adapting the qualitative method. Questionnaires, Reflection logs, interviews and finally observation of all data have been used to collect qualitative data.
4.3.1 Subjects

The study was conducted in a group of 20 students who have been selected randomly as subjects on a voluntary basis. The students (Post graduate and Research students) were selected from the Department of English and Cultural Studies, Panjab University, Chandigarh, India. The selected students were the subjects of the study because, in higher education, a higher level of vocabulary is required. These students got admitted to the University based on the entrance exam. That is why the researcher did not attempt the research study on students from the lower level. In fact, the researcher is investigating into the advanced level of vocabulary as DST will involve a higher level of vocabulary which is required for higher education. The second reason is the study of the drama and literature in postgraduate courses. All the data collection took place at the Department of English and Cultural Studies, Panjab University, Chandigarh, India. The digital storytelling project carried out in this group was based on Shakespeare’s tragic play, King Lear (1608).

4.3.2 Procedure

Before starting the experiment, the researcher arranged several meetings and discussions related to studying the play, and both efferent and aesthetic dimensions were touched upon in order to contextualize the book’s topics (section 1.4). These meetings helped the students to understand the digital storytelling method as well, including DST based instruction, and to know how to work with Adobe Premiere Pro5 software. The researcher, with some technical assistance, taught them how to work with the selected software, and then he designed eight weeks lessons and class activities as detailed below:

Each student has his/her own profile. The students learned how to draw a storyboard before creating their DST and how to edit and sync their narration (own voice) with pictures and music. During this, they were asked to write down their stories which are based and related
METHODOLOGY

to Shakespeare’s play, *King Lear*. In fact, this textbook is being taught at postgraduate level in the classroom and students are to be tested in the same.

DST provides a clear procedure that helps instructors design instructional activities easily, based on the “learning by doing” immersion method of constructivism. The essence of storytelling consists of the following four phases: 1) pre-production; 2) production; 3) postproduction; and 4) distribution (Chung, 2006; Gere, 2002; Kearny, 2009; Ohler, 2005; Robin, 2005). Pre-production includes five steps: a) posing questions in authentic scenarios, b) exploring topical information, c) writing the script and eliciting peer review, d) performing oral storytelling, and e) designing a story map and storyboard.

At the beginning of the class, the researcher poses certain questions about a topic based on contexts or experiences related to the students’ books. Next, students, research the topic for information to write their scripts which reflect a logical story or sequence of events. After completing the scripts, they question each other, engaging in peer critiquing or coaching. The Students first practice telling their stories in a traditional manner, that aids in the discovery of details essential to their stories. Afterward, a story map is designed to illustrate the main components of the story and their relationship to the overall narrative. The story mapping provides a basis for immediate assessment of students’ stories and provides feedback on how to improve weaker elements of their stories. In addition, students represent their stories in a storyboard format (see figure 4.1), arranging the sequence of scenes, effects, and other digital components. Each task in this pre-production phase is paper-based, requiring a focus on the content rather than multimedia elements. Writing scripts and story treatments is a key process for creating digital stories since the final product is media-based.

During the production phase, students prepare multimedia elements and record their own voices. Then, in the post-production phase, the content is arranged and edited into a digital story. During the distribution phase, students share their comments and digital stories with
others. The dynamic process of creating digital stories develops a deeper connection with the subject matter being learned as well as relevant extra-curricular experiences.

![Transition](image)

<table>
<thead>
<tr>
<th>Time (sec)</th>
<th>25 sec.</th>
<th>30 sec.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effects</td>
<td>slow-motion</td>
<td>slow-motion &amp; colorful picture</td>
</tr>
<tr>
<td>Music/audio</td>
<td>Disperatamente Giulia Italian</td>
<td></td>
</tr>
<tr>
<td>Script</td>
<td>Victims of violence grow up to <strong>perpetrate</strong> it. Patriarchy suppresses the voice of women.</td>
<td>When the chain of control is reversed the perpetrator becomes the <strong>oppressed</strong> and the oppressed the perpetrator.</td>
</tr>
</tbody>
</table>

**Figure 4.1**, storyboard, created by one of the students in this study

### 4.4 IMPLEMENTATION OF DIGITAL STORYTELLING IN CLASSROOM

Since the main aim of this research is to investigate the impact of digital storytelling on student learning when students use digital stories, and evaluate if and how digital storytelling can enhance student engagement and improve educational outcomes; the next section will focus on how digital storytelling is implemented in the classroom, describing the digital story class, and explaining the students’ roles and tasks (Smeda, Dakich, & Sharda, 2012b).
The following steps were used to help students easily integrate digital storytelling. It is not the only way to implement digital storytelling; however, it can provide clear strategies on how to integrate digital storytelling when students do not have any previous training in digital story (Kajder, Bull, & Albaugh, 2005; Lasica, 2006; Miller, 2009; Ohler, 2008; Robin, 2006; Sadik, 2008; Sharda, 2007a; University of Houston, 2011).

4.4.1 Students’ workshop

There were two workshops and their main objectives follow:

1. Introducing Digital Storytelling (Workshop 1):
   - Objective: Describe the concept of digital storytelling
   - Facilitator: Researcher
   - Description: Digital experiences of the students with sound, video, and storytelling was the first conversation of the workshop. It followed by an indication of probable methods for involving students and improving the results of learning by using digital storytelling as a medium. The next step was exploring the strong ability of digital storytelling as a learning and teaching means among the constructivist paradigm

2. Introduce Adobe Premiere Pro5 software (Workshop 2):
   - Objective: Describe how to create a digital story with the Adobe Premiere Pro5 software
   - Facilitator: Researcher
   - Description: In this workshop Adobe Premiere Pro5 software was introduced to the students with an explanation of how to create a digital story using this software, and various features and options available in Adobe Premiere Pro5 were demonstrated.
4.4.2 Students Roles

Students at different levels have different digital skills and knowledge, so they need different levels of help. For example, some students who have basic skills and knowledge need more direction and guidance to create a digital story. Obviously, students in different level might need different levels of assistance and scaffolding. Therefore, students were working under the supervision of the researcher, and depending on each individual student, researcher provided help in constructing and creating the story. The following lessons explain how researcher and student worked together to create the digital stories step-by-step:

4.4.2.1 Lesson 1: Brainstorm

The objective of this lesson is to brainstorm the story. Typically expected duration is 1 to 3 days. At the beginning of the class, the researcher poses certain questions about a topic based on contexts or experiences related to the students’ books. Next, students research the topic for information to write scripts which reflect a logical story or sequence of events. After completing the scripts, they question each other, engaging in peer critiquing or coaching.

4.4.2.2 Lesson 2: Storyboard

The purpose of this lesson is to create the storyboard. The estimated duration is 3 to 5 days. In this lesson, researcher helps the students in writing the storyboard (Figure 4.1) to organize the story sequences. Students, on the other hand, create the storyboard and select the right element for it. They may also start by writing a draft of their storyboard. This assists in planning the visual materials in order and thinking about how to sync images or videos with the voiceover and music.

4.4.2.3 Lesson 3: Search the material

This lesson is directed towards collecting the material required to create the digital story over a period of 2 to 4 days. Researcher demonstrates to the students how to look for images from different sources such as books, magazines, and the internet. He also explains copyright
and digital rights issues related to the materials used. Furthermore, the researcher shows the students how to use the digital camera, if required. It is the students’ responsibility to choose elements which match their digital storytelling such as photos, videos, and music.

4.4.2.4 Lesson 4: Creating digital storytelling

The objective is to use Adobe Premiere Pro5 software with the purpose of creating digital storytelling. Due to the amount of work associated, the duration of this lesson is 8 to 15 days, the longest among digital story creation steps. For the researcher, this lesson is designed to help students create the digital story and explain how to import pictures and videos into the Adobe Premiere Pro5 software (Appendix 1). Moreover, this researcher helps the students who want to record their voices and use them within the story. The students created the digital story based on the storyboard by importing the elements to Adobe Premiere Pro5 software and record the student’s voice to add to the narrative and test if it works efficiently with the digital story. They also add special effects and adjust the length of each visual element. This is achieved by choosing and adding some special effects, such as music and transitions, to make the story more attractive, adjusting the length of each visual element to make sure it matches the narrative over the entire digital story.

4.4.2.5 Lesson 5: Editing and feedback

Placed after the story creation, this lesson is aimed at editing and finalizing the digital story. It is projected to be completed in 3 to 7 days. In this lesson, the researcher provides some feedback to incorporate further improvements before the final draft of the digital story. Students, on the other hand, revise and edit the drafts based on the researcher’s comments and feedback. Then, they discuss the final drafts with the researcher and other students. The final form of the story will be prepared based on these comments and feedback.

4.4.2.6 Lesson 6: Presentation and evaluation

The final step of digital story creation is about presenting and evaluating the finalized digital stories in 2 or 5 days. The researcher attends the students’ presentation of their digital
story to the audience and evaluates them based on story elements, story creation, and presentation. The sole responsibility of the students in this lesson is to present the digital story to the researcher and classmates.

4.5 RESEARCH METHODS

The methodology is about collecting, analyzing and interpreting data (Johannessen, Tufte, & Kristoffersen, 2006). This part focuses on methods for data collection. As previously mentioned, this research aims to explore the pedagogical benefits of digital storytelling; therefore, this research will focus on the level of the student engagement and the educational outcomes associated using digital storytelling. In order to achieve a complete understanding of these phenomena, qualitative data have been collected.

4.5.1 Data Collection from Questionnaire

There are several reasons to why the researcher decided to use a questionnaire as one of the methods for data collection. He needed a basis for developing the interview guide and saw that by using a questionnaire distributed to all students he could actually hear all voices. In addition, the questionnaire was answered distinctively and named. This is particularly important when there is a close relationship between the researcher and the respondents, as in this study. Since questionnaires are versatile, they allow for subjective as well as objective data to be collected, which is another advantage.

The questionnaire was first tested on a few students to see whether the various questions were comprehensible. The researcher made a few changes based on this pre-test, but only related to minor details. In addition, he changed the order of some of the questions, to obtain what he believed to be a more coherent questionnaire.

4.5.1.1 Format and Question Design

The researcher used a semi-structured, paper-based questionnaire containing two questionnaires. In questionnaire No.1, questions 1-12 concern the personal data of the
respondents in order to elicit factual information (Appendix 2). The questionnaire No.2, questions 1-12 are based on learning skill and reflections related to the using digital storytelling, which the respondents must rare their learning skills from participating in the digital storytelling project. The respondents must circle the number that best matches their skill development in each area, e.g Written communication skills, Oral communication skills, Technology Skills (Appendix 3).

Semi-structured questionnaires have both closed and open questions. A majority of the questions were closed questions that procured the researcher with data that he could easily compare to look with the other respondents. In addition, there was one open question, where the respondents were asked to explain the answer. The researcher experience is that when respondents can use their own words when answering, it more easily allows for meta-reflections. Johannessen et al. point to four various categories of questions for questionnaires (Johannessen et al. 2005).

These are related to what people know (knowledge), what they believe and think (perceived understanding), what they do (actions) and finally, questions related to people’s reflections (how they see themselves and their situation) (ibid., p. 223). Based on these distinctions, this researcher will define his questions primarily as a mixture of the students’ perceived understanding of and experience with digital storytelling on the one hand, and their reflections related to the use of digital storytelling and to learning in general on the other hand.

4.5.2 Data Collection from Reflection Logs

Towards the end of the storytelling project “Shakespeare’s tragic play, King Lear (1608)”, all the respondents were asked to write a reflection log (see appendix 4). The logs were used as part of the data collection primarily because the researcher was interested in finding out whether data from the logs could shed new light on his research question or perhaps address new issues. Secondly, he wanted to check whether data from the logs confirmed findings from the interviews. The students were encouraged to share their reflections on the
digital storytelling activity that had been carried out. All the log questions were open, predefined questions apart from the final one where they were simply asked to share any remaining reflections.

**4.5.3 Data Collection from Interviews**

Interviews are, according to Johannessen et al. the most common way of collecting data in qualitative research (Johannessen et al. 2005). Carrying out interviews allowed this researcher to investigate more in-depth students’ own reflections. It also gave him the possibility to follow up data collected from the questionnaires and due to distinctively he could relate the information directly from the questionnaires to a specific interview. Since he carried out semi-structured interviews, this also gave him the flexibility to adapt the questions based on the respondents’ answers, or to go more deeply into the matters by asking supplementary questions.

Another reason for using interviews as his main data collection method is related to the fact that somehow the students may find it complicated to present their reflections in a written form, as e.g. in the form of a questionnaire with open questions, as compared to having the possibility to express themselves orally. The researcher was interested in his respondents’ reflections in the form of their experience of digital storytelling as a learning activity in English, as well as their perceptions on potentials for second language learning. It was and is his opinion that these matters are best uncovered when using interviews as the principal method for data collection. In addition, interviews also allowed for the respondents to take part in deciding what would be discussed during the interview.

**4.5.3.1 Designing the Interview Guide**

According to Steinar Kvale (1997), an interview guide gives an overview of the various topics to talk about, and also of the order of the questions. For a semi-structured interview, as in the researcher’s case, the guide only gives a rough suggestion of possible questions. The
researcher nevertheless considered that having a pre-prepared interview guide would help him focus on relevant topics during the interviews (see Appendix 5). This is especially important since conducting research interviews is not an activity he is used to carrying out. The interview guide was developed around two main subjects, as presented below (Norman 2011), (table 4.1). The researcher considers these subjects to embrace and support the two research questions and the two hypotheses outlined for the study (section 1.5 & 1.6) and they will also be used for the analyses.

<table>
<thead>
<tr>
<th>Main Subject</th>
<th>Description of main Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning</td>
<td>What respondents and interviewees understand with learning, both with respect to the learning process and learning outcome?</td>
</tr>
<tr>
<td>Digital storytelling as a second language learning activity</td>
<td>What kind of learning potentials respondents and interviewees define from DST used as a learning activity in second language learning</td>
</tr>
</tbody>
</table>

**Table 4.1:** Subjects for interviews and analyses (Norman 2011)

Related to what Kvale says about the aims of an interview (Kvale, 1997, p. 55), the researcher will in the first place define his interview as *hypotheses testing* since he had developed two hypotheses for this study. However, he will also argue that his interview is *exploratory* (ibid). He wanted to approach the various subjects in the interview with an open attitude so that he could follow up at any time in the interview what the research participants said.

In addition to using open questions where he simply asked the interviewees to *tell about*, or *share your reflections* around, the majority of the questions were *what* and *how* questions. This is in accordance with Kvale, who actually points to *why* questions as unsuited
in an interview, since they may lead to an intellectualization (Kvale, 1997, p. 78). Even though why questions could be interesting, Kvale argues that it is mainly the researcher’s job to find out why something has happened. This researcher can follow his arguments here, and to a certain degree, he also agrees. Having said that, he nevertheless finds that in this study it was, in fact, necessary to ask a few why questions and these were e.g. related to finding out why the students had made certain choices at the cost of others in both the scriptwriting phase, the photo finding phase, and the final editing phase of the digital storytelling process. Other types of questions that were used were follow-up questions, direct questions, indirect questions and also interpretive questions.

However, according to Kvale (1997), question design is not enough to ensure quality in an interview. It is also important to look at how the interview is carried out. The next section will present a few details precisely on that topic.

**4.5.3.2 Carrying out the Interview**

Kvale (1997) has developed 10 quality criteria that might lead to good interviews, but at the same time, he emphasizes that there are no absolute qualification requirements for carrying out an interview (ibid., p. 93). He refers to the interviewer as being the research tool in his or her capacity and maintains “one learns to be a good interviewer by interviewing” (ibid., p. 92). This demonstrates the responsibility that lies on the shoulders of the interviewer when it comes to carrying out the interview and ending up with a good result. The researcher leaned on advice from Kvale (1997), Thagaard (2009), Postholm (2010) and Johannessen et al. (2006) about carrying out interviews, and will in the following comment on a few of the aspects they mention, to allow for transparency to take place.

The interviews took place in a familiar research scholar room in the Department of English and Cultural Studies, Panjab University, which created a relaxed atmosphere. The researcher made it clear that what the respondents answered would in no way affect any of their formal or informal assessments. Before approaching, the researcher gave some
background information about the purpose of the interview, as well as reminded the participants of the consequences of participating. Then a few questions related to the respondent’s digital storytelling background followed. Thagaard (2009) talks about the dramaturgy of an interview guide, and in that respect, such introductory briefing questions (Kvale, 1997, p. 75) are important in order to create an atmosphere of openness and trust. After the interview, the researcher also debriefed the participants (Kvale, 1997), especially with regard to confidentiality in the finished presentation.

The relation between the interviewer and the research participants is also an important element (ibid.). The researcher will characterize his relation as a good one, and the research participants who were asked to take part in the interviews immediately accepted. The interviews were recorded, as agreed with the participants in advance. Johannessen et al. (2005, p. 144) emphasizes the importance of the interviewer to listen carefully, even though the conversation is being recorded. The researcher did not make notes during the interviews but tried to stay focused on the interviewees and what they said. He did, however, have a notebook where he made notes of immediate impressions right after the interviews. He also made a few notes of how the participants had been reacting to the questions, their body language and other observations that might be relevant. Based on what Johannessen et al. discuss with regard to what is to be considered and processed as empirical data (ibid.), the researcher will not look at these informal notes as part of his data. They were only used for his private purposes, to see if there was anything he needed to change for the following interviews to be conducted.

The interviews were carried out in English. This was necessary since the researcher wanted to make sure that the language would not become an obstacle for the participants. He carried out the student’s profile (which is included all the transcriptions, production and data) during the first days following the interviews. In the next section, the researcher will make a few reflections precisely on the transcription work.
4.5.3.3 From Interview to Written Text

In order to make the interviews accessible for analyses, they needed to be transcribed. When Kvale discusses reliability and validity with reference to carrying out transcriptions, he concludes by saying that there are no rules for correct transcriptions (Kvale, 1997, p. 105). He nevertheless suggests as a useful approach that the researcher reflects on what a useful transcription for the current study is (ibid.). In this case, a useful transcription was to transcribe precisely what was said, but without indicating pauses, intonation or non-verbal actions, as e.g. body language, in the transcriptions.

Kvale furthermore says that if the intention is to look at the meaning and the participants’ reflections, one can actually choose to reformulate and summarize the utterances made during the interview (ibid.). However, since the researcher is not an experienced interviewer, he chose to make a direct transcription of the interviews knowing that reformulations, as well as summaries, imply interpretations and selections.

4.6. OBSERVATIONS

After the questionnaire, interview and the entire contact of the interview at the end of each collection of data, the researcher will present the observation and summarizes the observations. The researcher believes that observations are part of the conclusion of the data collection and the research. This tool contains three different forms:

4.6.1 Summary of data from the candidate

In the observations the researcher will present a profile of each candidate by giving the summary of the data, he will make a profile of each candidate, then he will do the evaluation of the candidate

4.6.2 Evaluation

In addition, observations, a scoring rubric has been used by the researcher to assess and evaluate the quality of the digital stories. This stage had two different aims: to assess the level of student engagement and document the provision of better education outcomes through
digital storytelling. The level of engagement is a quantity that can be measured with the help of a scoring rubric. According to Sadik (2008), it is appropriate to use an assessment instrument, such as a scoring rubric, to evaluate ICT-based learning projects. Therefore, the role of digital storytelling in realizing student engagement and outcomes in authentic learning has been assessed by means of an evaluation rubric (See Appendix 6).

An evaluation rubric created by the University of Houston (2011) has been chosen as a guideline to create the rubric fit for this research. This rubric has been used to assess students’ success and level of engagement in authentic learning using digital storytelling.

The evaluation rubric included nine criteria; in conjunction with the digital storytelling framework, these criteria have been classified in the digital storytelling framework under the four different digital storytelling aspects.

These criteria are Purpose, Plot, Pacing of Narrative, Dramatic Question, Story Content, Grammar and Language Usage, Technological Competence, Emotional Content and Economy of Content. Four levels of descriptors were given for each category, with scores of 4, 3, 2, or 1 possible, depending on the level of success in that area (Appendix 6).

4.6.3 Comparison

Finally, after the evaluation of all the candidate profiles has been given, the comparison of the digital story will be present; to give a comparative picture and to show that which story is the most successful or less successful, the researcher will present the comparison chart (See Appendix 7).

4.7 CHAPTER SUMMARY

In this chapter, the researcher has presented the research design, the procedure of carrying the study. Additionally, he has presented different methods for data collection used in this study. The questionnaire was used primarily to collect background information for designing the interview guide. In addition, reflection log was used as a method for data collection. And finally, he has presented observation and comparison of all data.