

## **CHAPTER 3**

### **METHODOLOGY**

This section elucidates how the data of the current study were collected, analysed, and interpreted. In general, it delineates the approach, method, and technique adopted to figure out and interpret the phenomena of deaf and hearing student writers' making meaning of their narratives. The sub-sections of this chapter are the design of the study, the participants of the study, data collection procedures, data analysis procedures, and data interpretation techniques.

#### **3.1 The Design of the Study**

The research design in this functional and cognitive linguistic study is the qualitative approach. The selection for qualitative approach was due to the purpose of this study to find the insight into the language phenomena of deaf and hearing students. Qualitative study according to Mackey & Gass (2005) in their book "Second Language Research: Methodology and Design" is defined as the research that relies on descriptive data without making use of statistical procedures. In qualitative research, there are four types of data that can be collected, namely observational data, interview-based data, audio-visual materials, and documents (Creswell, 2012).

The data of the present study are texts obtained through elicitation. Elicitation in linguistics is viewed as the procedures in stimulating first-language users to produce linguistic data for analysis (Richards & Schmidt, 2002). Further, this qualitative research relies on case study as the method. Through case study, a holistic and detailed insight into language use within certain individuals and contexts is brought forward (Mackey & Gass, 2005). One of the advantages of this method is its openness to study the language use within groups even an individual in a contextualized situation (Mackey & Gass, 2005). In the present study, the case of study refers to the language use in the narratives produced by two groups of deaf and hearing senior high school students.

In terms of the data, this study used two sets of Indonesian narrative texts written by deaf and hearing senior high school students. The selection for Indonesian language is due to the existing narrative studies that have tended to use language other than Indonesian especially English (e.g., Arigusman, 2018; Kilpatrick & Wolbers, 2020; Ko, 2010; Mulyaningsih, 2013; Senjawati, 2016; K. A. Wolbers et al., 2015). One of studies investigating deaf students' narrative in Indonesian is the research conducted by Lintang Sari et al. (2019). The focus of their analysis, however, has been more on the micro-level or linguistic features of formal grammar. Besides, their data were limited to the narratives written by deaf students only. The present study extends the existing knowledge about deaf students' language in narratives by using the data of both deaf and hearing students, by relying on functional and cognitive linguistic perspective, and by making use of Indonesian language.

Another reason of selecting Indonesian for the present study is for practical benefits. Written Bahasa Indonesia for Indonesian deaf students is not only their main medium of knowledge building in the academic setting (apart from their sign language), but also the main tool of communication that connects them to hearing individuals. More important is that understanding the Indonesian language skills of deaf students is expected to give contribution to the pedagogical practices of Bahasa Indonesia. This especially will contribute to the genre-based instruction especially the genre of narrative. It has been perceived that academic writing in school setting is commonly genre-based. Besides, pedagogical practices through literacy narratives have been proved to increase student' achievement in academic writing as they lead students to think and write academically (Hall & Minnix, 2012). The literacy narrative has even been considered by Hall & Minnix (2012) as the bridge to academic writing. Beyond the academic purposes, by having proficient narrative skills in writing it is expected that deaf students later have the possibility to be a writer of Indonesian short stories or novels.

In terms of the way in studying the data sets of the present study, there are two emphasised issues. First, the narratives were studied based on functional and cognitive linguistics. The functional and cognitive linguistics has served not only as the framework of analysis but also as the perspective to interpret language use. The functional perspective was adopted to explain the language choices in terms of the social function of narratives. On the other hand, the cognitive linguistics was adopted to elaborate the language choices in relation to cognition. The possibility of using another theory for accompanying SFL has been long indicated by Davies (2014). It has been claimed as a way to extend SFL descriptive strength to explanatory advantages.

The second emphasised issue on studying the data is associated with comparative analysis and interpretation. Both data sets of deaf and hearing students in the present study were examined comparatively. The former was evaluated in reference to the latter. The narrative texts written by deaf students and the ones composed by their hearing counterparts were analysed to find if there was a language gap between both (about a comparative study, see Milton and Tsang, 1991, cited in Hancioglu et al., 2008). In addition, the language aspects of both deaf and hearing students in the present study were examined based on the data and this type of linguistic study is called by Davies (2014) as data-driven. Under the current research, deaf and hearing students' language choices in narratives were classified not only based on data but also based on theories.

The last point to emphasise in this section is the analysed features of narrative, namely in terms of the macro and micro levels. Both terms have been used in the work of Jones et al. (2016) investigating the narratives of deaf students. The macro-level refers to the generic structure of narratives. In terms of the micro-level, however, there has been adaptation. Whereas in the study of Jones et al. (2016) the micro-level is associated with linguistic features of formal grammar, in the present work it refers to the linguistic features of functional grammar. To be specific, this research defines the micro-level as the transitivity system, the metaphor within the transitivity system, and the mental state terms within the transitivity system.

### 3.2 The Participants of the Study

The participants in the current study were two groups of students coming from special and regular senior high schools run by the Indonesian government. Whereas the deaf group came from two different special schools, the hearing one came from one public school. All the participants were year ten and year eleven students. Both groups of deaf and hearing participants consisted of male and female students. From the deaf group, three male and eight female students participated in this study while in the hearing group there were two male and eleven female students.

From the deaf group, twenty deaf students of the same special senior high school initially participated in the study but only eight shared their disappointing stories especially on the fifth meeting of data elicitation. Further, three deaf students coming from a different special senior high school were added as the participants of study. Based on the information from the deaf participants themselves and the school authorities, the eleven students of the deaf group have experienced profound deafness since their birth or infants due to various causes. In terms of intelligence, based on the information from the school authorities, none of the eleven students was found to have intellectual disability. This has also been confirmed by the researcher's interaction with them for few months. Intellectual disability under the present study is viewed as significantly below-average basic cognitive abilities resulting in deprived adaptive behaviour and deprived learning performance (see Friend, 2008). Further, the background information of deaf participants in the current study is depicted in the following table.

**Table 3.1 The Background Information of Deaf Students**

No.	IS	LD	Aetiology	FD	AFE (in years)	ID	Sex	Family
1	AA	profound	step disease	2 years old	24	no	male	hearing
2	AU	profound	drugs	1 year old	18	no	female	hearing
3	KA	profound	'tampek' disease	at birth	17	no	female	hearing
4	AL	profound	rubella virus	at birth	16	no	female	hearing

5	AR	profound	high fever	8 months old	20	no	male	hearing
6	MA	profound	high fever	1 year and 4 months old	16	no	female	hearing
7	UC	profound	frequent illness at birth	at birth	18	no	female	hearing
8	NA	profound	rubella virus	at birth	19	no	female	hearing
9	NT	profound	not known	at birth	17	no	female	hearing
10	RI	profound	high body temperature'	at birth	17	no	male	hearing
11	SN	profound	not known	not known	20	no	female	hearing

From the group of hearing students, twenty have initially participated in the study but on the last data elicitation only thirteen were willingly to share their narratives. Like the deaf group, they also had no defects in intelligence. This was confirmed by the school teachers and by their interaction with the researcher. The background information of the thirteen hearing students is provided below.

**Table 3.2 The Background Information of Hearing Students**

No.	SI	AFE (in years)	ID	Sex
1	AM	17	No	female
2	DW	15	No	female
3	FA	16	No	female
4	IN	17	No	female
5	IS	17	No	Male
6	KT	16	No	female
7	NA	15	No	female
8	ND	16	No	female
9	NM	17	No	female
10	NP	16	No	female
11	RP	15	No	Male
12	SZ	17	No	female
13	VO	16	No	female

### 3.3 Data Collection Procedures

The procedures of data collection in this study were mainly framed into three phases. They cover the selection for the participants of study, the process of data elicitation, and the data reduction for the analysis. On the initial stage, deaf and hearing senior high school students were selected as the study participants based on their school grades, namely year ten and year eleven students. Students of year twelve were not selected due to an external factor. They were specially prepared by their schools for the final exam and graduation. Further, the participants of the present study were also selected in reference to whether they had intellectual disability. All participants of deaf and hearing students showed no indications of limitation on basic intelligence. As pointed earlier, intellectual disability under the present study is considered as significantly below-average basic cognitive abilities resulting in deprived adaptive behaviour and deprived learning performance (see Friend, 2008).

The background information about participants of study especially the deaf group was obtained from their relevant documents available in the school. It was also gathered from the teachers and even the students themselves. Students' characteristics were also understood by the researcher based on the interaction with the participants of study since the beginning of data collection. The interaction between the participants of study and researcher was quite intensive either through WhatsApp groups, personal WhatsApp, or via Zoom meetings.

The second phase of data collection procedures is the process of eliciting narrative compositions from deaf and hearing students. As pointed out by Richards & Schmidt (2002), elicitation in linguistics refers to the procedures in stimulating first-language users to produce linguistic data for analysis. Before the first elicitation of the present study, the students had been informed by the teachers that they were going to participate in a research. On the first meetings with the researcher, they were also ascertained that they were participating in a linguistic research by writing their stories. More important is that there was a session for self-introduction between the researcher and the participants before the initial process of data elicitation.

In the beginning of elicitation, both types of participants were conditioned to produce narrative texts based on their real stories about a predetermined topic. In this phase, they were firstly assisted to build their schemata or to recall their experiences about a particular topic. Then during the main process of data elicitation, the deaf groups were accompanied and monitored by the researcher and their teacher. Both researcher and teacher, however, did not interfere with the content of students' writings. They only helped in providing technical assistance and in making sure that all instructions were well understood. The teacher monitoring the deaf group had the mastery on Indonesian sign language. The Indonesian sign language was used by the teacher as the instructions for asking deaf participants to write their stories. Apart from being assisted by the teacher with the sign language, the deaf students were also assisted by the researcher by using sheets of paper containing written instructions. The sheets of paper were shown to the laptop camera until all students understood the instructions. Besides, the written instructions were also delivered via the chat box in the Zoom and WhatsApp group.

In terms of the types of stories, the deaf and hearing students on each meeting were conditioned to write their personal narratives of a similar topic (equal topic between both groups). The notion behind the same topic of stories is due to the reason for the validity of comparison. As underpinned by Scott and Windsor (2000, cited in Spencer et al., 2003), the similar tasks of data elicitation for two groups of participants were conducted for the goal of obtaining integrity of comparisons. In the current study, there were overall five tasks containing distinct stories. The five topics in sequence encompass the story about being chased by a dog, my scariest experience, being scolded by my mother, another scariest experience in my life, and my most disappointing experience.

The last one, 'the most disappointing story in my life' was selected as the data sources. The selection for this topic was due to the least even absent metaphor in the previous compositions. The topic about the most disappointing story was expected to prompt the emergence of metaphor since it dealt with mental state conflict of the writer. More important is that 'the most disappointing story in my life' belongs to emotion-

centred narrative that can prompt not only character's emotional reactions but also cognitive insight. According to Pinto et al. (2017), this is the role that cannot be played by action-centred narrative. Thus, by making use of emotion-centred narrative genre, deaf and hearing students' linguistic aspects reflecting the cognition can be prompted.

Further, in terms of the length of narratives, the numbers of words for each story were not determined to obtain the naturalness of data sets. However, the participants of study were instructed to compose their stories that have ending. In other words, they were ascertained that their writings were expected to be completely finished. Another issue of data elicitation is the time provided for each writing task. Both groups of deaf and hearing participants were given equal time for completing their stories, namely about one hour for each story.

The last phase in data collection procedures is data reduction where narrative texts composed by both types of participants were selected for analysis. Before the compositions were further selected as the data sources, they were assessed in terms of their comprehensibility. Moreover, only compositions identified as the narrative genre were selected for the functional and cognitive linguistic analysis. The stories other than narratives were excluded from the analysis. The key criterion of a story to be considered as a narrative was the existence of a conflict or problematic event.

### **3.4 Data Analyses**

The first phase of analysis in this SFL and cognitive linguistic study is on the generic structure of narratives. The basic framework for the analysis of narrative schematic structure was adapted from the work of Gerrot & Wignell (1994) and Knapp & Watkins (2005). The theoretical framework was then adapted the nature of the data. In other words, the framework for analysing narrative schematic structure in this study was rather eclectic, namely the modification between the theory and data. In terms of the compulsory sections, the narrative schematic structure adopted by this study encompasses orientation, complication, and resolution (see Knapp & Watkins, 2005;

Suhartini, 2016). Each different section of narratives was highlighted with a distinct colour.

The second phase of analysis in the current study is on the transitivity system, namely by marking the processes along with the participants and circumstances. The clauses of narrative compositions were then categorized into one of six types of processes covering material, mental, verbal, relational, existential, and behavioural clauses. After that, each type of processes was further analysed along with the types of participants and circumstances. All the analyses were carried out by employing the tables adapted from Halliday & Matthiessen (2004). On the subsequent analysis, the lexico-grammatical features of transitivity system were analysed in terms of the metaphor and mental state terms. All data analyses of the current study were executed by employing the tables below. Tables 3.3 to 3.9 were used for the analysis of transitivity system while tables 3.10 to 3.14 were employed for the analysis of metaphor and mental state terms.

**Table 3.3 The Classification of Process Types**

<i>Clause Code</i>	<i>Clause</i>	<i>Process</i>

**Table 3.4 The Analysis of Material Clauses**

<i>Clause Code</i>	<i>Con</i>	<i>Actor</i>	<i>Process</i>	<i>Goal/Range</i>	<i>Cir</i>

**Table 3.5 The Analysis of Mental Clauses**

<i>Clause Code</i>	<i>Con</i>	<i>Senser</i>	<i>Process</i>	<i>Phenomenon</i>	<i>Cir</i>

**Table 3.6 The Analysis of Relational Clauses**

<i>Clause Code</i>	<i>Con</i>	<i>Carrier/Identified</i>	<i>Process</i>	<i>Attribute/Identifier</i>	<i>Cir</i>

**Table 3.7 The Analysis of Verbal Clauses**

<i>Clause Code</i>	<i>Con</i>	<i>Sayer</i>	<i>Process</i>	<i>Verbiage/Target</i>	<i>Cir</i>

**Table 3.8 The Analysis of Existential Clauses**

<i>Clause Code</i>	<i>Con</i>	<i>Process</i>	<i>Existent</i>	<i>Cir</i>

**Table 3.9 The Analysis of Behavioural Clauses**

<i>Clause Code</i>	<i>Con</i>	<i>Behaver</i>	<i>Process</i>	<i>Behaviour</i>	<i>Cir</i>

**Table 3.10 The Analysis of Metaphor in Material Clauses**

No	Clause Label	Actor	Process	Goal/Range
	Metaphorically Interpreted Linguistic Feature			
	Target			
	Abstract Concept			
	Source			

**Table 3.11 The Analysis of Metaphor in Relational Clauses**

No	Clause Label	Carrier/ Identifier	Process	Attribute/ Identified
	Metaphorically Interpreted Linguistic Feature			
	Target			
	Abstract Concept			
	Source			

**Table 3.12 The Analysis of Metaphor in Existential Clauses**

No	Clause Label	Process	Existent	Qualifier
	Metaphorically Interpreted Linguistic Feature			
	Target			
	Abstract Concept			
	Source			

**Table 3.13 The Analysis of Mental State Terms in Mental Clauses**

No	Clause Label	Senser	Process	Phenomenon	Cir	MST	MSL	MSC
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**Table 3.14 The Analysis of Mental State Terms in Relational Clauses**

No	Clause Label	Carrier/ Identified	Process	Attribute/ Identifier	Cir	MST	MSL	MSC
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Another issue in data analysis procedures is addressed to the language accuracy produced by students. Both deaf and hearing groups made grammatical errors in their writings. The grammatical errors made by some students in this context were in terms of formal grammar. The inaccuracy of language use occurred more commonly in the writings of deaf students rather than in those of the hearing peers. Clauses with this type of error, however, were still included as the data sets as long as the meaning was still understood.

Apart from errors in structure, the inaccuracy found in deaf and hearing students' narratives was also found in terms of spelling, capitalization, and punctuation. Like errors in formal grammar, these types of errors did not also affect the meaning. Thus, the clauses containing errors in spelling, capitalization, and punctuation were still included as the data set. Further, during the process of analysis, the errors were not corrected. This also applies for the display of extracts in the finding section of this article. The reason for not correcting the errors in the current study was to keep the data as natural as possible.

The last aspect to be explained in this section is associated with the formality of language use. Since the writing of narratives in the current study was prompted to be as natural as possible, there was no interference in the use of formal or informal language. Thus, during the process of data elicitation, either narratives with formal or those with informal Indonesian were included as the data sets. Again, as long as the meaning of clauses was still understood, then they were included for analysis.

### 3.5 Data Interpretation Techniques

The results obtained from the analysed data of this current study were firstly interpreted based on the function of narrative genre. In particular, the findings in the forms of narrative generic structure, transitivity system, metaphor, and mental state terms were evaluated based on the social function of narrative genre. Further, they were evaluated based on the cognitive function. Empirically, the findings of language aspects of both deaf and hearing groups were discussed especially based on the previous research findings.

Existing studies on the functional linguistic features of narrative texts so far have been divided into two categories in terms of data sources. The first type of data sources used by previous studies was the narratives in students' course books. The books as the data sources of SFL studies were commonly designed and developed by experienced writers. The second category of data sources analysed by previous SFL studies was the narrative texts written by hearing students. There have been quite rare even absent SFL studies making use of the narratives from deaf writers.

The last issue of this section is addressed to the comparative way of interpreting the findings from deaf and hearing writers. This technique of data interpretation was to examine the language of deaf students in terms of that of their hearing peers. This aimed to depict the language gap or differences between both. As stipulated earlier, the final goal of this research is to reveal the linguistic difficulties faced by the deaf group in making meaning of their narratives. Thus, in the further phase it is expected that the language gap between both groups can be mitigated through the field of language pedagogy.