**3.Methodology**

**3.1 Introduction**

The aim of this study is to explore the impact of ELF on Chinese students in international universities. It focuses on how students’ usage, and beliefs about English affect their confidence and ability in English. The previous chapter has reviewed the attitude and identity related to English as lingua franca. In order to find out the influence of ELF on Chinese students’ language attitude and identity in the international university, mixed method research was used in this study. The aim of the questionnaire was to measure the awareness of ELF among the Chinese students and their opinions about ELF. It could also be used to select the interview participants. The purpose of the interview was to investigate Chinese students’ attitude towards ELF in more depth

and how it influenced the Chinese students’ views about their English in an international university. This study adopted a mixed method research following an explanatory sequential design to answer these research questions:

1. How do Chinese students perceive English as lingua franca？
2. How do Chinese students perceive their own English?
3. How do English as Lingua Franca affect Chinese students’ own English?

**3.2 Research philosophy and design**

This study used a mixed method approach which contains both qualitative and quantitative data collection and analysis. (Creswell and Plano Clark, 2018). In view of the advantages and disadvantages of both qualitative and quantitative research paradigms, and the fact that they can complement each other to some extent, many experts and scholars have tried to combine the two research paradigms in their research. At present, the concept of mixed-method research (MMR) proposed by Tashakkori and Rewell (2007) is comparative to understand and more comprehensive. In their opinion, MMR uses qualitative and quantitative methods for researchers to collect and analyse data, integrate results and extract inferences in a single research or survey project. Qualitative research is based on constructivism and post-structuralism. It uses detailed inquiry writing to deduce individual viewpoints and set relevant properties. The corresponding quantitative research is based on scientific rationality and post-positivism. It uses empirical research, emphasizing the repeatability of research methods and processes and the verifiability of results. (Creswell and Plano Clark, 2018). MMR involves mixing and combining qualitative and quantitative research in a study based on pragmatist philosophy. Johnson (2009) calls it dialectical pragmatism, which pays special attention and listens to various paradigms and interdisciplinary viewpoints, dialectical pragmatism, and argues that the philosophical ideas provided by dialectical pragmatism can support MMR very well.

Quantitative research methods suggest that participants lack an understanding of the experimental background. Qualitative research methods can make up for this shortcoming, but researchers' explanations may lead to bias (Creswell and Plano Clark, 2018). In this research，many Chinese students do not understand the term ELF. In addition, most Chinese students are busy with their dissertation at the same time, so their time and energy are limited. The data available are limited, and the research results cannot be extended to a large number of Chinese students. If only quantitative or qualitative analysis is used, the research cannot achieve good results. Lincoln and Guba（2005）, famous qualitative scholars, use the fishing net analogy. When several broken fishing nets overlap, a complete fishing net will be formed (Lincoln and Guba, 2005). This metaphor vividly demonstrates the advantages of MMR. MMR combines qualitative and quantitative research types organically to form a complementary advantage, avoiding the disadvantages and shortcomings of single method itself so as to improve the quality of research.

In this research, Chinese students of international universities are the only participants. The purpose of this research is to explore the different opinions about ELF among Chinese students. MMR provided more choices for the data collection in this research and data provided a more comprehensive and in-depth understanding than a single qualitative or quantitative study (Torrance, 2012). Therefore, MMR was chosen for this study

Creswell (2010) proposed four mixed strategies and types of mixed designs in MMR. Different hybrid strategies will lead to different design types. Specifically, this study adopted explanatory sequential design and explanatory mixed method design. The explanatory sequential design is concise. Quantitative data collection is the first, qualitative data collection is the second, and the integration of the two data is in the research and interpretation stage (Creswell, 2010). Explanatory mixed method design is a two-stage mixed method design. The general process is to collect and analyse quantitative data first, then collect and analyse qualitative data. The design basis of the second stage qualitative research or expand the quantitative research results of the first stage. Qualitative data is used to interpret or expand the quantitative results. (Creswell and Plano Clark, 2018). This study grouped according to the quantitative results and explored the situation of different participants through qualitative research. Firstly, this study collects the use of English and attitudes towards English among Chinese students in international universities from online questionnaires. Then, participants are selected to attend semi-structured interviews through online questionnaire data analysis. The qualitative data of the interviews are used to comprehend Chinese student’s language attitude and identity through ELF in the international universities. Therefore, only one qualitative or quantitative analysis cannot answer the research question of this study.

In addition, data integration is also an advantage of explanatory sequential design in MMR. Quantitative data can be used for pre-tests and semi-structured interviews in qualitative methods which can logically assess the validity of the research and help improve it (Collins, 2006). Data integration can occur in two stages. First, it happens in the transitional stage after collecting and analysing quantitative data and collecting qualitative data. Second, it occurs after qualitative data are obtained. On the basis of quantitative data, researchers collect qualitative data from suitable participants to explore and integrate quantitative and qualitative data. Qualitative data are used to interpret and expand quantitative data, and thus come to the final conclusion (Creswell and Plano Clark, 2018). Therefore, quantitative data of explanatory sequential design in MMR is the basis of creating qualitative problems, and qualitative data is used to interpret and evaluate quantitative data, so as to improve the accuracy of the research (Fetters, Curry and Creswell, 2013).

**3.3 Participants and sampling**

Since the background of this study is Chinese students from international schools, the participants are Chinese students of age over 18 years ,from the University of Southampton. The focus of this study is on the use of English by Chinese students in international schools and their attitudes towards ELF. Therefore, the participants selected are Chinese students from different majors. A total of 82 questionnaires and 6 interviews were collected in this study.

Since this study is explanatory sequential design, the selection of participants is divided into two stages, quantitative stage and qualitative stage. In the first phase of the quantitative data collection process, links to the questionnaire iSurvey were published on social media. The participants of the research should be Chinese students

, And hence the iSurvery was posted on wechat (the common social media in China). Students those who are eligible to participate in the survey are the Chinese students holding a master’s degree from the University of Southampton. Snowball sampling has been used to form the quantitative questionnaire These participants can recommend other people who can participate in the study. Snowball sampling can expand the number of participants and improve the diversity of participants (Creswell, 2012). In addition, random sampling is also chosen in this study. The difference between the participants is the average distribution, such as learning level and ethical information. Random sampling provides equal opportunities for each participant to be selected in the sampling process (Creswell, 2012).

In the second stage of the study, qualitative data were collected through semi-structured interviews. The participants in the second stage were selected according to the answers of the questionnaire survey in the first stage. In this stage, a convenience sampling method is used. In the questionnaire, the participants are asked whether they are willing to participate in a follow-up interviews (by leaving an e-mail at the end of the questionnaire) (Creswell, 2012). On the basis of the research design, the samples of this stage are based on the results and findings of the first stage. Therefore, the participants with significant results of the questionnaire are selected to participate in a semi-structured interview.

**3.3.1 Questionnaire participants**

All the Participants in the survey were the Chinese students from various British universities. Out of 153 questionnaires distributed, 82 were completed. There were 24 males and 58 females. The influence of age in this study is very small and hence thequestionnaire was divided into 18-30 years old and above. 81 out of 82 participants were between the age of 18 to 30 whereas only one participant was over 30 years old. Each and every individual had different majors. The statistical table of their majors are given below.

|  |  |  |
| --- | --- | --- |
| **Major** | **number** | **percentage** |
| Art | 6 |  7.32% |
| Humanities | 31 |  37.8% |
| Science and engineering | 7 |  8.54% |
| Business | 38 |  46.34% |
|  | 82 |  |

As it can be seen from the table above, students from humanities and business accounted for 84%, while students from arts and sciences accounted for 16%.

* + 1. **interview participants**

All the six participants in the questionnaire have made up the main interview where pseudo names have been used. Each interview lasts about 10-20 minutes, and the background information of the participants are as follows.

Respondent 1: Alexis Respondent 2: Peter Respondent 3: Bob

Respondent 4: Zoe Respondent 2: Joy Respondent 3: Tera

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Gender | Age | Major | Years learning English |
| Tera | Female | 18-30 | Humanities | 18 |
| Alexis | Male | 18-30 | Humanities | 17 |
| Peter | Male | 18-30 | Science and engineering | 18 |
| Zoe | Female | 18-30 | Art | 12 |
| Joy | Female | 18-30 | Business | 17 |
| Bob | Male | 31 | Business | 25 |

It is worth noting that the in interviewee Bob is the only person over the age of 30 who has studied English for a long time whereas Zoe who studied art, studied English for a short period of time.

* 1. **Research instruments**

**3.4.1 Questionnaire（Appendix 1）**

According to McDonough and McDonough (1997), one of the advantages of questionnaire survey is that it can control the collection of quantitative data. In order to enable participants to complete the questionnaire, the scaled and closed-item questions were mainly used in the questionnaire. In the study of ELF, there are few researches about the influence of ELF on Chinese students' identity and language attitude. Chinese students do not know much about ELF, and participants are more willing to answer closed questions. Therefore, an open-ended questionnaire may not be enough for the data collection. However, closed-item questions improve reliability and facilitate quantitative analysis (Mackey and Gass, 2005). Likert scale was used in the questionnaire. Participants made choices from five options, from very agreeable to very disagreeable because most of the questions are related to attitudes, a neutral option has been set up. In order to prevent the participants having other questions or having their own opinions on the ELF, the last question is an open-ended. To attract more participants, the questionnaire was bilingual and there were only 10 likert-scale questions. Many participants had the feedback that the questionnaire is simple and fast, so they recommended the questionnaire to the other students.

In the questionnaire, question 1-3 collects personal information about age, gender and major. Among the ten Likert scale questions, there are three questions related to language attitude, four questions are related to the use of English, and the other three questions are about identity. Questions 7, 8 and 9 are related to language attitude. Question 7 concerned Chinese students’ attitude towards English accent. Question 8 is to investigate the attitude of Chinese students when they make mistakes while using English. Question 9 is about attitudes towards the English users. Question 8 and 9 can be used to determine the Chinese students' attitudes towards grammatical accuracy in spoken English and to investigate whether Chinese students' attitudes towards native speaker and non-native speaker are equal. Questions 4, 6, 10 and 12 are related to the use of English by the Chinese students in the international school. Questions 4 and 6 are about how often Chinese students use English in international school. Questions 10 and 12 are about the communication when Chinese students use English in the international school. Questions 5, 11 and 13 are the views of the Chinese students about their own English. Question 5 is relevant to Chinese students' attitudes towards their accent. Question 5 shows whether Chinese students pursue standard English or not. Questions 11 and 13 are about whether the Chinese students have confidence in using English and whether this confidence is related to their interlocutors.

* + 1. **interview (Appendix 2)**

Bulpitt and Martin (2010) believe that interviews can enter the empathy of the world of interviewees. Interviews are considered to be a tool for providing great flexibility and adaptability data, and interviews are suitable for a wide range of research situations (Punch and Oancea, 2014). This study adopted semi-structured interviews to explore Chinese students' attitudes and perceptions of SE and ELF.

According to Gesch-Karamanlidis (2015), novice interviewer should pay attention to interview skills. They cannot be silent to lead to the end of the interview too early and they cannot over-guide and interrupt the interviewee. Therefore, the study conducted two pilot interviews, the first time only ended in five minutes, the second guided interviewee was the focus of the interview, rather than being too restricted to the questionnaire. The second lasted for twelve minutes. Before each interview, participants will review the questionnaire to avoid forgetting the topic. This interview contained 6 Chinese students, including a maximum of 27 minutes, a minimum of 15 minutes, and an average interview time of about 20 minutes.

O’Brien (2002) believes that the interview should start with some simple questions to make the respondents less nervous and quick to enter the state. So, the interview began with some personal information and some simple questions, such as major and the year of English learning.

The question in the interview was an in-depth understanding of the questionnaire. Question 1 is to ask participants whether they agree to English as a lingua franca and the reason about it. Questions 2, 3, and 4 focuses on the usage of English. The remaining questions are participants' attitudes toward ELF and their own perceptions in ELF. Through these questions, you can understand whether Chinese students are more interested in SE or ELF. Are they English learner or English user?

* 1. **Data analysis methods**

**3.5.1 Method for quantitative data**

According to Creswell (2012), the first step is to collect quantitative data by questionnaire. Since the questions 4-12 are all Likert scale problems, each problem has 5 scales, so use 1 to the numerical score of 5 indicates the degree of the student's answer, such as 5 = very agree with 1 very disagree. In addition, 1-3 of the questionnaire includes demographic information, and information such as gender can be scored: male = female = 2, quantitative data is mainly scored using Excel, and a codebook is established (Creswell, 2012). Third, the descriptive statistics are analyzed using descriptive statistical methods. It is helpful to describe the overall trend of each problem, and it is easy to present and understand large amounts of data through the numbers in the table (Creswell, 2012).

* + 1. **Method for qualitative data**

First，it needs to organize qualitative data and record the interviews and copy them into text, and saved them in a Word document. Then all the data was read several times, and general feeling and a deep understanding of the material was got. Next, all the data is encoded according to the subject of the research question, and the text segments are highlighted or assigned a code tag and color to make it easier to locate. In the process of writing and synthesis, the classified text is positioned and interpreted according to the subject or topic of the research question to better answer the research questions.

* 1. **Reliability and validity of the research**

Onwuegbuzie and Johnson (2013) suggested in quantitative research, the importance of validity has long been recognized. In qualitative research, the discussion of validity is more controversial, and many different classifications and vocabularies have emerged. In the MMR of integrating quantitative and qualitative studies, the discussion of validity is still in infancy. Reliability and validity are discussed in this chapter. A total of 82 participants (158 attempted questionnaires in isurvey) completed the questionnaire. For the sake of validity and reliability, 82 participants were selected for data analysis. There are many reasons why participants did not complete the survey. For example, after providing links to Chinese students or posting them on social media, anyone can click on or open links because of curiosity. In addition, potential participants may try to open questionnaire immediately after obtaining links, and then they can decide whether to participate or later find the right time or place to fill out the questionnaires. Therefore, the number of attempts shown through iSURVEY is almost the same as the actual questionnaire. According to Hudson and Miller (1997), there are many factors affecting the validity and reliability of the questionnaire. First, the importance of participating in the research was emphasized to the participants. The second is to ensure that the questionnaire questions are easy to understand and there are no sensitive questions. Thirdly, invitations for follow-up interviews are one of the advantages of MMR. The importance of the questionnaire has been introduced in the consent form. The questionnaire questions include three personal information, 10 closed-item questions and one open-ended question. However, there are fewer participants who have completed the open-ended questions carefully. For the validity and reliability of interviews, Cohen et al. (2002) put forward several aspects to be considered. The first is to avoid biased sampling and select participants equally and randomly. The second is to ensure that all participants understand the subject or interview at the same level. In addition, all interviews were conducted in the same collective study room of Hartley Library. All participants were satisfied with the location and atmosphere of the interviews. They had enough freedom and time to express their views in their own way.

* 1. **Ethics and Risk Assessment procedures**

First, all participants in this study provided information sheets and consent letters for reading and consent form. Secondly, it should be anonymity and confidentiality of participants.The purpose is to assure participants that every effort has been made to ensure that the data they provide cannot be traced back to them in reports, presentations and other forms of communication. In addition, in the process of collecting data, the questionnaire data are collected completely anonymously, and all interview data are anonymous. During the whole research process, all their personal information is confidential. After they completed the questionnaires and interviews, all the data were stored on a locked computer. Data collection and management strictly followed the research data management policy of Southampton University. In the process of collecting questionnaires, all the data are converted into photo images in excels format as backup, and the paper original is saved to the passage of the paper. The interview recordings are converted into text files and transmitted to the computer as backup. After backup, the original records in the mobile phone are deleted.

In the current context of globalization, English is a common language. The issues raised in this study do not involve sensitive topics. But there are some potential ethical problems that can be solved. The first problem is that Chinese students know little about the concept of ELF. Therefore, before the study, all participants were clearly informed of the concept of ELF to ensure that all participants had a general understanding of the subject before participating in the study. Another problem may be to seek advice on bad feelings or experiences. Participants may recall bad experiences when using English, such as nervousness when speaking wrong English in front of everyone or ridicule from others. When participants feel uncomfortable, they can stop answering at any time.