



P-ISSN 2355-2794
E-ISSN 2461-0275

Students' Enjoyment and Anxiety in Reminiscing about Mind-Mapping Use in the English Writing Class

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Abstract

The present study examines students' foreign language enjoyment and anxiety when reminiscing about the mind-mapping app in the English writing class. This research uses sequential explanatory mixed method to cover quantitative and qualitative elements of students' emotions in foreign language writing. Foreign language enjoyment (FLE) and foreign language classroom anxiety (FLCA) questionnaires were distributed to 122 students at two universities in Indonesia, followed by interviewing some representative students. The findings revealed that students enjoyed the use of the mind-mapping app because they thought that they were free to design their own version of mind-mapping with interesting shapes and colours. However, indications of worrying about the mind mapping they made came from fear of being embarrassed in front of their friends. Additionally, the essence of competition also drove the students to be worried in the writing class. It made them feel that other friends had better mind maps. Second, even though having a group discussion in the writing class was interesting for the students, the fear of friends stealing ideas was detected. There was also an indication that the students were concerned about their achievement in writing class. It implies that teachers need to reminisce students' ideas and not give negative comments in front of the class to avoid increasing students' anxiety, but build up enjoyment instead to boost their devotion to the writing class.

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Citation in APA style: Ariyanti, Setiawan, S., & Munir, A. (2023). Students' enjoyment and anxiety in reminiscing about mind-mapping use in the English writing class. *Studies in English Language and Education*, 10(2), 789-804.

Received September 20, 2022; Revised January 12, 2023; Accepted April 13, 2023; Published Online May 31, 2023

<https://doi.org/10.24815/siele.v10i2.28215>

Keywords: Foreign language classroom anxiety, foreign language enjoyment, mind-mapping, positive psychology, writing performance.

1. INTRODUCTION

Although emotions play a vital role in human lives, there has been little attention paid to this by second language acquisition (SLA) experts. Dewaele and MacIntyre (2016) said that the tendency in SLA writing instruction towards a greater emphasis on positive emotions and their significance as motivators includes the study of linguistic enjoyment. MacIntyre and Mercer (2014) justified the emergence of emotions comprehensively, saying that:

Many language educators are aware of the importance of improving individual learners' experiences of language learning by helping them to develop and maintain their motivation, perseverance, and resiliency, as well as positive emotions necessary for the long-term undertaking of learning a foreign language. In addition, teachers also widely recognize the vital role played by positive classroom dynamics amongst learners and teachers, especially in settings in which communication and personally meaningful interaction are foregrounded. (MacIntyre & Mercer, 2014, p. 156).

Positive psychology (henceforth, PP) seeks to shift the focus of traditional psychology away from abnormalities, disorders and mental illnesses towards the cultivation of both positive emotion and greater engagement, and the enhancement of the gratefulness of the meaning in one's life and its events (MacIntyre & Mercer, 2014). The practitioners of the positive psychology method push for a more complete picture of people, which, in SLA parlance, means shifting one's attention away from one's predominant negative feelings. To broaden the scope of foreign language classroom anxiety (FLCA), it is necessary to incorporate pleasant feelings of foreign language enjoyment (FLE) among students (Dewaele & MacIntyre, 2014, 2016).

Students' emotions as part of the main issues in PP have already been the subject of previous studies, i.e., FLE and FLCA in FL learning (Dewaele & Alfawzan, 2018; Dewaele & Dewaele, 2017, 2020; Dewaele & Li, 2021; Dewaele & MacIntyre, 2014, 2016; Dewaele et al., 2016, 2017), enjoyment, anxiety, motivation, and achievement in writing (Tahmouresi & Papi, 2021), reducing students' anxiety in speaking through contracting technique (Jin et al., 2020), by reminiscing about students' achievement in an FL classroom (Jin et al., 2021), and increasing students' enjoyment through games (Allen et al., 2014). These previous studies designated how FLE and FLCA play a role in FL learning so that practitioners looked to test whether the use of certain techniques or media is effective to reduce students' anxiety and enhance the enjoyment of students in learning a foreign language. In this case, most researchers highlighted students' emotions in FL learning in general and lack of exploration towards specific English competence, e.g., writing. Moreover, research studies on PP, especially those investigating the emotions of FL students, are extremely limited in the Asian context. Hence, the current study took place at the university level in an Asian setting, typically in Indonesia, to examine students' emotions when learning in the FL writing in class.

Considering the recent rise of PP as a distinct field of study, we argue that it is now an ideal time to investigate how students feel when they are learning a new language, particularly writing. Teachers cannot neglect the presence of both positive and negative emotions during the process of learning writing in class. Thus, in the current study, we intend to investigate the FLE and FLCA of FL students when reminiscing about the use of the mind-mapping app in the writing process. The study results are expected to give insights to writing teachers in determining the steps and efforts needed to be taken to improve students' FLE as well as manage students when encountering FLCA in FL writing class. Thus, we formulate the following research questions for this study:

1. To what extent are students' FLE and FLCA reflected when reminiscing about the mind-mapping app in the writing class?
2. How are FLE and FLCA felt by students when reminiscing about the mind-mapping app in the writing class?

2. LITERATURE REVIEW

In this section, we explore the flow of current knowledge, particularly regarding PP, positive and negative emotions, mostly concerning FLE and FLCA in the FL learning context. Without neglecting other researchers who are experts in PP, positive and negative emotions, or FLE and FLCA, we consider citing and exploring the topic of the current study from studies conducted by Dewaele and colleagues from 2014 to 2022. Particularly, we intend to deliver the development of PP knowledge in SLA through the years, such as factors that contributed to FL learners learning FL in class from both quantitative and qualitative aspects. Therefore, this helps to position the current study in the present time and the future.

2.1 Positive Psychology in Second Language Acquisition

The origin of PP has its basis in the psychology of humanism, which centres its discussion on meaningfulness and happiness. Studies of meaningfulness and happiness or well-being have blossomed and emerged among PP practitioners ever since the field of PP came into being when, in 1998, psychologist Martin Seligman announced a new field, which he termed positive psychology. Historically, psychologists paid exclusive attention to curing humans' traumatic experiences, which covered disease and dysfunctions after World War II, which is a medically-oriented view of psychology (Seligman & Csikszentmihalyi, 2000). PP was born out of a rejection of conventional psychology's most widely held ideas and is the advancement of original psychology, whereby PP is not merely focusing on fixing damage in life but also improving one's well-being (Seligman, 2002). The narrative of how PP was founded is by now well known; disillusioned with the way psychology in common focused on disruption, Seligman used his presidency of the American Psychological Association (APA) to launch PP. Instead of trading in the currency of human shortcomings, this revolutionary phase promised to provide a platform for academics to investigate the 'brighter sides of human nature', from enjoyment to fulfilment (Linley & Joseph, 2004).

The field of PP is closely associated with Aristotle's view of human nature. The Aristotelian view of humanity and functioning is predicated on the teleological premise that human life and well-being originate from nature fulfilment and the human being as internally directed by a movement of ever greater maximum functioning (Nafstad, 2015). Seligman and Csikszentmihalyi (2000) explained that well-being and contentment from the past, flow, joy, pleasure, and happiness (here and now), and optimism hope and faith for the future are all topics central to the discipline of PP at the subjective level. At the level of individuals, the qualities include the ability to love and pursue a career, as well as courage, interpersonal skill, an appreciation of art, a sense of aesthetics, tenacity, forgiveness, originality, a focus on the future, exceptional talent, and sage insight. Responsibility, nurturing, compassion, politeness, modesty, acceptance, and hard work are all examples of constitutional morality that can be fostered in a community, as can organisations that encourage and reward these traits. In order to set itself apart, the PP transformation placed a heavy spotlight on the positive. The implication was that 'negative' things are bad, whereas 'positive' ones are always better (Ivtzan et al., 2016).

Those who study PP strive to highlight the good in life to reach well-being. Seligman (2012) popularised five elements of well-being, i.e., positive emotion, engagement, meaning, positive relationships, and accomplishment (PERMA). Regarding the first element, positive emotion is connected to happiness, and it is the foundation of having a pleasant life. It also represents pioneering work in genuine theories of happiness. As subjective metrics, happiness and life satisfaction have been downgraded from the theory's ultimate objective to a secondary consideration under the umbrella of positive emotion. Concerning the second element, a person's level of engagement is subjectively evaluated in the same way as happiness is; by how much joy and ease they experience and whether they can at least state that activity was enjoyable or fantastic. Next, the third element of well-being is related to the connection between people and the world around them in which they find their lives with deeper meaning and purpose. Finally, a key component of human happiness is the realisation that their efforts have paid off. At the end of a long journey, when victory is achieved and a lasting legacy is created, this is when happiness can be said to have been achieved.

Above all history, basic concepts, and principles, the occurrence of PP seems to bring beneficial significance to the teaching and learning process, driving many researchers to conduct studies on PP in various contexts in education, especially in the area of SLA. Some researchers use PP as an intervention (known as PPI) to improve the positive emotion of students in foreign or second language learning. For instance, Abdolrezapour and Ghanbari (2021) tested whether the use of hope, gratitude, emotion regulation and empathy are effective to improve students' listening comprehension. Experimental research was conducted on 45 Iranian students who were divided into experimental and control groups. The result of the quantitative computation indicated the effectiveness of the use of PPI shown by an increase in the scores of the experimental group in the listening course. The supporting data from qualitative findings (interview and observation) show the teacher which materials of the listening course are difficult for students. The teacher can then set specific strategies to help the students to cope with their problems.

Moreover, Jin et al. (2020) stated that the use of PPI was found to be effective in FL learning. They conducted quasi-experimental research on 42 Chinese students

to test whether the contracting strategy was effective to decrease the level of students' anxiety. The results indicated a greater reduction in anxiety in the experimental group compared to the control group, indicating that contracting speech in FL is more effective at reducing anxiety. The analysis of learners' diaries also suggested that contracting speaking could improve their motivation to learn FL, their confidence in their ability to learn FL, their ability to reflect on their progress in learning FL, the development of positive traits and emotions, and the reduction of negative traits such as anxiety. In the following year, [Jin et al. \(2021\)](#) tried another way of utilising PPI, i.e., by asking students to reminisce about their achievements in learning FL in order to reduce their anxiety. The results showed that, in the experimental group, anxiety levels reduced dramatically over time along all dimensions, but in the control group, anxiety levels remained unchanged. The textual analysis also revealed that the students of the experimental group remembered improving in areas other than language proficiency, such as cross-cultural knowledge and testing ability, as well as in areas of language proficiency such as speaking, listening, writing, reading, vocabulary, grammar, and pronunciation. Feelings of happiness, rather than sadness, were associated with this type of remembering.

Different from the previous studies, the current study is focused on the exploration of both students' FLE and FLCA during the reminiscing of the mind-mapping app in the English writing class. Students were invited to fill in a self-report quantitatively and express themselves by telling how they felt about the use of the mind-mapping app in the English writing class, whether it was helpful or not, and how it affected their feelings of enjoyment or anxiety.

2.2 Foreign Language Enjoyment and Foreign Language Classroom Anxiety in Second Language Acquisition

In the field of FLE and FLCA, we aim to highlight previous research which typically focused on students' emotions in FL learning. In 2014, [Dewaele and MacIntyre \(2014\)](#) started to focus on the existence of positive emotions (i.e., FLE) and negative emotions (i.e., FLCA) in the context of FL learning. An extensive survey study was conducted which included 1,746 FL learners around the world to dig into the FLCA of the learners as well as measure whether FLE and FLCA were linked to certain variables. They found that FLE and FLCA were connected to a variety of independent variables, such as how well the participants thought they were doing in the FL classroom, how many languages they knew, their level of education, how many FLs they were studying, their age group, and the basic level of the FL, which ranged from lower-intermediate to advanced levels.

Subsequently, [Dewaele and MacIntyre \(2016\)](#) conducted a study on FLE and FLCA wherein 1,742 learners filled out self-reports of their FLE and FLCA in FL class, with 21 phrases for the FLE scale which were extracted from [Dewaele and MacIntyre \(2014\)](#) and eight phrases for the FLCA scale adapted from [Horwitz et al. \(1986\)](#). The quantitative result showed anxiety as a different factor from enjoyment, whereas the qualitative result showed how participants dealt with their anxiety during the FL learning such as making jokes in class to reduce their tension. After a year of FL learning experiences, the participants revealed a forgiveness attitude where they realised that learning a foreign language for foreign learners cannot be perfect. In the same year, [Dewaele et al. \(2016\)](#) focused the study of FLE and FLCA on the gender

aspect, i.e., to investigate how female students manage to feel enjoyment and anxiety in FL class. They argued that females students are exposed to both higher FLE and FLCA, and that female students adopted a proud attitude when performing FL in class more than males, even though they also indicated to be significantly more worried than male students about their mistakes and were sometimes unconfident in using the FL.

Dewaele et al. (2017) continued their study by addressing FLE and FLCA to influential factors, i.e., teacher and learners' variables in FL learning. The study involved 189 British high school students having learnt different and various types of FLs. FLE reached a high level in the matter of students' attitudes towards FL learning, FL teachers, the use of FL in class, and how much time they spent using the FL. On the other hand, higher scores on FL attitudes, relative status, and development stage were associated with lower FLCA. It appears that the relationship between FLCA and teachers and their methods is weaker than that between FLE and classroom activities. In this study, Dewaele et al. (2017) suggested that educators might focus on increasing students' FLE rather than learners' FLCA in FL learning.

Continuing the 2017 study, Dewaele and Alfawzan (2018) investigated the effect of FLE and FLCA on 189 FL learners in two London secondary schools and 152 Saudi EFL learners and English users in Saudi Arabia. The favourable impact of FLE on performance was shown to be significantly larger than the detrimental impact of FLCA. What this means is that FLE appears to matter significantly more than FLCA in terms of FL performance. The reasons for FLCA and FLE as well as the factors that influenced participants' final decisions to continue or drop out of the FL study were illuminated by the qualitative data acquired from the Saudi participants.

Dewaele and Dewaele's (2020) exploration of FLE and FLCA was sustained by investigating learners' FLE and FLCA in the context where they have two different teachers learning FL in class. The findings showed that FLCA was the same with both teachers, but FLE was much higher with the main teacher. Aspects that predicted FLE, such as how students felt about the teacher, how often the teacher used the target language in class, and how predictable the teacher was, were all much better for the main teacher. The higher FLE score was partly due to the teacher making the classroom feel good. Factors that showed more consistent personal and group traits had less difference between the two teachers. The results showed that FLE depends more on the teacher than FLCA, which is more stable from teacher to teacher.

Not only investigating the enjoyment and anxiety of students, Dewaele and Li (2021) also looked into students' enjoyment of Chinese EFL classes from the factors of teacher enthusiasm and students' social-behavioural learning engagement. Quantitative studies revealed moderate to substantial associations between students' reports of their teachers' enthusiasm, enjoyment, and boredom in the classroom and their level of participation in social-behavioural learning. Furthermore, the study indicated that students' enjoyment and boredom both mediated the connection between teachers' levels of excitement and their students' levels of social-behavioural participation in English classrooms.

In the last research with the same experts who collaborated in the study of FLE and FLCA in 2021, Dewaele and Li (2022) investigated the connection between enjoyment and anxiety, students' achievement, and expected levels of success in six areas of FL learning, i.e., listening, speaking, reading, writing, vocabulary, and grammar among 1,415 Chinese senior secondary students. In this study, they found four major results, i.e. (1) self-perceived general English proficiency predicted FLE

and FLCA more strongly than actual English achievement did, (2) perceptions of speaking and grammar competence were significant predictors of both emotions, (3) perceptions of reading competence predicted FLE significantly but not FLCA, and (4) perceptions of listening, writing, and vocabulary competence did not predict either FLE and FLCA. It can be concluded that the issue of both FLE and FLCA in language learning remains a hot topic. Therefore, the current study took part in the exploration of students' FLE and FLCA in an FL class, especially in the writing course. We followed the self-report of FLE suggested by Dewaele and MacIntyre (2014, 2016) and FLCA proposed by Horwitz et al. (1986). We adapted those self-report item questionnaires based on the objectives and focus of the current study.

2.3 The Concept of Mind-Mapping in Writing

Buzan (2002) developed the mind-mapping technique, which displays connections among ideas, concepts, and information using verbal and symbolic elements in a non-linear diagram or network (Dhindsa et al., 2011). Created as a note-taking method in the late 1960s, this technique has gained popularity due to its ability to stimulate creativity, retention, and effective learning by revealing prior knowledge. The left hemisphere of the brain is typically used to reflect thoughts, while the right hemisphere is used to incorporate visual elements into one's mind-maps (Evrekli & Balim, 2010). Because of where ideas are put in a mind-map, the most crucial ones are brought to the forefront. In addition, mind-maps allow for both the right and left sides of the brain to be utilised during the learning process, which can lead to more comprehensive approaches to solving problems (Somers et al., 2014).

According to Paxman (2011), mind-mapping is most effective when it incorporates the use of words, hues, and visual appearances to aid in the conceptualisation of the brain's ideas with other ideas. Buzan (2002) argued that mind-mapping is the most straightforward approach to both in-brain development and extra-brain retrieval of knowledge. In this case, we can effectively and creatively map our thoughts using this method. The long, tedious process of taking notes and making lists, in which ideas are maintained in a top-down sequence and it becomes difficult to make connections between the last idea and the first, can be replaced by a map. Since this now unites disparate concepts, a vibrant tree analogy seems appropriate. These maps, which take the form of a tree or a hierarchy, are built in such a way as to make it easy to see the connections between different concepts and how they relate to one another. Mind-mapping is the most straightforward approach to both in-brain development and extra-brain retrieval of knowledge.

Specifically, regarding the context of teaching and learning writing, students may find it useful to use mind-maps as a prewriting planning aid. They can be shown how to organise their thoughts in a step-by-step, hierarchical pattern with the aid of examples, which will help them remember their arguments until they have completed the entire essay. In order to explore ideas and generate thoughts on the subject at hand for writing, mind-mapping techniques can be useful (Bukhari, 2016). The use of mind-mapping facilitates the accumulation of ideas pertinent to the topic at hand. Without the rigidity of outlines, grouping, or listing, the collected ideas make sense on their own, depending on the user's needs, thus mind-mapping can be used to depict data via pictures, symbols, keywords, codes, and colours. Two forms of mind-mapping can be used by students, online application of mind-mapping tools and offline mode.

The previous studies argued that mind-mapping is closely related to the process of producing decent writing. In the context of the current research, the researchers found that students at the two universities in Indonesia used online applications to create the mind-mapping more than manual ones. One of the applications used by the students is 'Popplet'. It can be installed on the students' mobile phones or used online via a browser on their laptops. The students' experiences when using the mind-mapping in writing would be enquired through self-report and dug by using interviews.

3. METHODS

A mixed method, specifically sequential explanatory, was particularly used as the umbrella in conducting this study. Creswell (2012) states that the collection of quantitative and qualitative data occurs simultaneously in a sequential-explanatory mixed method. The quantitative data were intended to pinpoint the areas of FLE and FLCA shown in the FL writing class. Additionally, the qualitative data were presented to support the findings found in statistical computation in the quantitative section. It was aimed to search for students' feelings towards the use of the mind-mapping app in the writing process.

3.1 Participants

A total of 122 participants from two universities in one state province in Indonesia acted as the participants in this study. Some information regarding the participants is summarised in a demographic preliminary study, i.e., gender (male=44, female=78), age (between 19-20 years old=63, between 20-21 years old=59), duration of learning English (12 years=122), English course experience (N=51).

3.2 Instruments

The closed-ended questions in the questionnaire can be better understood with examples from the participants' own words, which is exactly what the qualitative data are meant to do. The data from a qualitative method supplied us with recurring ideas and insightful quotations that were utilised to buttress the results of the quantitative study. Two-part process analysis was applied in this study. Initially, statistical analysis was utilised to determine the descriptive analysis, typically on the distribution of frequency towards the items existing in FLE and FLCA scales towards their experiences in using mind-mapping in writing essays. It was planned to use the principle of representativeness and interest to choose data extracts from the open question for the second phase through a semi-structured interview. We also allowed the participants to have their voices heard in more theoretical and statistical dimensions at the same time.

3.3 Data Collection

The first version of the questionnaire was pilot-tested on 15 students. Because of this, some items had to be scrapped, and others had to be reworked. Finally, the final version of the questionnaire was posted online on Google Forms for the

participants to fill out consisting of a five-point Likert scale, i.e., ‘absolutely disagree’=1, ‘disagree’=2, ‘undecided’=3, ‘agree’=4, ‘strongly agree’=5. Fifteen items of the FLE questionnaire distributed to the students were customised by Dewaele and MacIntyre (2014, 2016), whereas eight items for the FLCA questionnaire were modified by Horwitz et al. (1986). Since the phrases in both FLE and FLCA questionnaires from those experts are typically for general aspects of English, and some are related to speaking aspects in learning FL, we adjusted to the context of FL writing and added the term mind-mapping app as the focus of this research.

3.4 Data Analysis

The 26th edition of the SPSS program was used to analyse the data gathered from the FLE and FLCA quantitatively. Cronbach’s alpha for the 15 students who participated in the pilot test of the FLE and FLCA questionnaires was quite high (FLE questionnaire = .86, and FLCA = .80). Descriptive analysis was computed to address the primary research question about the students’ FLE and FLCA in reminiscing about the use of the mind-mapping app in the writing class. Meanwhile, to address the research question, we employed a flow chart analysis series proposed by Miles et al. (2014), which included data reduction, data display, and data condensation, based on information gleaned from the semi-structured interviews.

4. RESULTS

The results of the current study are displayed in two steps, i.e., quantitative, and qualitative data of FLE and FLCA of students using the mind-mapping app in the writing class. The calculation of statistics in the quantitative part was visualised by using tables to describe the measurement of each item of FLE and FLCA questionnaires. For the qualitative segment, representative excerpts from the participants were presented to support the quantitative findings.

4.1 Quantitative Results of Students’ Foreign Language Enjoyment and Foreign Language Classroom Anxiety

A series of statistical computations were carried out to measure the descriptive analysis of both FLE (see Table 1) and FLCA (see Table 2) including the mean and SD for each item.

Table 1. Descriptive statistics of students’ FLE.

No.	Item	Mean	SD
1.	I can be creative when using the mind-mapping app in the writing class.	4.25	0.856
2.	I can laugh off embarrassing mistakes in the writing class.	2.34	1.065
3.	I do not get bored when using the mind-mapping app in the writing class.	3.97	1.185
4.	I enjoy the use of the mind-mapping app in the writing class.	4.15	1.096
5.	I feel as though I am a different person during the use of mind-mapping app in the writing class.	3.34	1.459
6.	I learnt to express myself better when using the mind-mapping app in the writing class.	4.40	0.492
7.	I feel the use of mind-mapping app is worthwhile in the writing class.	3.89	1.278

Table 1 continued...

8.	I have learnt interesting things towards the use of mind-mapping app in the writing class.	3.99	1.153
9.	I feel proud of my accomplishments after using mind-mapping app in the writing class.	2.66	1.419
10.	It is a positive environment to use the mind-mapping app in the writing class.	4.46	0.740
11.	It is cool to know the mind-mapping app in the writing class.	4.12	1.049
12.	It is fun to use the mind-mapping app in the writing class.	4.14	1.015
13.	There is a good atmosphere when using the mind-mapping app in the writing class.	4.49	0.659
14.	We form a tight group when using the mind-mapping app in the writing class.	1.90	0.566
15.	We laugh a lot when using the mind-mapping app in the writing class.	1.53	0.501

All items of the FLE questionnaire above indicate one main similar result where the mean scores are higher than SD scores (mean>SD). Specifically, 11 out of 15 items show significantly higher mean scores rather than SD scores (items 1, 3, 4, 5, 6, 7, 8, 10, 11, 12, and 13). It means that the data gained from those items were not varied. For example, for item 10 'It is a positive environment to use the mind-mapping app in the writing class', more than 50% of the participants chose 'strongly agree'. Meanwhile, there were four out of fifteen items just slightly different between mean scores and SD scores (items 2, 9, 14, and 15). It indicates the participants' answers were quite varied because the SD scores are close to the mean scores. For instance, for item 9 'I feel proud of my accomplishments after using mind-mapping in the writing class', the data consisted of 'strongly disagree'=22%, 'disagree'=41%, 'undecided'=1%, 'agree'=20%, and 'strongly agree'=16%.

Table 2. Descriptive statistics of students' FLCA.

No.	Item	Mean	SD
1.	I always feel that the other students have better mind-mapping than I do.	3.84	1.282
2.	I can feel my heart pounding when I am going to be called to practise the use of mind-mapping app in the writing class.	2.23	1.205
3.	I feel worried when using mind-mapping in the writing class.	2.16	1.249
4.	I do not feel confident when using the mind-mapping app in the writing class.	1.82	0.882
5.	I get nervous and confused when I am using the mind-mapping app in the writing class.	1.91	0.853
6.	I start to panic when using the mind-mapping app in the writing class.	1.59	0.526
7.	It embarrasses me to have negative comments when using the mind-mapping app in the writing class.	4.69	0.562

Alike with FLE questionnaire results, the findings of FLCA also show higher mean scores rather than SD scores (mean>SD). Particularly, there were two out of seven items had significantly higher mean scores compared to SD scores (items 1 and 7). It indicates the answers are not varied. For instance, for item 7 'It embarrasses me to have negative comments when using mind-mapping app in the writing class', 72% of the participants chose 'strongly agree'. In another case, five out of seven items showed small differences between mean scores and SD scores (items 2, 3, 4, 5, and 6). In other words, participants' answers were varied. For example, for item 3 'I feel worried when using mind-mapping in the writing class', the data scattered into 'strongly disagree'=33%, 'disagree'=46%, 'undecided'=1%, 'agree'=11%, and 'strongly agree'=9%.

4.2 Qualitative Results of Students' Foreign Language Enjoyment and Foreign Language Classroom Anxiety

We looked at the participants' written comments to have a deeper understanding of the results and to understand the students' perspectives. The extracts of participants' remarks in the semi-structured interview were selected in consideration that these revealed unique and interesting statements of their feelings. The excerpts were then translated by the second researcher since all the participants were interviewed in the Indonesian language to avoid misunderstanding. Also, we wanted to ensure that we could obtain as much information as possible from them. Statements from the participants interviewed were related to the findings gained from the self-report they had filled out.

Regarding the FLE matter, the students highlighted various points regarding their accomplishments after using the mind-mapping app in the writing class (item 9). Some students assumed that the use of the mind-mapping app just helped them at the beginning step of collecting ideas, but not to the whole process until they got their final remarks.

- (1) The mind-mapping app helps me to build prior ideas before making my essay draft. I feel that developing ideas in the essay itself is the most difficult rather than making mind-mapping the first step. (FR, male, 20)
- (2) It is beneficial to use the mind-mapping app as the beginning part of essay writing. Unfortunately, I made too many revisions during the drafting process. It was too far from the points I made in my mind-mapping. (LND, female, 19)

However, some students argued that the mind-mapping app is the most important part of producing decent essay writing. They feel that the use of the mind-mapping app contributes to their writing achievement.

- (3) By using the mind-mapping app, I feel that I gain a better comprehension of how to manage chronological information in my writing. I am confident enough with my writing score because I have a strong foundation in widening my views to expand my writing skills. (MSA, female, 21)

Most of the students interviewed said that they enjoyed the use of the mind-mapping app (item 4) because they were free to express their thoughts (item 6), although some of them argued as to whether forming a group was a good idea to share their mind-mapping to each other (item 14).

- (4) I like using the mind-mapping app since I am a technology lover. I can play with shapes and colours in making mind-mapping, and it is quite fascinating for me. However, sharing the result of my mind-mapping is not really satisfying for me because I am afraid that my peers will steal my ideas and my mind-mapping design. (AGN, male, 21)
- (5) I often feel that I have difficulty deciding what aspects I should discuss in my essay writing. Thus, I think that making group discussions is fun so that I can exchange ideas with my classmates. (WLY, female, 20)

Regarding the FLCA, most of the students strongly agreed that having negative comments towards the result of their mind-mapping is unfavourable (item 7), e.g., when the teacher tried to compare students' results of mind-mapping in class.

- (6) I doubt that my mind-mapping was good. I always assume that my friends' mind-mapping is better than mine. (DHN, female, 20)
- (7) I am afraid of getting negative comments towards the mind-mapping I have made. The teacher compared the result of our mind-mapping by showing it on the screen. Actually, I think it is quite embarrassing. (HRZ, male, 20)

Additionally, the students had quite varied answers when they were asked about anxiety indications when using the mind-mapping app, such as item 2 (heart pounding), item 3 (worry), item 4 (unconfident), item 5 (nervous and getting confused), and item 6 (panic). For example, in item 4 'I do not feel confident when using the mind-mapping app in the writing class', the answers were quite varied. Some students were confident enough because the mind-mapping app was not new to them. Some others had never used such a mind-mapping app, as stated below:

- (8) I like to play with computer technology, and I have known some kinds of apps for making mind-mapping. Thus, I have no doubts about using the app asked by the teacher because I am sure I can handle it. However, I still have difficulty in how to list important points related to my topic of essay writing. (RND, male, 21)
- (9) It is quite challenging for me to use an app in mind-mapping. It is interesting, but I prefer to use the traditional drawing of mind-mapping. (RZI, female, 20)

5. DISCUSSION

The data gained from the qualitative semi-structured interview can be used to explain the results from the quantitative data. In this case, the students' voices shape some similar points which were dominantly related to their effects, typically regarding the FLE and FLCA in the FL writing class. Even though students enjoyed the use of the mind-mapping app, some indications of FLCA appeared, such as being afraid of getting negative comments from teachers, which we assume is correlated with the writing competence of the students. [Sieben \(2017\)](#) said that fostering hope in students' minds when they are writing an FL text will increase their motivation and level of confidence. Supporting this idea, [Pekrun and Stephens \(2010\)](#) believe that too general and too many negative comments will lower students' willingness in doing FL writing. Improper feedback has the potential to trigger students' boredom and sadness ([Rowe et al., 2014](#)). Therefore, students' positive mindset should build up optimism ([Lloyd & Hastings, 2009](#)). This is relevant to another aspect of FLCA felt by the participants that they are afraid of making mistakes. Thus, students need to be further explored on revealing their positive emotions by experiencing various relaxing conditions and the teacher might be expected to build in some jokes so as to release the students' 'pain' in writing ([Allen et al., 2014](#)).

The use of the mind-mapping app is considered to be useful for the students in this study to develop their ideas before transferring them to writing. They enjoyed the use of the mind-mapping app because most of them were having problems with idea building. Internal difficulties that the students felt during the writing process engaged the student-self variable but only the teacher variable impacted the students' FLE and FLCA. As found by [Dewaele et al. \(2017\)](#), teacher and learner variables influence the FLE and FLCA of students in learning FL. Therefore, teachers are suggested to boost

students' enjoyment rather than focusing too much on their anxiety in FL learning (Bielak, 2022).

Some prominent findings in this study are that, first, students enjoyed the use of the mind-mapping app because they thought that they were free to design their own version of mind-mapping with interesting shapes and colours. However, indications of worrying about the mind mapping they made came from fear of being embarrassed in front of their friends. Additionally, the essence of competition also drove the students to be worried in the writing class. It made them feel that other friends had better mind maps. Second, even though having a group discussion in the writing class was interesting for the students, the fear of friends stealing ideas was detected. There was also an indication that the students were concerned about their achievement in writing class. Therefore, teachers should manage how to deal with these issues so that students' ideas in their writing is facilitated.

6. CONCLUSION

The findings indicate that the FLE of using the mind-mapping app does not seem to directly meet the negative feelings they are experiencing. The participants agreed that the mind-mapping app is very helpful and they are confident in using it, but they also feel unconfident when they receive negative comments from the teacher at the same time. Additionally, students love to have a group discussion, but they are also afraid that their friends will take their ideas. Those facts prompt the study's recommendations that the teacher can use other strategies to include efforts in giving positive psychology intervention, such as building hope during the process of FL writing, which might increase the students' independence when writing. Various activities to build students' competence in writing are also demanded, such as a focus-group discussion to share ideas between peers.

This study has limitations that need to be improved in the future. First, future research is expected to widen the scope of the research to other skills of English, since this study only focused on writing. Second, the participants of this research were limited to only two different universities in Indonesia. Thus, larger numbers of participants are suggested for future research. Having a more extensive survey of FL students in an Asian context should also be considered. Third, this research is limited to a specific instrument used in assessing enjoyment and anxiety in English writing. Other instruments for assessing specific areas of enjoyment and anxiety in certain skills of English language competence are needed. Many elements of positive psychology may support FL writing learning, especially in increasing students' positive emotions, e.g., hope, therefore, these needs to be investigated as well. Lastly, the development of an instrument for measuring enjoyment and anxiety in specific English language competence is required.

ACKNOWLEDGEMENTS

We would like to thank the funding bodies of PUSLAPDIK (*Pusat Layanan Pembiayaan Pendidikan*, or Education Financing Service Centre) and LPDP

(Lembaga Pengelola Dana Pendidikan, or Indonesia Endowment Fund for Education), Grant number 202101121223, for their financial support throughout the process.

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