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# LANGUAGE LEARNING ANXIETY IN STUDENTS OF THE FACULTY OF MINING, GEOLOGY AND PETROLEUM ENGINEERING

Master thesis

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# STRAH OD JEZIKA KOD STUDENATA NA RUDARSKO-GEOLOŠKO-NAFTNOM FAKULTETU U ZAGREBU

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Izjavljujem pod punom moralnom odgovornošću da sam diplomski rad „Language Acquisition Anxiety  in Students of the Faculty of Mining, Geology and Petroleum Engineering – A Case Study" izradila potpuno samostalno uz stručno vodstvo mentorice Renate Geld i ko-mentorice Dubravke Pleše.

Svi podaci navedeni u radu su istiniti i prikupljeni u skladu s etičkim standardom struke. Rad je pisan u duhu dobre akademske prakse koja izričito podržava nepovredivost autorskog prava te ispravno citiranje i referenciranje radova drugih autora.

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# Abstract

This case study discusses the topic of language acquisition anxiety and strategies of avoiding that anxiety in students of the Faculty of Mining, Geology and Petroleum Engineering in Zagreb in order to examine when and why anxiety appears while learning a language.

Firstly, the term *language* learning is described. The term *anxiety* is explained, and connected to language learning. This connection is presented and analysed. Secondly, with the help of a questionnaire about language learning anxiety, a survey on 100 students of Mining, Geology and Petroleum Engineering is conducted. The data collected in the survey is examined, calculated and analysed. Statistics are used in order to test seven hypotheses. Furthermore, the results of the survey are discussed in detail and examples of learners' statements, thoughts and fears about learning a language, acquired using the questionnaire, are presented.

In conclusion, the findings of this paper are summarised and given subjective interpretations. The findings show that the first, second, third and fourth hypotheses are in concord with the results of the statistical analysis, confirming: that female students are more prone to anxiety than male students, that students of Mining and Geology are also more prone to anxiety than students of Petroleum Engineering and that anxiety is most present in oral exam situations. The findings also show that more students try coping with the situations that make them anxious rather than avoiding them and that the length of formally learning a language does not correlate with the anxiety level in individuals. Furthermore, the findings suggest that the role of the teacher is less important than the students' own perception of their language skills.

Key words: anxiety, statistics, students, questionnaire

# 1. Introduction

After learning a language in elementary school, a student in Croatia continues learning a language during secondary education as well. After high school, however, some choose a path that is not directly connected to languages and study mathematics, biology or, for example, Mining, Geology or Petroleum Engineering. However, foreign languages appear even at such faculties in the form of Languages for Specific Purposes (LSP).

LSP focuses on using a language in a professional environment, with the focus on the student's field of study, be it Technical English, Business Mandarin, French for Chefs or German for Future Doctors. It covers the vocabulary, grammar and situations that could appear in students' careers. That means that the language they are learning can be of great benefit to them in their professional future.

Although students perceive knowing a language as beneficial, even university students and adults are faced with various difficulties when learning a language. Some of them are purely language-related, such as a difficult alphabet or complicated grammar system. Others are not language-based, but still are a component of language learning. One such difficulty is certainly language learning anxiety, an emotion which mirrors the fear and worry a student feels while learning a language.

In this work, the presence of language learning anxiety in students at the Faculty of Mining, Geology and Petroleum Engineering during their English for Specific Purposes (ESP) classes will be discussed. By analysing questionnaires, which reflect on students' experience and behaviour in ESP classes, their attitudes towards English and their thoughts on the role of a teacher in English classes, a clearer picture of language learning anxiety and mechanisms of coping with it will surface. The results of the analysis will be used to test seven hypotheses.

The first part of this thesis will provide a theoretical framework on language acquisition anxiety. This will be followed by previous research on anxiety and its influence on language learning. The second part will present a statistical analysis of the data collected through surveys and their interpretation. In the end of this thesis, potential applications of the findings will be discussed.

## 2. Language Acquisition Anxiety

The term *anxiety* can be explained as "[a] feeling of worry, nervousness, or unease about something with an uncertain outcome (Oxford, 2018)", which means an anxious person worries about the events that have not happened yet, but in their opinion they might happen. If this feeling of anxiety is present in everyday life we can speak of a generalised anxiety disorder. This disorder is characterised by a feeling of worry and inexplicable fear which overwhelms an individual completely and they do not know the reason or the origin of this fear (Begić, Jukić, Medved, 2015, 193). This generalised anxiety disorder will not be discussed in the following chapters of this paper, but it is important to mention it for the sake of differentiating it from language learning anxiety.

The anxiety that this thesis focuses on appears while learning a foreign language, be it a second, third or fourth one. It is defined as a fear which we feel in a situation when we have to use a foreign language and we do not feel competent enough to do it (Mihaljević Djigunović, 1998, 52). Horwitz, Horwitz and Cope (1986) link language learning anxiety closely with communication apprehension, fear of social evaluation and test anxiety (127) and explain that it falls into the category of specific anxiety reactions, is closely related to performance anxiety, because of the classroom evaluation environment, and is considered to be a major obstacle a student has to overcome in learning to speak another language (Horwitz, Horwitz and Cope, 1986, 125-128). Mihaljević Djigunović (1998) also notices that language learning anxiety is linked to the evaluation process and that some tasks may be perceived as a challenge but also as a threat by the student, which can result in a test-induced anxiety (53).

A lot of research touches upon the topic of the fear of evaluation in a foreign language and some researchers, such as Sarason (1980), claim it originates from the fear of failure (e.g. Sarason, 1991, as cited in Mihaljević Djigunović, 2002, 49). This first led to the belief that test anxiety mirrors negatively in test results. However, later research shows that low levels of anxiety can also encourage learners to do better on tests and that learners with low levels of test anxiety have better results than learners with high levels of anxiety (e.g. Holmes, 1972; Rosenzweig 1974; Ohlenkamp, 1976, as cited in Mihaljević Djigunović, 2002, 49).

Horwitz, Horwitz and Cope (1986) mention some other difficulties that students prone to language learning anxiety experience, such as *freezing*, going blank prior to tests and many of the psycho-physiological symptoms commonly associated with anxiety, including tenseness, trembling, perspiring, palpitations, and sleep deprivations (128-129).

Mihaljević Djigunović (1998) continues to discuss affective factors in learning a language, such as motivation and elaborates on what influences a student's motivation by saying that people actively search for a pleasant experience and avoid experiences which bring them discomfort (23). She suggests that a teacher's class activities should be adjusted to the student's level of knowledge for the student to be successful. That would reduce anxiety and reward the student, which are the goals of programmed learning (Mihaljević Djigunović, 1998, 23).

She moreover mentions anxiety in her work "Croatian EFL Learners' Affective Profile, Aspirations and Attitudes to English classes" as one of the affective learner factors and she agrees with Horwitz that learner attitudes to teaching can strongly influence final achievements of learners (e.g. Horwitz, 1987, as cited in Mihaljević Djigunović, 2007, 116) and therefore can also affect a student's motivation for learning a language.

Some other studies also seeking specific effects of anxiety on language learning, like the one by Steinberg and Horwitz (1986), reveal that anxiety affects the communication strategies which students use in language class, such as using more concrete and less interpretive and personal messages in classroom communication (134). This inability to communicate without difficulty may change how the student behaves in a foreign language class. Mihaljević Djigunović (2002) speaks about insufficient foreign language proficiency and the need to act according to new codes of conduct in that language, all of which disables the student from forming a complete personality. Instead, the learner develops only a part of their personality in a foreign language (48).

Other research dealing with the topic of language learning anxiety mentions that anxiety does not necessarily correlate with negative effects on language learning (Mihaljević Djigunović, 1998, 54). Some research shows that some types of anxiety or some levels of it positively correlate with improvement in language learning (e.g. Kleinmann, 1977; Scovel, 1987; Williams, 1991, as cited in Mihaljević Djigunović, 1998, 54).

Further on, Mihaljević Djigunović (1998) discusses the affective factor of anxiety in language learning and says that it is linked to another important affective factor: confidence (54). In many studies it is closely linked to successful language learning and has a negative

correlation with language learning anxiety (e.g. Clement, 1986, as cited in Mihaljević Djigunović, 1998, 54).

Mihaljević Djigunović's own research (1998) on language learning anxiety in students of the seventh grade of elementary school shows a positive correlation with the student's self-perception and anxiety, meaning that if the anxiety itself increases, the student will perceive themselves more negatively (145). This only contributes to the importance of creating a pleasant classroom environment. In her later research, Mihaljević Djigunović (2002) confirms that there is a positive correlation between students' success and students' positive self-perception, while less successful students tend to feel a greater level of anxiety (65).

# 3. The Study

## 3.1. Sample and Instrument

According to Dörnyei and Csizer (2012), survey studies can inform one about not only the intended language behaviour of language learners but also the opinions and attitudes people have on specific second languages and the language learning processes in general. They can also inform one about the feelings of the participants, such as their anxiety about language use (Dörnyei, Cszier, 2012, 75). That is why a survey is used to gather information on language learning anxiety, its causes and methods of avoiding it or fighting against it.

To further elaborate on when, how and why anxiety appears in the process of language learning, a research was conducted on 100 students at the Faculty of Mining, Geology and Petroleum Engineering in Zagreb.

Among the 100 students, 64 were male and 36 female. There were 47 students of Petroleum Engineering, 27 students of Geology and 26 students of Mining. All participants attended the first two years of the bachelor study of one of the three above-mentioned studies. They were also divided by the number of years they had been formally learning the language. A large number of them, 84, had been learning English for more than twelve years and 16 of them have been learning it for less than twelve years. The instrument used to conduct this study was a questionnaire with ten open questions and 38 questions based on a Likert scale (See Appendix 1).

The questions and statements in the questionnaire were based on the Foreign Language Classroom Anxiety Scale by Horwitz, Horwitz and Cope (1986). Some questions were added and edited to fit the target group. The questionnaire consists of three parts: A part, B part and C part. The A part of the questionnaire consists of 25 questions and focuses on the presence of anxiety in the student. The B part consists of seven questions and its focus lies on strategies of dealing with anxiety. There are six questions in the C part of the questionnaire, which focuses on the role of the teacher in language learning anxiety.

To measure the level of agreement and disagreement with the above-mentioned statement, a Likert scale was used. This scale requires the test subject to circle a number between one and five, according to whether they agree or disagree with the statement. Circling one means 'strongly disagree' and five means 'strongly agree' and all the other numbers follow the scale of gradually stronger agreement.

### 3.2. Aims and hypotheses

The aim of this survey is to gather information on the presence of language learning anxiety in students of Mining, Geology and Petroleum Engineering and on the ways in which students deal with this anxiety. The questions and statements about language learning anxiety in the questionnaire aim to test seven hypotheses:

H1) Foreign language anxiety is much more present in exam situations in female students of Mining, Geology and Petroleum Engineering than in male students.

H2) Students of Petroleum Engineering feel less foreign language anxiety than students of Geology.

H3) Students of Petroleum Engineering feel less foreign language anxiety than students of Mining.

H4) Students feel more anxiety during oral exams than during written ones.

H5) Students use strategies of avoiding anxiety more than they use strategies of fighting anxiety.

H6) The role of the teacher in creating anxiety is far bigger than the role of the student's confidence in their language skills.

H7) Students formally learning English for more than twelve years are less prone to foreign language anxiety than students who have been formally learning English for less than twelve years.

### 3.3. Results and Discussion

Before using an adequate statistical analysis, a test of distribution normality, more precisely the Kolmogorov–Smirnov test, was done on each part of the questionnaire. The normal distribution shows results, which have a tendency of grouping around a central value and a tendency of scattering around it. This test showed that most result distributions are not in the range of normal, except the result distribution in part B of the questionnaire.

However, one should bear in mind how sensitive this test is. That is why parametrical tests, more precisely tests used on data following the Gaussian distribution, are used in this survey. A table (Table 2.3.1.) with the results of the Kolmogorov-Smirnov test is presented below.

| Variables | N (total) | M (arithmetic mean) | SD (standard deviation) | K-S (Kolmogorov–Smirnov test) |
|---|---|---|---|---|
| A | 100 | 58.9 | 22.969 | 0.121** |
| B | 100 | 20.89 | 3.897 | 0.1 |
| C | 100 | 18.51 | 3.556 | 0.133** |

**\*\*p<.01**

Table 2.3.1. Kolmogorov-Smirnov test on the A, B and C questionnaire

Additionally, the reliability of the scales used in the survey was tested using the Cronbach Alpha. This measures the accuracy of the measuring instrument and shows that unsystematic variables do not influence the autonomy of the measuring results. Basically, the Cronbach Alpha calculates if the result would be the same in case the measurement were repeated on the same target group.

There are more ways of verifying the reliability of the scales and in this case, as a measure of internal consistency and reliability, the Cronbach Alpha was used. Part A's internal consistency coefficient of the questionnaire is ($\alpha=0.96$), part B ($\alpha=0.33$) and part C ($\alpha=0.3$). This means that part A of the questionnaire has a very high reliability, meaning the unsystematic variables influenced it minimally. This high reliability means the questionnaire is homogenous.

The reason for the low reliability of the B and C questionnaires seems to be the low number of questioned particles, more precisely questions and statements. That indicates a heterogeneous questionnaire. In other words, the B questionnaire questions two problems, the strategies of avoiding and the strategies of fighting anxiety. The C questionnaire measures the role of the teacher in the learning process and the role of the students' own confidence in their language skills.

To test the first hypothesis, more precisely to test whether anxiety appears more in female than in male students, a t-test on independent groups of participants was done. A t-test assesses whether the means of two groups are statistically different from each other. It compares two different arithmetical means and calculates the difference between those. If the difference is statistically relevant, one can say it is not coincidental; it exists in the population. On the other hand, if a difference is not statistically different it means the results were a consequence of the variation of samples.

Regarding the set hypothesis, the test shows that male students indeed have a statistically relevant lesser result on the anxiety scale than female students do (t=-3.631;p<.01). On average, female students feel more anxious in exam situations than male students. In this case, a very strict level of coincidence in the t-test, that of 1%, was used. This means that there is only a 1% chance of a wrong result. The results of this test can be seen in Table 2.3.2. below.

| Variables | N | M (arithmetic mean) | SD (standard deviation) | T-test |
|---|---|---|---|---|
| Male | 64 | 52.19 | 19.895 | |
| Female | 36 | 68.58 | 24.555 | -3.631** |

**p<.01 (male=1, female=2)

Table 2.3.2 The presence of anxiety in female and male students

The arithmetic mean in female students amounts to 68.58, while the arithmetic mean in male students amounts to 52.19. The standard deviation comes to 19.895 in male and 24.555 in female students. Standard deviation is used as a measure to quantify the amount of variation and dispersion of a set of data values. This difference is presented more clearly in a graph (Graph 2.3.1) shown below. It pictures A questionnaire results of arithmetic means, regarding the presence of anxiety while acquiring a language.

**Arithmetic means of anxiety in male and female students**
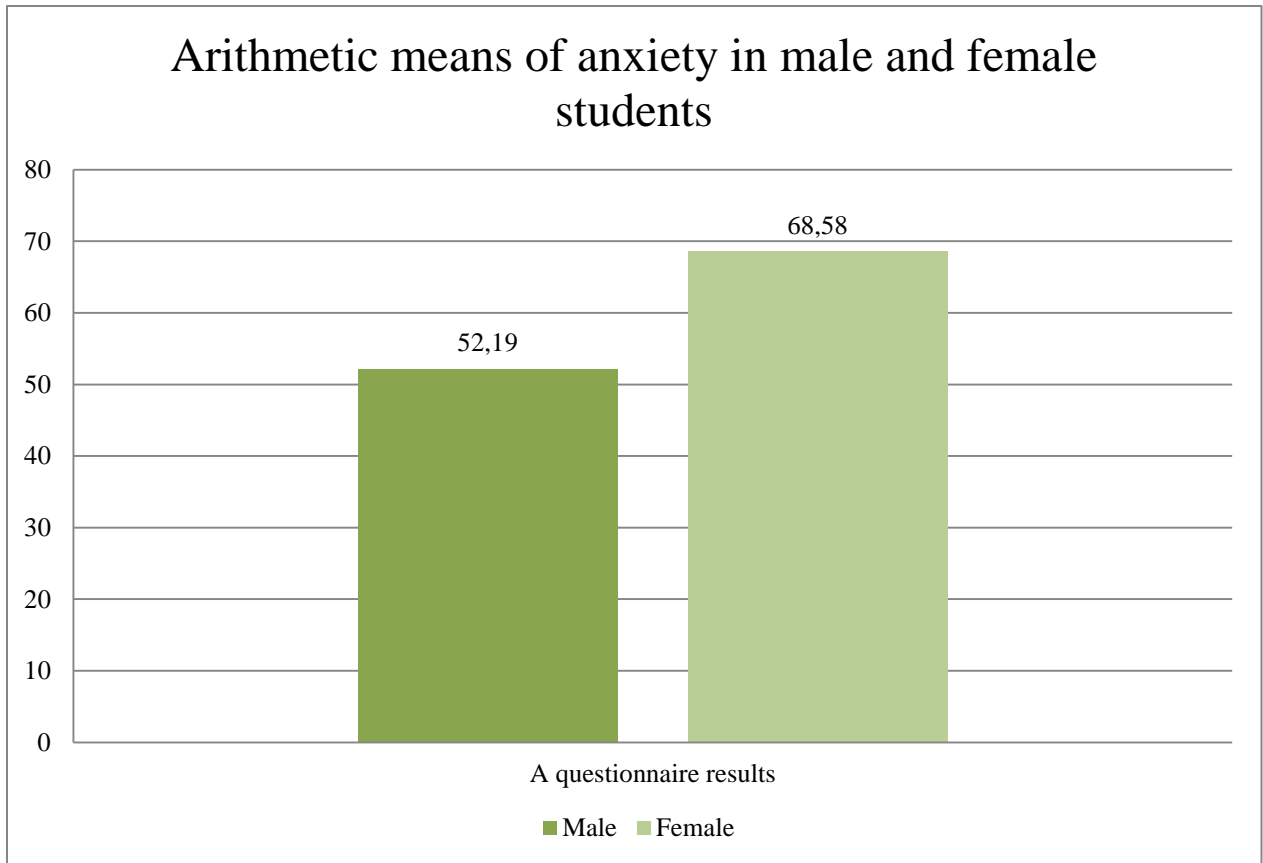
Graph 2.3.1 Arithmetic means of anxiety in male and female students, according to the A questionnaire results.

In order to test the differences between particular study groups (Mining, Geology, Petroleum Engineering) and prove the second and third hypotheses correct, an analysis of variance was made, following the results of the anxiety questionnaire. This method is used to ascertain if there are statistically relevant differences between some arithmetic means, that were a result of a dependent variable (in this case the results of the anxiety questionnaire), while calculating if the categories of independent variables (in this case studies) have a different impact on the dependent variable. The arithmetic means of each study are shown in a table (Table 2.3.3) below.

| Variables | N | M (arithmetic mean) | SD (standard deviation) |
|---|---|---|---|
| *Petroleum Engineering* | 47 | 55.23 | 22.504 |
| *Geology* | 27 | 60.19 | 26.679 |
| *Mining* | 26 | 61.08 | 19.693 |

Table 2.3.3 A descriptive statistics of the anxiety questionnaire results, according to studies (N=100).

The arithmetic mean of students of Petroleum Engineering sums up to 55.23, while the arithmetic mean of Geology students amounts to 60.19, followed by Mining students with 61.08. The analysis shows that the results of the anxiety test are relevantly different between the aforementioned studies (F=0.691; p<0.1). The F-ratio is actually a result of an F-test, which shows that there is a statistically relevant difference between all groups. In this case, a milder level of coincidence, that of ten percent, was used.

This result does not specify between which groups there is a visible difference. That is why, additionally, a post-hoc Scheffe's test was used. This method is very strict, which means that the difference one gets as a result is less likely to be considered statistically relevant. Using the lower level of relevance, that of 10%, the differences between each study groups, according to the total result on the anxiety questionnaire were calculated. When comparing the results of students of Petroleum Engineering and those of the study of Geology, one can conclude that the students of Petroleum Engineering feel less anxious while acquiring a foreign language than students of Geology do (t=4.951; p<.01), as shown in the table (Table 2.3.4) below.

| Variables | t-test |
|---|---|
| *Petroleum Engineering* *Geology* | **4.951*** |

**\*p<0.1**

Table 2.3.4 The results of the post-hoc analysis between Petroleum Engineering and Geology students, according to the total result on the A questionnaire (N=74).

Through these results the second hypothesis, which says students of Petroleum Engineering feel less foreign language anxiety than students of Geology do, is proven to be correct. To present the findings and the difference between them more precisely, a graph (Graph 2.3.2) showing the arithmetic means of Petroleum Engineering students and Geology students is presented below.
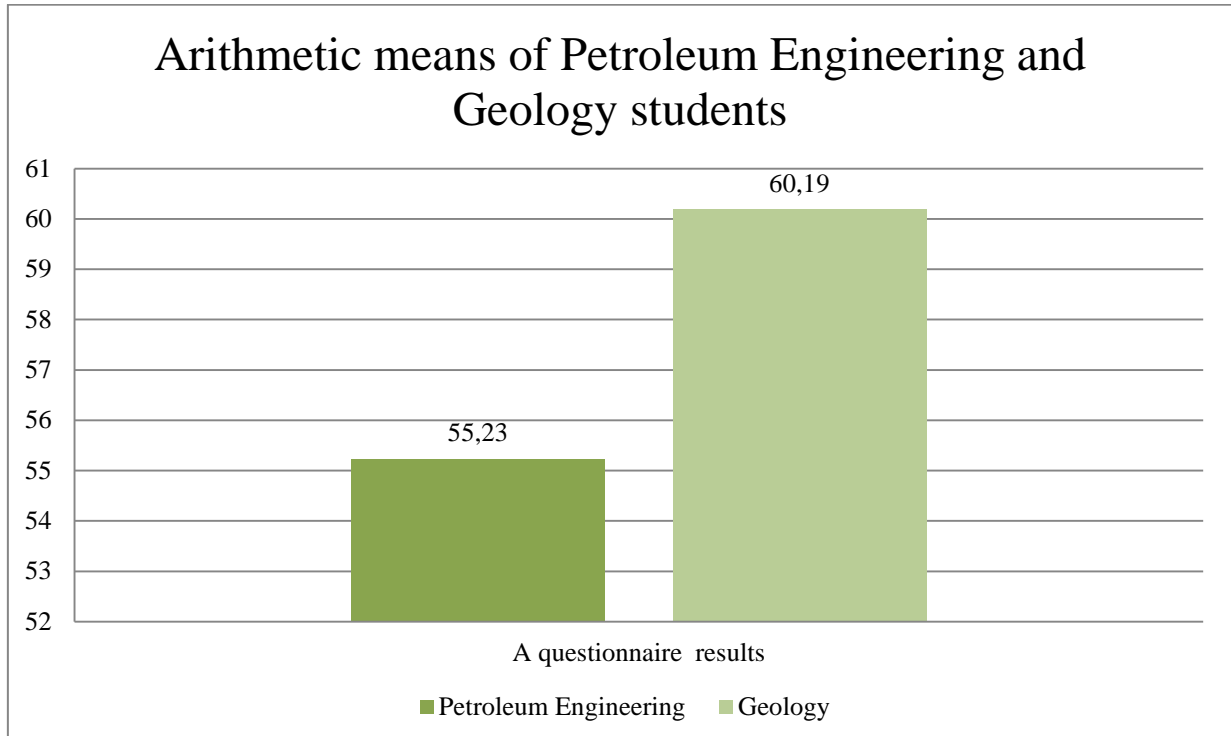


Graph 2.3.2 Arithmetic means of Petroleum Engineering and Geology students, according to the A questionnaire.

Scheffe's test additionally showed there is a statistically relevant difference between students of Petroleum Engineering and students of Mining, also according to the total result on the anxiety questionnaire (t=5.843; p<.01). These results show that, statistically, students of Petroleum Engineering feel less anxious while learning a language than students of Mining do. To picture that more clearly, a table (Table 2.3.5) with the results of a t-test is seen below.

| *Variables* | *t-test* |
|---|---|
| *Petroleum Engineering* *Mining* | **5.843*** |

**\*p<0.1**

Table 2.3.5 The results of the post-hoc analysis between Petroleum Engineering and Mining students, according to the total result on the A questionnaire (N=73).

With the help of this test, the third hypothesis is proven to be correct. Bearing these results in mind, both the second and third hypotheses are now statistically proven to be correct. The arithmetic means of both study groups can be seen in the graph (Graph 2.3.3) below.
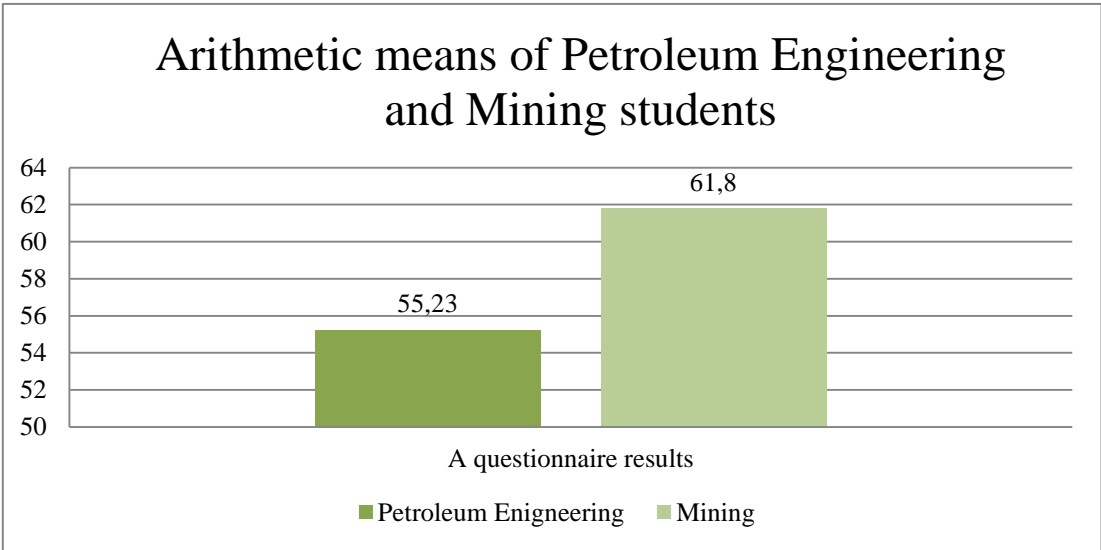
Graph 2.3.3 Arithmetic means of Petroleum Engineering and Mining students, according to the A questionnaire.

To further verify if the students at the Faculty of Petroleum Engineering, Geology and Mining feel more anxious during oral or written exams, a t-test was used. That, once again, means that two arithmetic means were compared. The results show that there is a statistically relevant difference of 5% between the results of the questions which test the level of anxiety during oral and written exams (t=-2.473; p<.05).

Statistically, students feel more anxious during oral communication and exams than during written communication and exams, which supports the fourth hypothesis. The arithmetic means of both the oral and written exam (Table 2.3.6), as well as the results of the t-test (Table 2.3.7) are shown in the tables below. For a clearer picture, the arithmetic means have also been shown in a graph (Graph 2.3.4) below.

| *Variables* | *N* | *M* (arithmetic mean) | *SD* (standard deviation) |
|---|---|---|---|
| *Anxiety during written communication and exams* | 100 | 1.98 | 1.214 |
| *Anxiety during oral communication and exams* | 100 | 2.3 | 1.432 |

Table 2.3.6 Descriptive analysis of anxiety during oral and written exams (N=100).

| *Variables* | *t-test* |
|---|---|
| *Anxiety during written communication and exams* | -2.473* |
| *Anxiety during oral communication and exams* | |

**\*p<.05**

Table 2.3.7 The results of the t-test analysis of anxiety during oral and written exams (N=100).
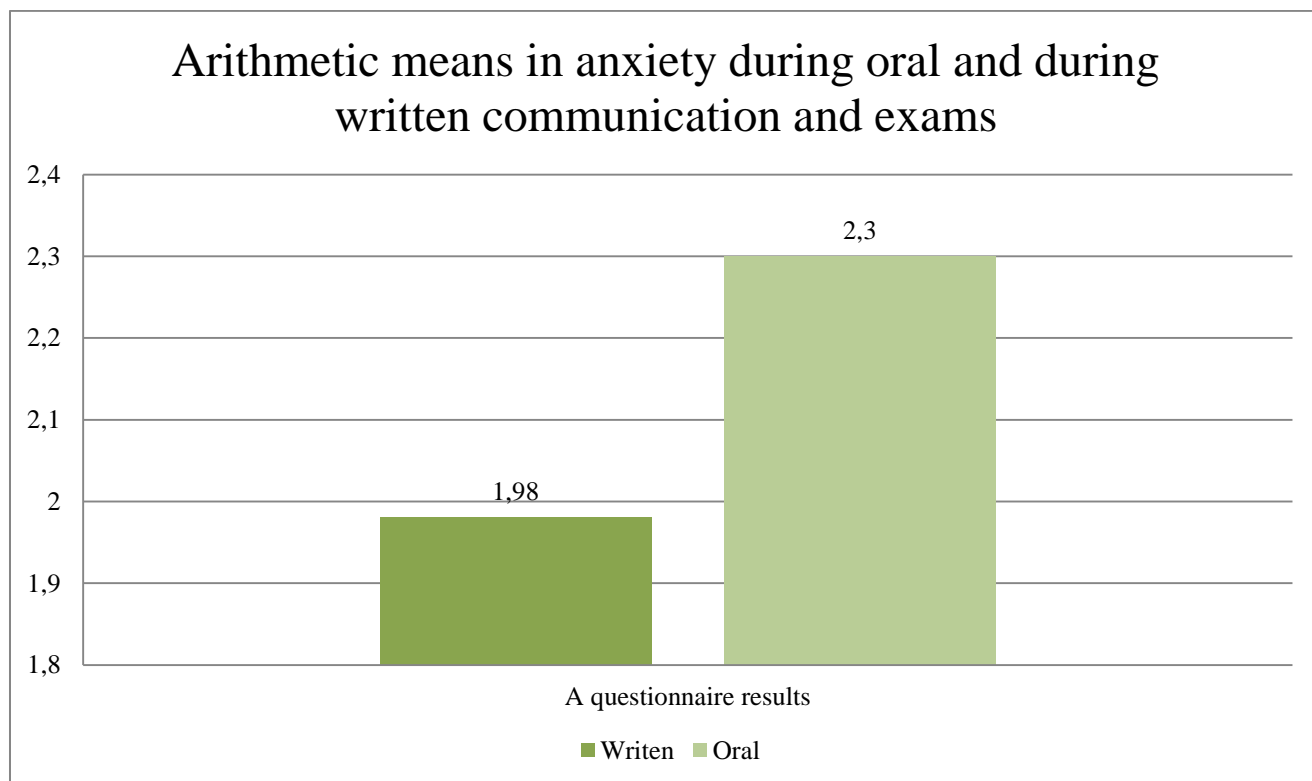


Graph 2.3.4 Arithmetic means in anxiety during oral and written communication and exams, according to A questionnaire results.

To test the hypothesis that students use avoidance strategies more often than anxiety fighting strategies, a t-test was used on the dependent causes. Firstly, the questions in the B questionnaire were categorised according to whether they question strategies of avoidance or strategies of fighting the signs of anxiety. The questions examining strategies of anxiety avoidance were under numbers two, six and seven, while questions dealing with strategies of confronting anxiety could be found in questions one, three, four and five. The results show that there is a statistically relevant difference.

However, this difference is not in accordance with the set hypothesis (t=7.293; p<.01). This means that the students of this Faculty use strategies of confronting language learning anxiety more often than strategies of avoiding it. Therefore, hypothesis five is not

proven to be correct. This is presented in the table (Table 2.3.8) and pictured in the graph (Graph 2.3.5) below.

| Variables | N | M (arithmetic mean) | SD (standard deviation) | T-test |
|---|---|---|---|---|
| *Avoiding* | **100** | **8.87** | **2.995** | |
| *Confronting* | **100** | **12.02** | **2.820** | **7.293**** |

***p<0.01*

Table 2.3.8 A descriptive analysis of the difference in dealing with anxiety (N=100).
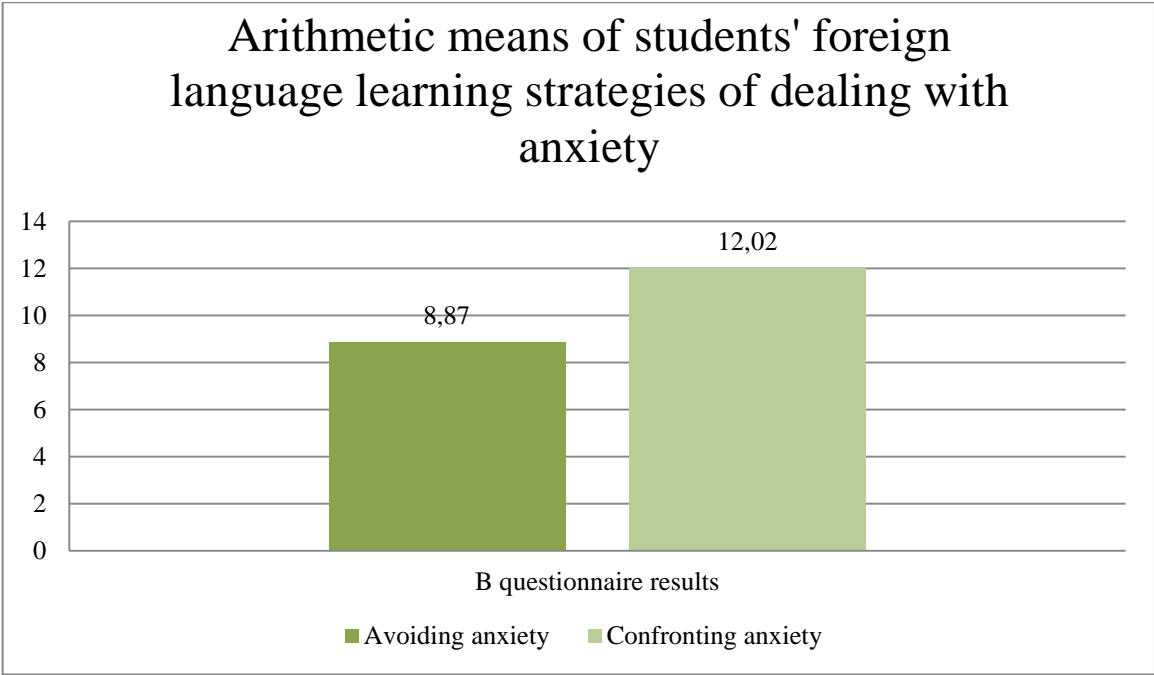


Graph 2.3.5 Arithmetic means of students' strategies of dealing with foreign language learning anxiety (N=100).

Aiming to test the sixth set hypothesis, to see if the role of the teacher is more relevant than student confidence in their foreign language skills, a t-test was done on dependent samples. Once again, first the questions in the C questionnaire were categorised, according to whether they question the role of the teacher or examine the confidence of students in their own foreign language skills. Questions ascertaining the role of the teacher

could be found under numbers one and five, while questions two, three, four and six discussed the confidence of students in their foreign language skills.

The results did not confirm the set hypothesis. More precisely, a statistically relevant difference between the two was verified, but the role of the teacher is of far lesser importance than the role of the students' confidence in their foreign language skills. This can be seen in the table (Table 2.3.9) below.

| Variables | N | M (arithmetic mean) | SD (standard deviation) | T-test |
|---|---|---|---|---|
| The role of the teacher | 100 | 5.67 | 1.923 | -14.901** |
| Level of students' confidence in their FL skills | 100 | 12.84 | 3.773 | |

**p<0.01

Table 2.3.10 Difference between the role of the teacher and students' confidence in their foreign language skills (N=100).

In order to test if there is a statistically relevant difference when considering years of learning a foreign language, and prove the last set hypothesis, a t-test was used on independent examples. Students of the Faculty of Mining, Geology and Petroleum Engineering, were sorted out into two groups. The criteria for the categorisation was whether students have formally been learning English for less than twelve years or more than twelve years.

The results showed there is no statistically relevant difference in the level of foreign language learning anxiety in regards to the length of formally learning a language (t=0.690; p>0.05), which means the last set hypothesis, H7, has not been proven to be correct. Students who have been formally learning English for less than twelve years and those who have been formally learning English for more than twelve years feel the same levels of anxiety while learning professional foreign language. The results of the t-test and the arithmetic means can be seen in the table (Table 2.3.11) and graph (Graph 2.3.6) below.

| Variables | N | M (arithmetic means) | SD (standard deviation) | T-test |
|---|---|---|---|---|
| Less than 12 years | 16 | 62.25 | 27.030 | |
| More than 12 years | 84 | 57.30 | 22.210 | 0.690* |

*p>.05 (less than 12 years=1, more than 12 years=2)

Table 2.3.11 The results of the t-test analysis between students who have been learning English for less and more than 12 years, according to the A questionnaire (N=100).
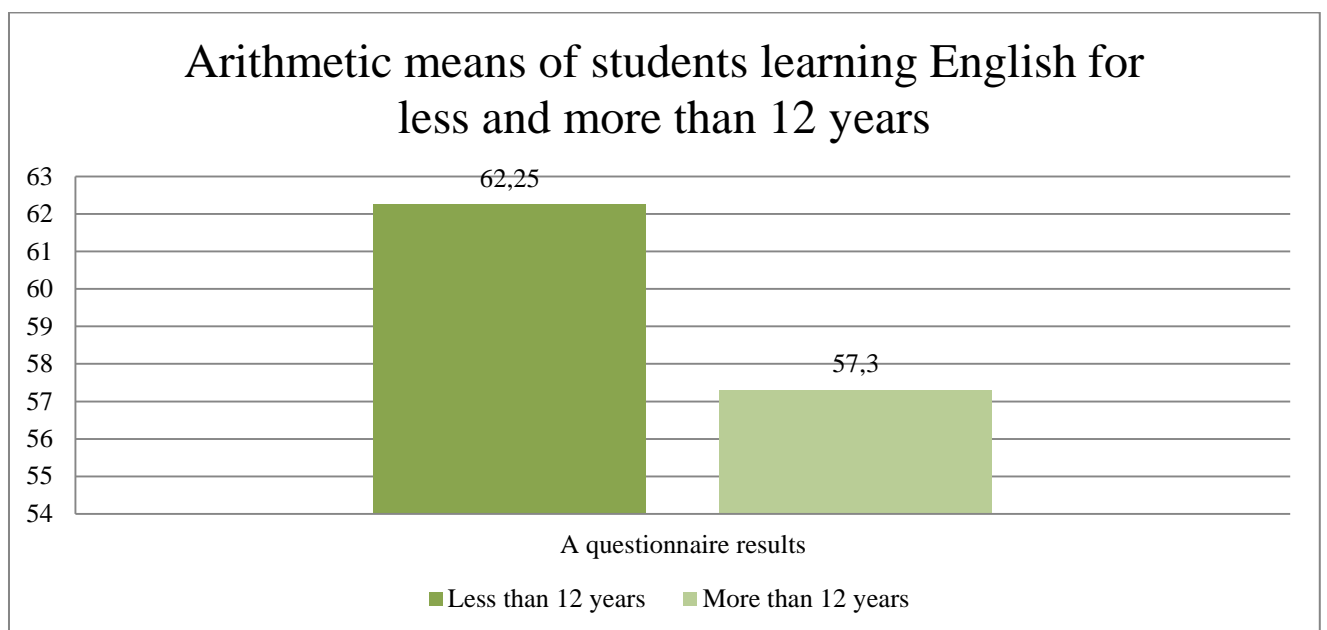


Graph 2.3.6 Arithmetic means of students learning English for less and more than 12 years (N=100).

Along with the data on 38 statements and questions collected with the help of the Likert scale, the participants left comments in their own words on why certain situations, in most cases oral exams, cause anxiety. These will be presented in the following chapter.

### 3.4. Further Analysis of Questionnaires

After the first 25 questions the A part of the questionnaire finishes with an open question, asking the participant to elaborate on what makes a language-learning situation anxiety-inducing.

Some participants mentioned their pronunciation of English as a factor. Some answered the question of what makes them anxious by saying: "The way I pronounce English words and speak English" and "I am uncertain of how some words should be pronounced". Some mentioned the lack of being in contact with the language during their high-school years: "I did not have enough opportunity to speak English in high school."

Others commented on how they feel while using the language: "I do not feel confident while speaking English" or "I fear I am going to freeze and forget the words I am certain I know." Quite a few participants mentioned the feeling of not knowing enough and of uncertainty when it comes to English. While some are often afraid of "not studying enough" and "being unprepared for classes" others are of the opinion that their knowledge of English is not sufficient: "During oral exams this type of anxiety is present because I know my English is not good, and if I know someone is grading my knowledge, I find it hard to relax."

The importance of the social factor in learning a foreign language is also visible here. Many talk about the additional anxiety when English is spoken in the presence of other students. One participant explains: "I feel anxious during oral exams because I feel uncertain of my knowledge. I am afraid of what others might say and if they will laugh. So, sometimes I even forget what I know." This feeling is familiar to some other participants as well. They all write about "the pressure of saying something smart in front of the others" or about "public embarrassment" in case they "mess up" in front of the other students or the teacher.

Furthermore, when referring to exam situations, be it written or oral, many participants mention them as anxiety-inducing. Some participants mention the mental freeze they experience and are unable to remember particular words or expressions, but more participants mention the fear of results and grades. One participant explains that exam situations are the most anxiety-inducing ones because they are: "the only situations where you can feel the consequences of your own lack of knowledge", while another one explains that they are not anxious about their lack of knowledge but about not showing enough of what they know: "I am worried I will make a stupid mistake and all the effort I have put into learning will be graded badly".

A few participants described learning grammar and new vocabulary as the most anxiety-inducing situation, mainly because of the field-specific vocabulary of Mining, Geology and Petroleum Engineering, which is a challenge as some participants mention: "Considering I learnt English by using it in everyday life, words related to my field of study are much harder for me to learn than the words I would normally use." Grammar, on the other hand induces anxiety if its use seems to be more difficult or confusing for a student. One participant mentions he feels anxious when he is learning some difficult grammatical structure and he understands one example but does not understand the other one.

Lastly, even if the role of the teacher was proven of lesser importance in inducing anxiety than the students' confidence in their foreign language skills, the participants were asked to suggest ways a teacher could make the students feel more comfortable during language lessons. Some chose the already-presented options and stated that anxiety could be reduced by giving more homework and avoiding unannounced exams and tests. A few suggested that a teacher could help by "creating a pleasant working environment".

## 4. Conclusion

The results of the statistical analysis show that male students have a statistically relevant lesser result on the anxiety scale than female students do, meaning that, on average, female students feel more anxious in exam situations than male students do. The findings also show students of Mining and Geology are more anxious than students of Petroleum Engineering. The hypothesis that students feel more anxiety during oral exams than during written ones is also proven to be correct. The hypothesis that students use strategies of avoiding signs of anxiety more than they use strategies of fighting against them, however, is not. Statistics show that the students use strategies of fighting against signs of anxiety more often than strategies of avoiding them in a classroom environment. The results of the tests done on the sixth hypothesis, which claims that the role of the teacher in causing anxiety is far bigger than the role of the student's confidence in their language skills, show a statistically relevant difference between the two, but the role of the teacher is of far lesser importance than the role of the students' confidence in their own foreign language skills. Lastly, the results showed there is no statistically relevant difference in the level of foreign language learning anxiety with regards to the length of formally learning a language, meaning that students who have been formally learning English for less than twelve years and those who have been formally learning English for more than twelve years feel the same levels of anxiety while learning this foreign language.

Further analysis of the questionnaires shows students elaborating on why anxiety is more present in certain situations. Most students mention their lack of knowledge and their avoidance of speaking English in a classroom environment for fear of public ridicule. They also mention the fear of not doing well in exam situations and discuss the ways a teacher could ensure a learning environment with less anxiety, such as by avoiding unannounced tests and by creating a pleasant working atmosphere. We would further suggest that teachers need to make students feel comfortable, while holding on to their authority. This is quite a difficult task, but should help with reducing the anxiety in students. They should not focus on negative feedback or unannounced tests or surprise tasks, but try to bring out the best in students through continuous work on areas with which students have problems as well as through positive feedback.

The potential applications of the results of this questionnaire could be used in further research on language learning anxiety in students of Mining, Geology and Petroleum Engineering as well as other learners of foreign languages. It can moreover be used in research dealing with the role of the teacher in the presence of language learning anxiety. Furthermore, the results of this study could be applied to the treatment of foreign language learning anxiety and, with further research, public speaking anxiety or simply raising awareness of it. Lastly, the results could lead to a deeper understanding of the problems of language learning anxiety and help with finding a way to deal with those problems.

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## Sažetak

Ovaj diplomski rad bavi se tjeskobom, to jest strahom, prilikom učenja stranog jezika kod studenata na Rudarsko-geološko-naftnom fakultetu u Zagrebu. Cilj je rada saznati kada i zašto nastupa tjeskoba kod ispitanika te kako se oni nose s njom.

Rad počinje teorijskim pregledom engleskog jezika za akademske svrhe te se bavi pojmom učenja stranog jezika i tjeskobe. Zatim pronalazi poveznicu između tjeskobe i učenja stranog jezika te ju analizira.

Drugi dio rada sastoji se od rezultata upitnika o tjeskobi pri učenju stranog jezika provedenog na sto studenata rudarstva, geologije i nafte u Zagrebu. Podatci prikupljeni upitnikom statistički se obrađuju, izračunavaju i analiziraju kako bi se testiralo sedam pretpostavki. Zatim se dalje prezentiraju misli, strahovi te tvrdnje ispitanika, dobivene otvorenim pitanjima u upitniku.

Na kraju se navedeni rezultati rada sažimaju i interpretiraju. Rezultati pokazuju da se prva, druga, treća te četvrta hipoteza slažu s rezultatima statističke analize. Sukladno tim rezultatima, tjeskoba se češće viđa kod ženskih studenata nego kod muških. Isto tako je prisutnija kod studenata rudarstva i geologije nego kod studenata naftnog inženjerstva te se najčešće pojavljuje kod usmenog ispitivanja. Rezultati također pokazuju da studenti češće pribjegavaju metodama suočavanja s strahom, nego izbjegavanja straha te da duljina učenja jezika ne korelira s manjom anksioznošću kod pojedinaca. Osim toga, rezultati pokazuju i da je uloga učitelja manje bitna od studentove percepcije vlastitog znanja jezika.

Ključne riječi: tjeskoba, statistika, studenti, upitnik, engleski za akademske svrhe

# Appendix 1

Anketa u svrhu izrade diplomskog rada

<u>Language acquisition anxiety in students of the Faculty of Mining, Geology and Petroleum
Engineering – Case Study</u>

Sudjelovanje u istraživanju u potpunosti je anonimno. Podatci su povjerljivi i koriste se samo
za diplomski rad.

Molimo odgovorite na ponuđena pitanja označavajući jednu od ponuđenih vrijednosti.

1= Ne potpunosti se ne slažem.

2= U načelu se ne slažem.

3= Niti se slažem, niti se ne slažem.

4= U načelu se slažem.

5= U potpunosti se slažem.

Neka pitanja zahtijevaju odgovor od nekoliko riječi ili rečenica.

Strani jezik kojeg učim: _____ _____

Broj godina učenja tog jezika: _____

A DIO

1.      Nikad nisam u potpunosti siguran kada govorim strani jezik pred razredom.

       1      2      3      4      5

2.      Brinem se da ću napraviti pogrešku pod satom.

       1      2      3      4      5

3.      Osjećam nelagodu i strah se kada ne shvaćam što profesor govori u stranom jeziku.

       1      2      3      4      5

4.      Stalno sam pod dojmom da su svi ostali bolji od mene u jezicima.

       1      2      3      4      5

5.      Paničarim kada nisam spreman, a trebam govoriti pred razredom.

       1      2      3      4      5

6.      Ponekad sam na satu stranog jezika toliko nervozan da zaboravim sve što znam.

       1      2      3      4      5

7.      Neugodno mi je javiti se za riječ.

        1       2       3       4       5

8.      Predstavlja mi problem pričati s materinjim govornicima.

        1       2       3       4       5

9.      Uzrujava me dok ne znam što profesor ispravlja.

        1       2       3       4       5

10.     Čak i ako jesam spreman za sat, osjećam se nelagodno.

        1       2       3       4       5

11.     Često nemam želju doći na sat stranog jezika.

        1       2       3       4       5

12.     Osjećam se samouvjereno kada trebam pričati na satu.

        1       2       3       4       5

13.     Bojim se da je profesor spreman ispraviti svaku moju pogrešku.

        1       2       3       4       5

14.     Ne osjećam pritisak da se trebam posebno pripremiti za sat stranog jezika.

        1       2       3       4       5

15.     Sat stranog jezika toliko je dinamičan da se bojim kako ću kaskati za drugima.

        1       2       3       4       5

16.     Osjećam se napetije na satu stranog jezika nego na ostalim predavanjima.

        1       2       3       4       5

17.     Bojim se kako će mi se drugi smijati ako progovorim na stranom jeziku.

        1       2       3       4       5

18.     Osjećam nervozu kada profesor pita nešto nisam pripremio unaprijed.

        1       2       3       4       5

19. Smatram da je moje znanje spomenutog jezika zadovoljavajuće.

        1       2       3       4       5

20.  Pri učenju stranog jezika osjećam neku vrstu tjeskobe.

        1       2       3       4       5

21. Tjeskoba takvog karaktera pojavljuje se uglavnom kod mog pismenog izražavanja.

        1       2       3       4       5

22. Tjeskoba takvog karaktera pojavljuje se uglavnom kod mog usmenog izražavanja.

        1       2       3       4       5

23. Tjeskoba takvog karaktera pojavljuje se uglavnom  kod ispitivanja i provjera znanja.

        1       2       3       4       5

24. Tjeskoba takvog karaktera pojavljuje se uglavnom kod učenja novog vokabulara.

        1     2     3     4     5

25. Tjeskoba takvog karaktera pojavljuje se uglavnom kod učenja gramatike.

        1     2     3     4     5

Ukoliko ste odgovorili na više pitanja ( pitanja 21, 22, 23, 24 i 25) jednakom vrijednošću, molimo odaberite kod koje situacije je tjeskoba najizraženija:
_____

Molimo obrazložite detaljnije što vam točno kod te situacije izaziva nelagodu i tjeskobu:

_____

_____

_____

_____

B DIO

1. Pokušavam izbjeći osjećaj nelagode i tjeskobe različitim taktikama učenja stranog jezika.

        1     2     3     4     5

2. Izbjegavam riječi i gramatičke strukture za koje nisam siguran kako se upotrebljavaju.

        1     2     3     4     5

3. Provjeravam nepoznate pojmove u rječniku ili na Internetu.

        1     2     3     4     5

4.  Upitam profesoricu za objašnjenje nepoznatog pojma.

        1     2     3     4     5

5. Unaprijed pripremam gradivo koje se obrađuje.

        1     2     3     4     5

6. Radije ne odgovorim na pitanje nego da odgovorim krivo.

        1     2     3     4     5

7. Pribjegavam korištenju materinjeg jezika na satu stranog jezika.

        1     2     3     4     5

Ukoliko izbjegavate osjećaj nelagode i tjeskobe na druge načine, molimo navedite ih:

_____

_____

C DIO

1. Smatram da profesor ima veliku ulogu kod  stvaranja tjeskobe kod učenja stranog jezika te da ima mogućnost smanjenja te tjeskobe kod učenika.

        1     2     3     4     5

2. Smatram da ta tjeskoba proizlazi iz mojeg nedostatka znanja tog jezika, a ne profesora.

        1     2     3     4     5

3. Smatram da ta tjeskoba proizlazi iz moje vlastite nesigurnosti, a ne nedostatka znanja tog jezika ili profesora.

        1     2     3     4     5

4. Smatram da ta tjeskoba proizlazi iz nekog straha od neuspjeha nevezanog uz znanje tog jezika ili stav profesora.

        1     2     3     4     5

5. Smatram da direktna profesorova korektura netočno izrečenog uvelike utječe na moj osjećaj tjeskobe.

        1     2     3     4     5

6. Smatram da direktna profesorova korektura netočno izrečenog ne utječe na moj osjećaj tjeskobe toliko koliko sam strah od nje.

        1     2     3     4     5

Ukoliko smatrate da profesor ima veliku ulogu u stvaranju ili smanjenju te tjeskobe, predložite načine na koje profesor može pomoći.

a)     izbjegavanjem direktne korekture netočno izrečenog

b)     izbjegavanjem iznenadnih ispitivanja

c)     davanjem dodatne domaće zadaće

d)     _____

Spol:  M    Ž

Dob:  _____

Godina studija: _____

Smjer: _____

Jezici koje govorim:  _____

**Appendix 2**

QUESTIONNAIRE TRANSLATION

Master thesis questionnaire

<u>Language acquisition anxiety in students of the Faculty of Mining, Geology and Petroleum Engineering – Case Study</u>

This questionnaire is anonymous. The data collected is confidential and used only for the purposes of this Master thesis.

Please answer the following statements and questions by circling one of the options.

1= I strongly disagree.

2= I disagree.

3= I neither agree nor disagree.

4= I agree.

5= I strongly agree.

Some questions are open questions and require a descriptive answer.

The foreign language I am learning in this class: _____

The year of learning this language: _____

A PART

1. I never feel quite sure of myself when I am speaking in my foreign language class.

2. I worry about making mistakes in language class.

3. It frightens me when I do not understand what the teacher is saying in the foreign language.

4. I keep thinking that the other students are better at languages than I am.

5. I start to panic when I have to speak without preparation in language class.

6. In language class, I can get so nervous I forget things I know.

7. It embarrasses me to volunteer answers in my language class.

8. I would be nervous speaking the foreign language with native speakers.

9. I get upset when I do not understand what the teacher is correcting.

10. Even if I am well prepared for language class, I feel anxious about it.

11. I often feel like not going to my language class.

12. I feel confident when I speak in foreign language class.

13. I am afraid that my language teacher is ready to correct every mistake I make.

14. I do not feel pressure to prepare very well for language class.

15. Language class moves so quickly I worry about getting left behind.

16. I feel more tense and nervous in my language class than in my other classes.

17. I am afraid that the other students will laugh at me when I speak the foreign language.

18. I get nervous when the language teacher asks questions which I have not prepared in advance.

19. I believe my knowledge of the foreign language is satisfying.

20. While learning a foreign language, I feel anxious.

21. This anxiety appears most often during writing in a foreign language.

22. This anxiety appears most often during oral communication and exams in a foreign language.

23. This anxiety appears most often during foreign language exams.

24. This anxiety appears most often while learning new vocabulary.

25. This anxiety appears most often while learning grammar.


If you circled the same value in questions 21, 22, 23, 24 and 25 please state in which situation the anxiety is most present._____


Please elaborate on what makes that situation unpleasant and anxiety-inducing.
_____
_____


B PART

1. I try to avoid the feeling of anxiety by using different language learning strategies.

2. I avoid words and grammatical structures I am unsure of how to use.

3. I check unknown words in a dictionary or online.

4. I ask the teacher to explain the unknown word.

5. I prepare the words for a new unit in advance.

6. I rather do not reply to a question than guess incorrectly.

7. I use my mother tongue during foreign language class.

If you have other ways of avoiding anxiety, please state so below:

_____

C PART

1. The teacher has a great role in preventing or creating foreign language anxiety in a learner.

2. This anxiety appears because of my lack of knowledge of the foreign language, not the teacher.

3. This anxiety comes from my own insecurities and not because of my lack of knowledge or the teacher.

4. This anxiety appears because of a fear of failure, regardless of my foreign language skills or the teacher.

5. The teacher's error correction influences the feeling of anxiety greatly.

6. The teacher's error correction does not influence the feeling of anxiety as greatly as the fear of the correction itself does.

If you believe the teacher has a great role in preventing or creating anxiety suggest ways in which they can help with this problem.

a) avoiding direct error correction

b) avoiding surprise exams

c) assigning more homework

d) _____

Sex: M/F

Age: _____

Student of: Mining/Geology/ Petroleum Engineering

Year of studying: _____

Languages I speak: _____