

**SELF-REGULATION:
THE KEY FACTOR TO EFFICIENT LEARNING OF
FOREIGN LANGUAGE FOR SPECIFIC PURPOSES (LSP)**

Jelisaveta Šafranj - Aleksandra Gojkov Rajić



Izdavač:

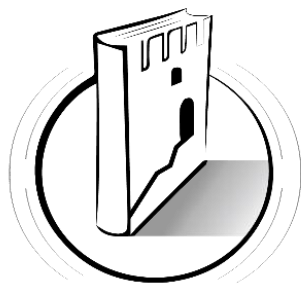
Visoka strukovna vaspitačka i medicinska škola u Vršcu

Za izdavača:

Dr Danica Veselinov

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INTRODUCTORY REMARKS

Interests in self-regulated learning in general, and thus also in the field of foreign language, were initiated three decades ago with changes in the conceptual framework of intellectual processes, especially with the acceptance of the Theory of Mental Self-Government (Sternberg, *Mental Self-Government: A Theory of Intellectual Styles and Their Development*, 1988). In this theory, Sternberg changed the traditional view on intelligence, according to which it includes a unique general ability (g), below which a series of more specific levels of ability are hierarchically arranged, such as fluid capacity (the ability to think in flexible and new ways) and crystallized ability (cumulative knowledge). Interests in Deci's self-regulation theory went in the same direction, as well as Bandura's social cognitive theory and the role of goals, motivation and affect in models of self-regulated learning. In addition, all that spread to didactics, and thus to glottodidactics.

Thus, studies in the field of improving learning and teaching in the field of foreign language (L2), including a foreign language for specific purposes (LSP), sought to observe the possibilities to conceptualize the structures of L2 learning strategies from various aspects. They also tried to understand the types of learning strategies that students use in L2 learning, differences in learning strategies as a function of the year of study, gender, length of L2 learning, learning other foreign languages, reason to learn LSP; self-assessment of their knowledge of L2 and success in learning; scope of the construct of learning strategies in the success of L2 learning; homogeneous latent profiles concerning the use of different strategies for L2 learning; proactive strategies, experiential, metacognitive and improvisation strategies; strategies used by gifted students in L2 learning; cognitive strategies, memorization strategies, metacognitive, affective, compensation strategies and social strategies.

In addition to the above, research has also focused on self-regulation factors in L2 learning, such as self-confidence as a cognitive construct in learning L2, as well as self-regulated motivation for L2 learning and its relationship with measures of intelligence and other significant cognitive and non-cognitive constructs, as well on the influence of self-confidence and factors such as metacognition, personality traits and motivation on success in L2 learning.

Reception anxiety in L2 learning as a source of problems in information processing and the importance of affective, cognitive and behavioral components for the level of language anxiety when receiving a message, has also been studied, along with the role of the level of tolerance in receiving new and complex information in a foreign language in reception anxiety in L2 learning, etc.

Findings of empirical research on these and other current issues in the field of efficacy in L2 learning, especially LSP, are collected in this monograph with the intention to present data found by the authors and encourage thinking about their scope and limitations, especially from the aspect of possibility of using in practice.

It is important to note that the step of practical validation of findings presented in this monograph is useful both for further research and attempts to come up with new ideas for research and experiential confirmation by practitioners.

Some of the research findings given on the pages of this monograph were communicated at conferences abroad, published in a foreign language, some in extracts, some in their entirety, but provided on websites only in an abstract, some at video conferences, and unpublished... The impression is that, collected in this edition and given on a site with free access, these findings will be more accessible and fulfill their goal: to encourage new thinking, cast new light from different perspectives, check the findings in different drafts, which is the basic intention of the authors.

1. LEARNING STRATEGIES AS A SUCCESS FACTOR IN LEARNING A FOREIGN LANGUAGE FOR SPECIFIC PURPOSES (L2)

Sternberg's Theory of Mental Self-Government; Deci's self-regulation theory; Bandura's social cognitive theory and the role of goals, motivation and affect in models of self-regulated learning; conceptualization of the structure of learning strategies in L2 learning; types of learning strategies used by students in L2 learning; differences in learning strategies in terms of: years of study, gender, length of L2 learning, learning other foreign languages, reason of learning a foreign language for specific purposes, type of the faculty being studied; self-assessment of one's own knowledge of L2 and success in learning; the scope of the construct of learning strategies in the success of L2 learning; homogeneous latent profiles in relation to the use of different strategies for L2 learning; proactive strategies, experiential, metacognitive and improvisation strategies; strategies used by gifted students in L2 learning; cognitive strategies, memorization strategies, metacognitive, affective, compensation and social strategies.

1.1. Changes in the conceptual framework of intellectual processes – the first step in the theoretical context of self-regulation in L2 learning

Interests in learning strategies in general, and thus also in the field of L2 learning, were initiated three decades ago with changes in the conceptual framework of intellectual processes. One significant step in this direction was the Theory of Mental Self-Government (Sternberg, *Mental Self-Government: A Theory of Intellectual Styles and Their Development*, 1988). With this theory, Sternberg changed the traditional view of intelligence, according to which it is a unique general ability (g), below which a series of more specific levels of ability are hierarchically arranged, such as fluid capacity (the ability of flexible and new way of thinking) and crystallized ability (cumulative knowledge).

1.2. Theory of mental self-government as the basis of the concept of successful intelligence - Cognitive system as a self-modifying system and metacognition as a basic developmental change

The theory of mental self-government adopts the notion of successful intelligence and suggests that intelligence is more complex than general ability (Sternberg, 2011). This is important to note because successful intelligence, as defined by Sternberg, is the ability to set and achieve personally significant goals in life in a given cultural context. Intelligent persons achieve these goals successfully by finding their strengths and weaknesses, and then capitalizing on the strengths and correcting or compensating for the weaknesses (Sternberg, 2007, 2011). Thus, studying the abilities, with this conceptualization of intelligence, sought to be individual-oriented, that is, to understand how individuals regulate their learning. The abilities were not understood as monolithic measures, but rather as exceptional, unusual intelligence, and giftedness as a multidimensional property, which is not the same in every person, just as intelligence is not the same, but is accepted as a significant factor of development in the context (Sternberg, 2007). This directed the research towards didactic aspects, i.e. towards the teacher's ability to create an adequate learning context in all areas, including L2 learning. Thus, the above statements indicate that the cognitive system and its development are viewed as a self-modifying system, and in it, the attention is significantly focused on metacognition, as a basic developmental change, which can be well learned and shaped during education. Sternberg (2009a) believes that individuals with higher capability usually show knowledge of the perceptual effect (good short-term memory, quick response, etc.), followed by environmental stimulation, and this encourages metacognitive advantage at an early age. These advantages lead to the development of strategic behaviors and self-regulation, which on the other hand lead to higher cognitive achievements (see more in Sternberg, 2007, 2009a). Sternberg describes metacognition as the regulation of intellectual functioning. It could thus be concluded that Sternberg's triarchic theory of intellectual abilities was the basis of changes in the development of research and learning, and the direct impulse came from the adaptive aspect of intellectual giftedness: Contextual sub-theories: active components. That is where the interest in regulatory functions of intellectual processes (Sternberg, 2009b) begins, i.e. managing one's cognition, or in self-regulation competencies (SRL). This has received

much attention also in glottodidactics in the last thirty years, with specific attention being focused on ways of encouraging, i.e. learning and teaching strategies, because the findings confirm their importance for the development of potential in the gifted (Zigler et al., 2012, 2021). Self-determination/self-regulation (SRL) has emerged as a construct that covers various aspects of academic learning and provides a broader view of the skills, knowledge and motivation that students acquire. A significant contribution in this direction was made by Bandura's social cognitive theory (Bandura, 1993). This theory closely relates self-regulation to the study of cognitive processes and the role of concepts such as goals, motivation and affect, as important factors in models of self-regulation of learning and behavior. This paved the path to models of self-regulation by defining the construct of self-efficacy (Bandura, 1991a), which has the function of a regulator by which individuals seek to reach their defined goals and avoid unwanted ones.

1.3. Deci and Ryan's self-determination theory - ability to internalize and motivate behavior and self-determination

The framework of this research is based also on the Self-Determination Theory, which is based on the claim that individuals spontaneously develop their predispositions, i.e. intrinsic motivation and internalization when basic psychological needs are met as a function of interpersonal dynamics and social settings (Deci & Ryan, 2000). Thus, personalities have the ability to internalize motivated behaviors, i.e. they autonomously initiate and self-determine, which further means that didactic instructions in learning should be directed towards meeting their internal needs during learning. These needs are different, and they should be recognized and students should be guided along the path by which they can acquire self-determined forms or types of regulation (Deci & Ryan, 2012). Due to the limitation of the volume of the text, the above-mentioned predispositions will be discussed in the interpretation of the findings, as there are still ongoing debates on the concept and models of self-regulation in L2 learning, as well as on the use of existing instruments in identifying the phenomena, etc. (see more in: Tseng et al. 2006).

In order to understand the findings of this research, it is important to note that a large number of studies in the field of L2 learning in the last three decades

sought to improve the theoretical understanding of language learning strategies; nevertheless, it can be said that most of the works on learning strategies were more oriented towards practical issues. Thus, more attention has been focused on studying the ways of enabling language learners to become more efficient and confident in their learning. The authors agree that students with strategic knowledge of language learning, compared to those who lack this knowledge, become more efficient, resourceful and flexible, so that they acquire the language more easily, and if they can develop, personalize and use a repertoire of learning strategies, they will reach the expected level of achievement more easily. Most researchers agree with Makarova's (2001: 264) conclusion that "one thing seems to be increasingly clear, and this is that in different learning contexts, the best learning students seem to be those who are proactive in their pursuit of language learning". However, according to contemporary researchers, the idea of the importance of language learning strategies is bleeding from several wounds, which weakens the theoretical basis for such a conclusion.

1.4. Discourses on the importance of learning strategies for self-regulation in L2 learning

Researchers (Tseng et al. 2006; Dörnyei, 2008; Dörnyei & Skehan, 2003) believe that these problems stem partly from the vagueness of the definition and partly from the psychometric properties of the instruments used to assess self-regulation in L2 learning. Thus, a new research approach is emerging that, rather than focusing on the outcomes of strategic learning (the actual strategies and techniques that students apply to improve their own learning), emphasizes the importance of students' innate self-regulatory ability that drives them to seek and apply these personalized strategic learning mechanisms (Oxford 1990, 1996; Cohen 1998, Cohen et al. 2000; Anderson, 2008; Lee & Oxford, 2008; Macaro, 2006; Nunan 1997). The approach of the above-mentioned authors is focused on the essential difference among students and differentiates self-regulated students from their peers who do not engage in strategic learning. This claim requires more consideration than the scope of this paper can provide, so it can only be stated here that more argumentation is needed for the claim that it is about different theoretical approaches, as the authors also state. Rather, it could be said that it is about

the operationalization of the self-regulation system, which refers to the specific domain of language learning: vocabulary learning. The authors themselves note that their approach is in line with contemporary theories of self-regulation in educational psychology, but that it targets the essential difference between self-regulated students and their peers who do not engage in strategic learning.

1.5. Discourses on the importance of learning strategies in self-regulation in L2 learning

Also significant is the students' remark that they focused on learning the vocabulary. Namely, in the process of acquiring a foreign language, they relate their model of self-regulated learning to the vocabulary, instead of the entire area of the language that includes different processes, considering that the procedure they use to develop their instrument can be also used for research into other aspects of L2 learning (for more see in: Tseng et al., 2006). The above-mentioned authors state that they have developed a new approach for generating psychometrically based measures of strategic L2 learning, operationalized as their self-regulatory capacity, as an alternative to scales traditionally used to quantify the use of language learning strategies. They also argue that the results provide evidence for the validity of transferring the theoretical construct of self-regulation from educational psychology to the field of acquiring L2. These authors suggest that instruments that focus on student self-regulation in a way similar to the questionnaire presented in their study may provide a psychometrically more reliable measure of strategic learning than traditional scales of language learning strategies (Tseng et al. 2006). Thus, these authors believe that the main problem in studying the strategies is related to different conceptualizations of "learning strategies", and they note that previously there was no unified understanding regarding the definition of criteria for language learning strategies and that the situation in this sense has not changed significantly. Therefore, they consider the question of *whether learning strategies should be seen as observable behaviors or internal mental operations, or both* important (Dörnyei, 2005; Ellis, 2002) and agree that this is not only a question of interest to researchers in the field of L2 learning, but it also applies to wider areas of pedagogical psychology. As an illustration for the previous question, Weinstein & Maier (1986) offer a brief review of

standard definitions in which strategies are understood as "behaviors and thoughts that students engage during learning, and the purpose of which is to influence the student's encoding process". Weinstein et al. (2000) also quote opposing definitions, which redefine learning strategies as "any thoughts, behaviors, beliefs, or emotions that facilitate the acquisition, understanding, or later transfer of new knowledge and skills." The authors ask the following question: how to distinguish between strategic learning and 'ordinary' learning? Weinstein et al. (2000) offer three critical characteristics of strategic learning: it is goal-directed, purposefully invoked, and effortful. They further explain that the problem with these intuitively appealing attributes is that individuals can be genuinely motivated and learn diligently in general, without any "strategic" element. They also state that Cohen (1998) underscores yet another important aspect of learning strategies, the element of choice, i.e. that the essential characteristic of these strategies is that the student uses them voluntarily. Significant from the methodological aspects of this paper are the conclusions in the field of L2 learning. These refer to the observations that correlative approaches – relating differences between predictor variables and differences in learning outcomes – are an excellent way of studying the joint influence of several variables on target behavior, as well as that a comprehensive psychological theory of successful behavior still should not only predict average behavior but also individual differences. As an illustration of the above, there is a statement that the theory that implies that learning grammatical rules requires working memory predicts that differences in the capacity of working memory between students should be related to differences in their ability to learn grammatical rules, etc. Confirmation of this statement would imply the need to revise the existing theoretical understandings, and subsequent changes in research approaches and the direct teaching work. Thus, some authors believe that studying individual differences in L2 learning can contribute to a better understanding of one of the key questions in current cognitive science: how general cognitive skills and domain-specific skills together determine behavior (Roberts & Meyer, 2012)?

1.6. Methodological context

A brief review of previous discourses could suggest that these discourses do not point to essential differences in the understanding of learning strategies, that existing conceptualizations provide only a framework of opportunities for studying the field of L2 learning, that more studies in this area are still needed, and answers to a number of questions are still waiting to be answered. This research asked the following research question: *How important are learning strategies for the success of gifted students in learning a foreign language for specific purposes (LSP)?* The assumption is that gifted students have a wide repertoire of learning strategies, which differs them from others, thus ensuring high achievements on tests in LSP.

Answering this question involves looking for answers to the following questions:

What strategies do gifted students use in L2 learning and how gifted students differ from others regarding their structure of learning strategies, i.e. in terms of (a) *cognitive strategy*, (b) *memory strategy*, (c) *metacognitive strategy*, (d) *affective strategy*, (e) *compensation strategy*, (f) *social strategy*? Therefore, the task is to find which strategies are present in gifted students and to what extent, are gifted students a homogenous group in terms of learning strategies?

What is the importance of these components for the success of the gifted in learning LSP, i.e. how much they affect the outcomes in learning LSP?

How much do the years of study, gender, length of learning a foreign language, other foreign languages the student learns, the reason he learns LSP, and the type of faculty at which he studies affect the strategies of learning LSP?

How does self-assessment of the own L2 knowledge affect success in learning?

The research was based on the general assumption that learning strategies are a significant achievement factor in L2 learning, which distinguishes gifted students from others. This also tests the issue of conceptualizing the structure of L2 learning strategies, which is of multiple importance for the field of L2 learning: theoretical structuring of the concept of learning strategies, which is

considered debatable based on the previous review of other research findings. As a further step, it is significant for the practical aspects of research: operationalizing the term in instruments for recording learning strategies, and finally for the practical orientation of teachers by mentoring students in self-regulation of L2 learning using learning strategies.

The working hypotheses refer to the following:

In L2 learning, gifted students use several strategies (*cognitive strategies, memorizing strategies, metacognitive strategies, affective strategies, compensation strategies and social strategies*), which are closely related to their achievements, i.e. types of strategies they use are significant for their achievements in L2 learning, which distinguishes them from other students.

The structure of strategies they use is personalized; gifted students are not a homogenous group: they differ in aspects of learning strategies.

The structure of strategies, achievements on the knowledge test, and differences between gifted and other students remain the same also when it comes to the influence of moderator variables (*year of studies, gender, length of learning LSP, other foreign languages the student learn, the reason of learning LSP, self-assessment of the own LSP knowledge*).

1.6.1. Method

The research is exploratory by character, quantitative in approach, and was conducted based on non-experimental systematic observation. The sample consisted of 200 students, of which 162 (80.5%) were female. The sample was collected from two faculties: 96 respondents were from the Faculty of Technical Sciences and 104 respondents from the Faculty of Teacher Education. The average grade in studies was 8.41, while the average grade in the foreign language test was 8.11. Among the respondents, 30 of them were first-year students, 90 of them second-year students, 6 of them third-year students, 37 of them fourth-year students, and 37 of them fifth-year students (master). There were 70 students with an average above 9.00.

1.6.2. Instruments

Strategy Inventory for Foreign Language Learning (SILL), modified version (German, English), contains 50 items on a three-point Likert scale, where each item refers to the frequency of use of specific learning strategies from 1 - never to 3 - often. In order to examine the latent structure of the questionnaire, exploratory factorial analysis was applied and the reliability of the obtained scales was examined (results section).

As research findings (Roberts & Meyer, 2012; Tseng et al. 2006) indicate, students' mental processes in the attempt to understand, remember and use a language, have not been fully explored, because the essence of learning strategies is based on mental processes that cannot be directly observed. Thus, many authors (Oxford, 1990; Naiman et al. 1978; O'Malley & Chamot, 1990; Cohen, 2000; Ellis, 2002) rely more on student self-reports obtained through retrospective interviews, questionnaires, written diaries and journals, and protocols for reflecting on the learning processes. Therefore, the only way to gain insight into unobservable mental learning strategies is to ask students to reveal and describe their thinking processes. This research does the same. It uses the revised Strategy Inventory for Language Learning (SILL), i.e. a questionnaire (modified version of the Oxford questionnaire). The general part of the questionnaire aims to identify gender, years of learning L2, assessment (self-assessment) of L2 knowledge, reasons for choosing L2, and the level of knowledge on the test, i.e. achievements in L2 learning. This is supposed to provide a clearer picture and better understanding of the behavior of gifted students in L2 learning. The instrument consists of two sections: a questionnaire on general data and a list of strategy classification descriptions. There are six strategic groups in the instrument, which according to Oxford's original system of identification and classification are categorized as follows:

Memory strategies refer to the strategies used to store, remember and retrieve information, and cognitively refer to operations such as arranging things, creating associations and reviewing. These principles include meaning and have personal significance for the student so that the nine items in the battery have the following functions: creating mental linkages, applying images and sound, reviewing, and initiating actions.

Cognitive strategies as mental processes necessary for learning a new language refer to repeating, analyzing expressions and summarizing... An important characteristic of this strategy is its function of transformation of the target language by the student. This strategy group includes 14 items of related strategies and in-depth processing based on which students analyze new information and monitor their understanding, and as such, it is considered the most important part of the battery.

Compensation strategies are a part of the battery that has the function of enabling the student to use the new language for understanding or creating despite limitations in knowledge. It consists of six items with strategies such as guessing the meaning of the context and using gestures or synonyms to convey the meaning when the language is limited. Compensation strategies and structuring are within two units. One refers to intelligent guessing in listening and reading, and the other to overcoming limitations in speaking and writing (Crnogorac-Stanisavljević, 2021).

Metacognitive strategies are actions that go beyond purely cognitive operations and provide students with a way to coordinate their own learning process and are considered to be means beyond, alongside, or parallel to cognitive means. The battery contains nine items, or metacognitive strategies, which are grouped into three sets of strategies: *focusing on learning, organizing and planning the learning, and evaluating the own learning* (Crnogorac- Stanisavljević, 2021).

Affective strategies are focused on factors such as *emotions, attitudes, motivation and values*, and have the function of helping students to gain control over these factors. The battery consists of six affective strategies related to *lowering anxiety, self-encouragement and reward*.

Social strategies refer to communication, and in this battery, they refer to *asking questions and cooperating with peers*.

The LSP test, developed for this research, includes four language skills. Each language skill is tested through ten tasks that are scored. GI Questionnaire - General information: year of study, average in studies, grade in LSP, gender,

years of learning LSP, which other foreign languages the students studied, why he wants to learn LSP, how he assesses his knowledge of LSP.

1.6.3. Data analysis

In order to examine the latent space of the L2 learning strategy questionnaire, an exploratory factor analysis was conducted using the *Principal Axis Factoring* method with Promax rotation. The number of factors was selected based on two methods: Velitzer's *Minimum Average Partial* (MAP) and parallel analysis as methods that prove to be better than the criteria of the Scree plot and the Guttman-Kaiser criterion (Ziegler & Hagemann, 2015). The reliability of the identified factors was checked using Cronbach's alpha.

Factors identified using exploratory factor analysis were reduced to a scale of 1 to 3 (average summation scores) for easier comparison and interpretation. The normality of the scale distribution was checked using the indicators of skewness and kurtosis. The frequency of application of different learning strategies between academically gifted and other students (academically gifted are students with an average of nine and above) was determined using a series of t-tests for independent samples in which the difference for each of the scales was tested.

In order to examine the influence of various predictors on the use of various strategies, a series of multiple regression analyses was conducted. In each analysis, the criterion variable was one of the L2 learning strategies, while gender, year of study, years of learning L2, reasons for learning L2 (binary variables in which respondents indicate whether or not they learn L2 from for the following reasons: *interest in English/German language; interest in culture; English/German speaking friends; future career; for traveling and the faculty they study*) were the predictors.

The impact of different motivational strategies on success in L2 learning was examined using multiple regression analysis, where success on the L2 test (with grades from 5 to 10) was the criterion variable, while different motivational strategies and self-assessment of the own knowledge were the predictors.

The moderating role of academic giftedness in relation to the use of learning strategies and success on the test was examined by conducting moderator analyses in the PROCESS macro for SPSS, where academic giftedness was the moderator variable, different motivational strategies were the predictor variables and the success in the L2 test was the criterion variable. The PROCESS macro examines moderation by examining the relationship of one predictor, one moderator, and one dependent variable per analysis.

1.7. Results

1.7.1. Factorial structure of the inventory of learning strategies

The criteria for selecting the number of factors were not synchronized and indicate that solutions from four (Velitzer's MAP, Table 1) to seven factors (parallel analysis, Figure 1) are possible. Considering this result, the interpreted solutions from 4 to 7 factors were taken into account, and the solution with 4 factors was retained because it is shown to be highly interpretable, with only one factor having reliability lower than 0.60, while in solutions with a larger number of factors, there were multiple factors with low reliabilities.

Table 1: Velitzer’s MAP for questionnaire items for L2 learning strategies

Factor no.	MAP
1	0.0158
2	0.0114
3	0.0101
4	0.0098
5	0.0101
6	0.0103
7	0.0105
8	0.0108

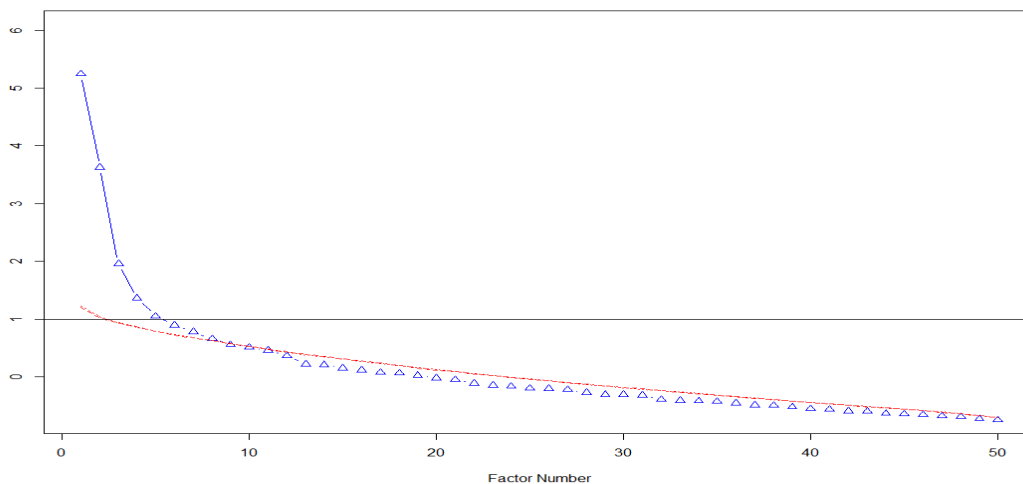


Chart 1: Parallel analysis of questionnaire items for L2 learning strategies

The matrix assembly in the strategy inventory yielded a four-factor solution (Table 1.). The four factors explain 31.89% of the total item variance. The first factor contains items that describe a proactive, intrinsically motivated L2 learning strategy. These items refer to the orientation towards finding a way to apply the knowledge of L2 to progress further. Based on the item structure, this factor was tentatively named proactive strategies, and reliability as measured by Cronbach's alpha was good ($\alpha = 0.79$). Items of the second factor indicate spontaneity and learning through experience, while the negative pole determines the items related to careful planning of learning. People with high scores on this factor learn through speaking, listening and the spontaneous use of L2 in natural conditions, rather than through detailed planning and writing down each new word. This factor was named experiential strategies and its reliability as measured by Cronbach's alpha was good ($\alpha = 0.75$). The third factor refers to detailed planning of learning, repeating, and overcoming emotional obstacles and setbacks during learning. This factor was called planning strategies (metacognitive strategies) and its reliability as measured by Cronbach's alpha was satisfactory ($\alpha = 0.73$). The last factor refers to strategies that imply a high level of innovativeness and guessing, with a high score indicating guessing or inventing new words. This factor was called improvisation strategies and its reliability was somewhat lower, but acceptable for the exploratory nature of the research ($\alpha = 0.57$). Correlations between factors were of moderate to low intensity and ranged from $r = 0.02$ between the factors of experiential and improvisation strategies to $r = 0.28$ between the factors of proactive and experiential strategies.

Table 2: Matrix assembly of questionnaire items for L2 learning strategies – abbreviated due to the allowed volume of the text

	F1	F2	F3	F4
I seek opportunities to read in English/German as much as possible.	0.69			
I read in English/German out of pleasure.	0.64			
I seek people with whom I can speak in English/German.	0.64			
I write notes, messages, letters and reports in English/German.	0.59			

1.7.2. Descriptive statistics

Table 3 shows the basic descriptive indicators for the variables. Experiential strategies had the highest average score on the scale, indicating that these strategies are mostly used by respondents when learning L2, while improvisation strategies had the lowest average value. Skewness and kurtosis values were close to 0 for all variables, indicating that there was no significant deviation from univariate normal distribution.

Table 3: Descriptive statistics

Variable	Min.	Max.	Arithmetical mean	Standard deviation	Skewness	Kurtosis
Proactive strategies	1.17	3	2.03	0.39	0.11	-0.44
Planning strategies	1.09	3	2.43	0.37	-0.67	0.20
Experiential strategies	1.33	3	2.23	0.36	-0.16	-0.52
Improvisation strategies	1	3	1.88	0.41	0.21	-0.46

Average grade in studies	6	10	8.42	0.94	-0.34	-0.52
Average grade on the test	5	10	8.10	1.45	-0.14	-1.26

1.7.3. Differences between the academically gifted and other students in relation to learning strategies

The sample included 70 academically gifted and 130 other students. Table 4 shows the t-tests for independent samples that examined the differences between academically gifted and other students on the scales of different strategies. The results indicate that there are no statistically significant differences between academically gifted and other students in relation to the frequency of using different L2 learning strategies.

Although there were no significant tests, the differences in proactive strategies are very close to significant and indicate a tendency in the gifted to use this strategy more frequently.

Table 4: T-tests for independent samples between academically gifted and other students in relation to L2 learning strategies

	AM, others	AM, gifted	t	df	p
Proactive strategies	1.99	2.10	-1.92	198	0.057
Experiential strategies	2.10	2.40	-1.35	198	0.179
Metacognitive strategies	2.47	2.23	0.23	198	0.818
Improvisation strategies	1.85	1.92	-1.14	198	0.255

1.7.4. Influence of predictors on the use of different learning strategies

Results of multiple regression analyses in which gender, years of learning L2 (English/German), reasons for learning L2, and type of faculty were predictors, and different learning strategies were the criteria are shown in Table 5. All models were significant, indicating that the predictors explained a significant proportion of variance of all motivational strategies, and the percentage of variance explained ranged from approximately 11% for proactive and improvisation strategies to 36% for experiential strategies. In the case of proactive strategies, none of the predictors reached statistical significance, although the model as a whole was significant. Marginally significant was the influence of the years of learning L2 ($p = 0.078$), indicating that there is a tendency towards applying this strategy more frequently by those who learn L2 longer. In the case of experiential strategies, the type of faculty stands out as a significant predictor, with those attending the Faculty of Technical Sciences applying these strategies more frequently than those attending the Faculty of Teacher Education. In the case of planning strategies, gender and years of study stand out as significant predictors, with female respondents tending to use these strategies more frequently, as well as those who learn L2 for a slightly shorter time. Improvisation strategies are significantly related to the type of faculty students attend, with students of the faculty of teacher education students applying this strategy more frequently, as well as those who are learning L2 because they are interested in the culture.

Table 5: Partial contribution of predictors in the regression model

	Proactive strategies	Experiential strategies	Planning strategies	Improvisation strategies
	F (8, 190) = 2.99 p = 0.003, R ² = 0.11	F (8, 190) = 13.59 p < 0.001, R ² = 0.36	F (8, 190) = 4.60 p < 0.001, R ² = 0.14	F (8, 190) = 2.92 p = 0.004 R ² = 0.11
	β	β	β	β
Gender	0.10	0.02	0.29**	0.12
Year of studies	-0.03	-0.06	-0.07	-0.04

Length of learning	0.18	0.06	-0.20*	0.03
Faculty	-0.17	-0.51**	-0.04	0.25*
Interested in the language	0.12	0.03	0.02	-0.06
Interested in the culture	-0.03	-0.07	0.00	0.18*
Friends speaking the language	0.13	-0.05	0.09	0.07
For the career	0.05	0.06	0.08	0.11
For travelling	-0.07	0.09	-0.04	-0.02

Note: * - $p < 0.05$; ** - $p < 0.01$. Reasons for learning L2: being interested in the language itself; being interested in the culture; having friends who speak the language the student learns; career demands; traveling.

1.7.5. Influence of motivational strategies and knowledge self-assessment on success in L2 test

Results of the multiple regression analysis indicate that motivational strategies and L2 knowledge self-assessment explain a significant portion of the variance of success on the test, $F(5, 182) = 8.63$, $p < 0.001$, with the predictors explaining approximately 19% of the variance, $R^2 = 0.19$. Table 6 shows the partial contribution of the predictors. As significant predictors of success on the test, proactive and experiential strategies are shown as positive predictors, and planning strategies as a negative predictor. These results indicate that the use of proactive and experiential strategies is associated with higher test scores.

Table 6: Partial contribution of predictors in the regression model

	β	t	p
Proactive strategies	0.28	3.78	0.000
Experiential strategies	0.23	3.28	0.001
Planning strategies	-0.17	-2.37	0.019
Improvisation strategies	-0.07	-1.00	0.317
Self-assessment of knowledge	-0.03	-0.40	0.689

1.7.6. Analysis of the moderating role of academic giftedness in the relationship between the use of learning strategies and test success

In order to examine the moderating role of academic giftedness in the relationship between the use of learning strategies and test success, four moderation analyses were conducted, one for each type of strategy. The moderator effect of academic giftedness did not significantly improve the model in any of the four models: moderation of the effect of proactive strategies on test success, $F(1, 184) = 2.40$ $p > 0.05$; moderation of the effect of experiential strategies on test success, $F(1, 184) = 1.59$ $p > 0.05$; moderation of the effect of planning strategies on test success, $F(1, 184) = 0.22$ $p > 0.05$; and moderation of the effect of improvisation strategies on test success, $F(1, 184) = 0.33$ $p > 0.05$.

1.7.7. Analysis of homogeneous latent profiles in relation to the use of different L2 learning strategies

In order to examine the existence of homogeneous latent profiles in relation to the use of different L2 learning strategies, a latent profile analysis (LPA) was conducted in the Mclust package (Scrucca et al. 2016) in the R statistical environment. LPA compares models with 1 to 9 latent profiles of different characteristics: distribution (spherical, diagonal, ellipsoidal), volume (variable or equal), shape (variable or equal) and orientation (parallel to coordinate axes,

variable or equal). The selection of the best solution is based on the Bayesian Information Criterion (BIC), where in the Mclust package a higher value of the BIC criterion indicates a better fit of the model. Results of the analysis of latent profiles indicate that the best solution is with three latent profiles of diagonal distribution, equal in volume and variable in shape (BIC = -737.24), and the two following models with the best fit were solutions with three latent profiles each (BIC = -738.51 and BIC = -741.69). The first latent profile (n = 47) is characterized by a low use of proactive, experiential, and planning strategies relative to the average and an average use of improvisation strategies. The second profile (n = 67) is characterized by markedly elevated use of experiential strategies, moderately elevated use of proactive strategies, and moderately decreased use of planning and improvisation strategies. The third latent profile collected the largest number of respondents (n = 86) and is characterized by the use of planning strategies, a moderate increase in proactive and improvisation strategies, and a moderate decrease in the application of experiential strategies. Using a one-way analysis of variance, the existence of differences between the identified profiles on L2 test success was examined. The analysis of variance, $F(2, 185) = 13.86$, $p < 0.001$, indicates the existence of statistically significant differences. Differences between individual groups were examined using the Scheffe post hoc test and indicate that the second latent profile (high application of proactive and experiential strategies) (AS = 8.77) achieves significantly higher test scores than the first (AS = 7.48) and the third (AS = 7.86) profile.

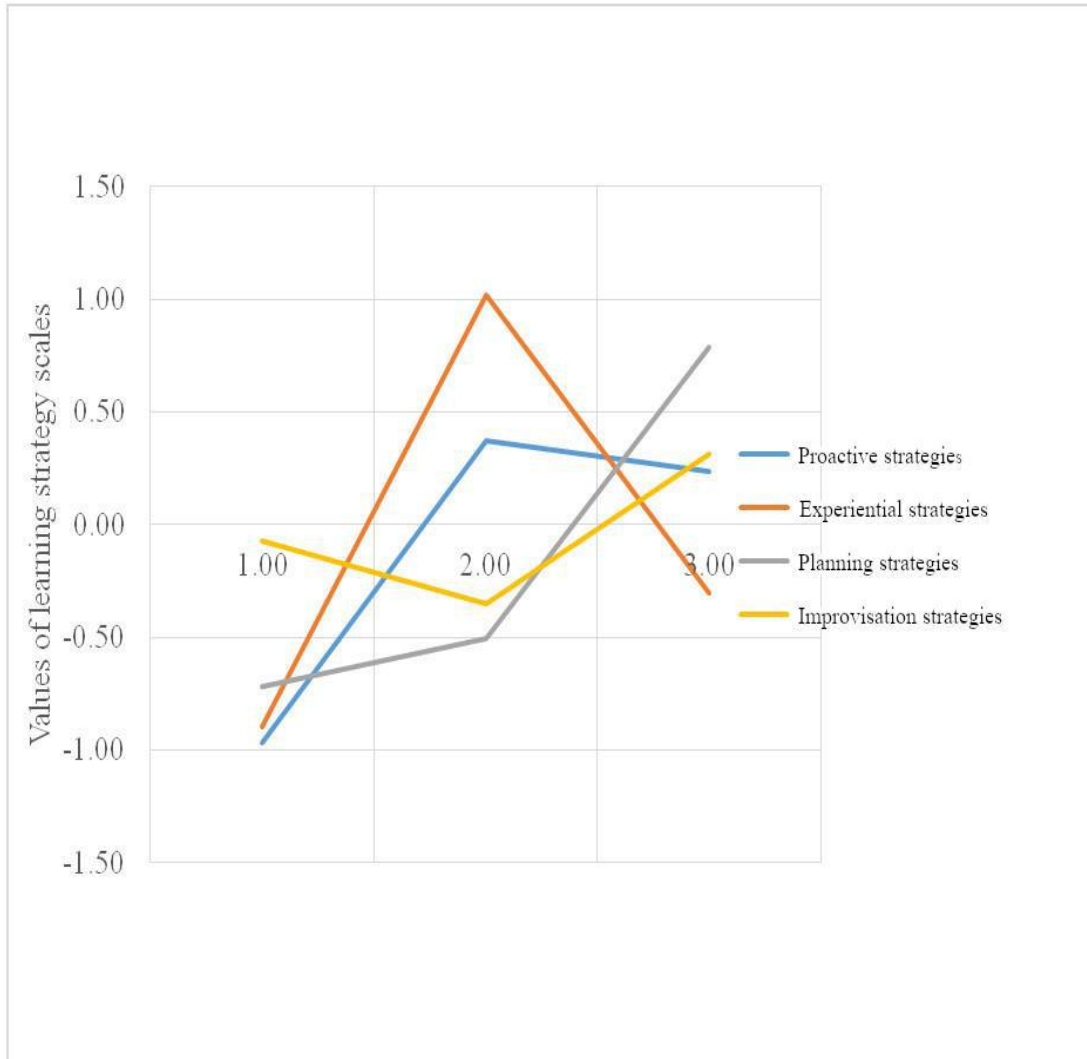


Chart 2: Latent profiles of respondents across the dimensions of the L2 learning strategy questionnaire

2. SELF-CONFIDENCE AS A FACTOR OF SELF-REGULATION IN L2

Self-confidence as a cognitive construct of self-regulation in L2 learning; Differences between self-confidence and self-esteem; Self-regulated motivation of the gifted; Structure of motivation for learning L2 and its relationship with measures of intelligence and other important cognitive and non-cognitive constructs; Importance of self-confidence in self-regulated motivation for learning L2; Role of self-confidence, metacognition, personality traits and motivation as success factors in L2;

2.1. Importance of the construct of self-confidence construct and its difference in relation to self-esteem

As the title suggests, the subject of this research is the importance of self-confidence in self-regulated motivation for L2 learning. The theoretical context for studying this phenomenon consists of Sternberg's Triarchic Theory of Intelligence (2020) and the Self-Determination Theory (Deci & Ryan, 2000). Why is this question interesting? Understanding the structure of motivation for learning L2 and its relationship with measures of intelligence and other significant cognitive and non-cognitive constructs is still insufficient for what glottodidactics would need for effective teaching and directing students to self-regulating processes, i.e. learning autonomy. In a study based on a heterogeneous set of seven cognitive biases (anchor effect, belief bias, overconfidence bias, backward bias, base rate neglect, outcome bias and reduced cost effect), Teovanović et al. (2015) find that the phenomenon of cognitive bias is complex, and that the single-factor model of rational behavior is not credible. One of the cognitive constructs that is increasingly attracting the attention of researchers in this field is self-confidence.

In the last few decades, self-confidence has been an important construct for cognitive psychology, and thus for general didactics and glottodidactics. Thus, the Self-esteem Movement (Singal, 2017) believes that the lack of self-confidence is often one of the factors of mental or emotional problems, while

in the field of learning it is believed that improved self-esteem could lead to better performances (Zimmerman et al. 1997).

Research into the complexity of the self-confidence phenomenon found differences between the overlapping concepts of self-efficacy, self-confidence, and self-esteem (Oney & Oksuzoglu-Guven, 2015). Self-efficacy is defined as an individual's belief about his own ability to influence events in his own life and solve future situations (Bandura, 1991b), while self-esteem is based on ideas about the value or worthiness of an individual. Thus, it is concluded that self-esteem is a more present-oriented belief, while self-efficacy is a more future-oriented belief. The third related concept, which is the subject of this research, self-confidence, is a concept around which findings are still contradictory, which makes it an interesting concept for this research as well. It refers to a simple *belief in oneself* (Benabou & Tirole, 2002), or *the individual's expectations of performance and self-evaluation of abilities and previous performance* (Lenney, 1981; Lenney & Gold, 1983). It has also been defined as *the individual's confidence in his own abilities, capacities and assessments or belief that he or she can successfully face everyday challenges and demands* (Colman, 2008). Self-confidence is related to confidence in one's abilities, and satisfaction with one's abilities and success, and has also been *related to energy and motivation for action and achieving the own goals*. Thus, self-confidence is similar to self-efficacy in that it tends to focus on the individual's future performance. However, it is also considered to be based on past performances, and thus in a sense focuses on the past. Many researchers refer to self-efficacy when looking at an *individual's beliefs about his own abilities in relation to a particular task, while self-confidence is more often seen as a broader and more stable trait that concerns an individual's perception of his own overall ability*. Research has also determined the mutual relations between the above-mentioned success factors, as well as the individual relation with the knowledge of L2 through the mediating function of motivation (Noels, 2009). Kleitman and Stankov (2007) find that self-confidence is a broad psychological trait that cuts across different cognitive domains. This makes it interesting to be included in the composite of variables of this research that seeks to answer the question regarding their relationship and individual contribution to achievements in L2 in order to help both teachers and students in the creation of metacognitive strategies in L2 learning.

This precisely is in the core of interest in this phenomenon in the structure of other cognitive and non-cognitive constructs, important for L2 learning and teaching.

Further, in the discussion of findings, several sources will be presented that discuss the meaning and definition of this term. Here, only the findings of Stankov (2013) and Stankov and Lee (2014) will be mentioned. These refer to the conclusion that the success of individuals with high self-esteem lies in the following characteristics: *higher sense of self-worth; higher enjoyment in activities and life in general; freedom from self-doubt and fear, social anxiety and reduced stress; more energy and motivation to act; enjoyment in interacting with other people at social gatherings; relaxation and a sense of security that others will feel comfortable around you.*

In addition to the previous findings that are related to the concept of self-confidence and support its importance for a wide range of aspects of an individual's life, research also provides opposing findings. Some findings report that increasing confidence does not always lead to improved positive outcomes (Singal, 2017; Forsyth et al. 2007), and there are also negative correlations with self-confidence. Kremer et al. (2013) conclude that self-esteem has continuously increased over the last decades, and narcissism and unrealistic expectations have also increased with it, and believe that more caution is needed in encouraging self-esteem in children and young people (Singal, 2017). Thus, believing that a positive self-image is the key to a happy and successful life, and creating an era of self-esteem in education where children are taught in schools and at home to consider themselves special, focus only on their positive qualities and receive praise for little achievement has been undermined by recent research. These suggest that these practices and beliefs may lead to low motivation and reduced goal-directed behavior instead of protecting people from depression (Blackwell et al. 2007). It is even believed that boosting self-confidence leads more to increased narcissism and reduced ambition than to achievement and success. Therefore, the question has emerged of whether the idea of improving self-confidence should be rejected. An impetus for further research is provided by the conclusion of researchers (Baumeister et al. 2003) that there are certain contexts in which boosting self-confidence can improve performance, and that these possibilities should not be ignored. The same authors advocate for strengthening self-

esteem, but in a more moderate and careful way (Baumeister et al. 2003) by supporting self-esteem with appraisal, in order to increase self-confidence, as a reward for a socially desirable behavior. In their opinion, this encourages the development of healthy self-confidence and avoids the risk of children becoming convinced of their own competence without investing any effort and giving up on it. They also believe that children and young people should be let experience failure and deal with the consequences and disappointment, which is likely to develop resilience and success in coping skills (Pajares, 1996).

In accordance with the above, we accept the position of Martin Seligman (Seligman, 1998), who concludes that a positive self-image does not produce anything by itself. A sustainable sense of self-confidence stems from positive and productive behavior, so that accepting the development of self-confidence implies the need for practicing it, because progressing towards personally important goals is considered the basis on which healthy self-confidence is built (Seligman, 1998). Self-regulation goes precisely in the direction towards the awareness that failure is inherent to achievements and that in order to pursue our goals we must work hard and face our weaknesses, because even those who are exceptional in some areas of life perform poorly in others. Therefore, many people are increasingly accepting the view that success does not come by chance, but is something we achieve and comes from giving our best (Csikszentmihalyi, 1988).

The research is exploratory in nature, conducted with a quantitative approach, using the method of systematic non-experimental observation. The aim of the research is to identify the interrelationships and the role of self-confidence, metacognition, personality traits, and motivation (predictive variables) in L2 learning, i.e. to understand the status of these factors within the taxonomy of cognitive/metacognitive processes.

The assumption is that there is a high correlation between the observed variables in the metacognitive process, which distinguishes the academically gifted from other students, as well as that self-confidence has an autonomous status in the observed composite, and thus a significant role in self-regulated motivation of the gifted. In addition to the above-mentioned predictors, the research examines knowledge test success as a criterion variable, while

gender, residence in the country of a native speaker, years of learning L2, and average grade in studies are the moderator variables.

2.2. Method

The sample is convenient and consists of students from the University of Belgrade and Novi Sad. 460 respondents participated in the research, of which 345 (75%) were females. Of the total number of respondents, 105 of them stated that they visited a country of a native speaker, and among those who stated that they did the length of time of residence ranged from one week (7 days) to 17 years. The sample included 205 academically gifted students (with an average grade of 9 or higher) and 255 other students.

2.3. Instruments

Goldberg's Big Five Personality Traits from International Personality Item Pool (IPIP; Goldberg, 2001). A questionnaire designed to assess the big five personality traits, where each personality trait is measured using 10 items on a five-point Likert scale (1 - completely disagree to 5 - completely agree). Scale reliabilities measured by Cronbach's alpha were as follows: *Extraversion* $\alpha = 0.78$; *Emotional stability* $\alpha = 0.83$; *Intellect* $\alpha = 0.63$; *Agreeableness* $\alpha = 0.67$ and *Conscientiousness* $\alpha = 0.61$. Thus, the reliability values of the scales ranged between acceptable and good.

Metacognitive Awareness Inventory (Schraw & Dennison, 1994) consisted of 52 items with a binary format of answers (True/False). It consists of two scales: Knowledge of Cognition and Regulation of Cognition. Scale reliabilities measured by Cronbach's alpha were as follows: *Knowledge of Cognition* $\alpha = 0.62$ and *Regulation of Cognition* $\alpha = 0.76$, indicating satisfactory scale reliability.

Questionnaire for assessing the motivation for learning English/German (LLOS-IEA; Noels et al., 2000). The questionnaire consisted of 21 items on a five-point Likert scale measuring 7 types of motivation for learning English/German: Amotivation, External regulation, Introjected regulation, Identified regulation, Knowledge, Achievement and Stimulation. Scale

reliabilities measured by Cronbach's alpha were as follows: Amotivation $\alpha = 0.82$, External regulation $\alpha = 0.61$, Introjected regulation $\alpha = 0.71$, Identified regulation $\alpha = 0.83$, Knowledge $\alpha = 0.84$, Achievement $\alpha = 0.88$, Stimulation $\alpha = 0.93$, indicating satisfactory scale reliability.

Memory and reasoning competences (Stankov & Crawford, 1997) is a scale of 16 items measured on a six-point Likert scale. The instrument is divided into two subscales intended to measure memory competences and reasoning competences. Scale reliabilities measured by Cronbach's alpha were as follows: memory competencies $\alpha = 0.85$ and reasoning competencies $\alpha = 0.81$, indicating satisfactory scale reliability.

The Rosenberg self-esteem scale (Rosenberg, 1965), which was partially corrected towards self-confidence for this research, is a 10-item scale measured on a four-point Likert scale and measures the global level of self-esteem and self-confidence by assessing the positive and negative feelings a person has about himself. The scale reliability measured by Cronbach's alpha was $\alpha = 0.87$, indicating excellent reliability.

2.4. Data analysis plan

For each instrument, averaged summation scores were calculated in order to reduce them to the scale for the answers on each particular instrument for easier interpretation and comparison. Pearson's correlation coefficient was calculated in order to examine the relationships between self-confidence, metacognition, personality traits, motivation, and success in the L2 test. A hierarchical regression analysis was conducted to examine the influence of self-esteem and self-confidence, metacognition, personality traits, and motivation (with mutual control of predictors) on the success in L2 more systematically. In the first step of the analysis, personality traits (Extraversion, Emotional Stability, Intellect, Agreeableness and Conscientiousness) were introduced as predictors, while in the second step, types of motivation, self-confidence, metacognition scales and memory and reasoning competencies were introduced, while success on the English/German language test was taken as the criterion variable.

The assumption of the existence of differences between the gifted (average grade higher than 9) and other students in metacognitive processes and self-confidence was examined using a t-test for independent samples.

The moderating role of individual variables between metacognitive processes, self-confidence and success on the L2 test, was examined using moderator analyses in the PROCESS macro for SPSS, where the moderating variables were gender, residence in the country of a native speaker, years of learning L2 and average grade in studies. The PROCESS macro examines moderation by examining the relationship of one predictor, one moderator, and one dependent variable per analysis.

2.5. Results

2.5.1. Descriptive statistics

The basic descriptive indicators for the variables in the research are shown in Table 1. Skewness and kurtosis values for all variables are in the recommended range of ± 2 (George & Mallery, 2010), indicating that the variables do not deviate significantly from univariate normal distribution. It is important to note that in the scales of the questionnaire about metacognition, higher scores are closer to 1, because 1 indicated agreement with the item, while 0 indicated disagreement. The average grade in L2 ranged from 6 to 10, with the average score being 8.55, indicating that the sample performed well on the L2 test.

Table 1: Descriptive indicators of research variables

	Min.	Max.	Arithmetical mean	Standard deviation	Skew- ness	Kurto- sis
Extraversion	1.50	4.90	3.26	0.70	0.02	-0.56
Emotional stability	1.00	4.80	3.19	0.77	-0.23	-0.55
Intellect	2.20	5.00	3.64	0.49	0.09	-0.41
Agreeableness	2.30	5.00	3.88	0.54	-0.61	0.36

Conscientiousness	2.20	5.00	3.75	0.53	-0.19	-0.16
Knowledge (MTK)	0.31	1.00	0.77	0.19	-0.68	-0.21
Regulation (MTK)	0.34	1.00	0.75	0.14	-0.33	-0.33
Amotivation	1.00	3.67	1.45	0.76	1.58	1.42
External regulation	1.00	5.00	3.04	1.06	-0.29	-0.39
Introjected regulation	1.00	5.00	2.57	1.06	0.25	-0.71
Identified regulation	1.00	5.00	3.82	1.12	-0.60	-0.68
Knowledge	1.00	5.00	3.37	1.13	-0.31	-1.00
Achievement	1.00	5.00	3.33	1.18	-0.18	-1.10
Stimulation	1.00	5.00	3.27	1.21	-0.20	-1.09
Memory	1.00	6.00	3.98	0.93	-0.43	-0.07
Reasoning	1.63	6.00	4.13	0.78	-0.26	0.35
RSA	1.00	4.00	1.99	0.66	0.75	0.16
Score	6.00	10.00	8.55	1.31	-0.51	-0.82

Note: RSA – Rosenberg self-esteem scale; MTK – Questionnaire about metacognition.

2.5.2. Correlation of variables

Pearson's correlation coefficient between the variables in the research is shown in Table 2. The grade in L2, although achieving significant correlations with most scales, these correlations are of low intensity. Stimulation ($r = 0.34$) and Knowledge ($r = 0.33$) have the highest correlation with the grade. Knowledge, Achievement and Stimulation are highly correlated with each other, with correlation coefficients close to $r = 0.70$. Among personality traits, the highest correlation is between Intellect and Conscientiousness ($r = 0.32$), but all

correlations are of low to moderate intensity. A high correlation, $r = 0.70$, also existed between the Memory and Reasoning scales of the Memory and Reasoning Competence questionnaire.

2.5.3. Hierarchical regression, influence on L2 grades

Given that 33% of the correlations between the variables were high, the existence of a problem with multicollinearity was checked using the VIF criterion, and since none of the predictors in the analysis had a VIF criterion higher than 4, all predictors were retained in the model.

In the first step of the hierarchical regression analysis (Table 3), personality traits were included as predictors and they themselves explain a significant part of the criterion variance, $F(5, 453) = 14.61$, $p < 0.001$, $R^2 = 0.14$, about 14 % of variance. As significant predictors in the first step of the analysis, Extraversion appears as a positive predictor, and Conscientiousness and Emotional stability as negative predictors. After the introduction of other predictors, the model improves significantly, $F_c(12, 441) = 9.22$, $p < 0.001$, $R^2_c = 0.17$, and explains about 17% of the additional variance, and a total of about 31% ($R^2 = 0.31$, $R^2_{\text{adjusted}} = 0.28$). After the introduction of additional predictors, Extraversion, Emotional stability and Conscientiousness remain significant predictors, and *Identified regulation*, *Stimulation* and *Self-esteem* (Rosenberg self-esteem and self-confidence scale) stand out as additional significant predictors, with the new predictors being positive. An increase in the scales of these predictors is associated with an increase in the average L2 grade.

Table 2: Correlations between research variables: Note. RSA – Rosenberg self-esteem scale; MTK – Questionnaire about metacognition; * - $p < 0,05$; ** - $p < 0,01$

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Extraversion (1)	1	-.07	.26**	.29**	.05	.25**	.06	-.12**	-.02	-.08	-.02	.15**	.15**	.04	.09*	.11*	-.07	.27**
Emotional stability (2)		1	-.10*	.02	.21**	0,00	.16**	-.02	.08	-.07	-.00	-.14**	-.22**	-.13**	.13**	.16**	-.23**	-.22**
Intellect (3)			1	.19**	.32**	.31**	.22**	-.25**	.03	-.13**	.19**	.18**	.12**	.12**	.40**	.46**	-.16**	.11*
Agreeableness (4)				1	.19**	.24**	.33**	-.08	-.08	-.01	.12**	.17**	.16**	.19**	.01	.00	-.13**	.09*
Conscientiousness (5)					1	.32**	.22**	-.18**	-.00	-.19**	.02	.05	.07	.03	.37**	.27**	-.26**	-.14**
Knowledge (MTK) (6)						1	.47**	-.22**	-.05	.02	.06	.21**	.21**	.24**	.43**	.38**	-.17**	.09*
Regulation (MTK) (7)							1	-.06	.07	.02	.23**	.13**	.13**	.14**	.14**	.30**	-.12**	.10*
Amotivation (8)								1	.00	.26**	-.37**	-.26**	-.20**	-.26**	-.42**	-.19**	0.04	-.14**

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
External regulation (9)									1	,21**	,25**	-,22**	-,11*	-,18**	.06	-.00	-,18**	.06	
Introjected regulation (10)										1	,05	,20**	,18**	.21**	-.07	-0.02	.10*	.13**	
Identified regulation (1) 1											1	,32**	,38**	.35**	.19**	.22**	-,11*	.29**	
Knowledge (12)												1	,72**	.71**	.10*	.15**	.22**	.31**	
Achievement (13)													1	.69**	.09*	.15**	.21**	.33**	
Stimulation (14)														1	.09*	.18**	.34**	.34**	
Memory (15)															1	.70**	-,27**	-,05	
Reasoning (16)																1	-,20**	.00	
RSA (17)																	1	.21**	
Score (18)																			1

Table 3: Partial contribution of predictors in the hierarchical regression model

	Beta (model 1)	p (model 1)	Beta (model 2)	p (model 1)	VIF
Ekstraversion	0.24	0.000	0.27	0.000	1.31
Emotional stability	-0.17	0.000	-0.11	0.012	1.30
Intellect	0.08	0.120	0.04	0.401	1.65
Agreeableness	0.05	0.288	-0.04	0.430	1.42
Conscientiousness	-0.16	0.001	-0.11	0.027	1.47
Knowledge (MTK)			0.03	0.610	1.95
Regulation (MTK)			0.08	0.143	1.73
Amotivation			-0.04	0.412	1.77
External regulation			0.08	0.105	1.42
Introjected regulation			0.04	0.350	1.44
Identified regulation			0.22	0.000	1.81
Knowledge			0.02	0.764	2.84
Achievement			0.02	0.753	2.72
Stimulation			0.15	0.025	3.03
Memory			-0.07	0.293	3.05
Reasoning			-0.04	0.551	2.80
RSA			0.14	0.003	1.53

2.5.4. Differences between academically gifted and other students

The results of the t-test for independent samples are shown in Table 4. The results point to the existence of differences on all of the three scales in the expected direction. On the scales of knowledge and regulation of cognition

(metacognition), the academically gifted have higher scores, pointing to higher levels of these metacognitive traits, as well as higher self-confidence.

Table 4: Differences between academically gifted and other students

	AS (gifted)	AS (others)	t	df	p
Metacognition knowledge	0.82	0.73	-4.72	458	0.000
Metacognition regulation	0.7	0.73	-3.29	458	0.001
Self-respect	1.85	2.15	-4.96	458	0.000

2.5.5. Moderation analysis – gender as a moderator

All moderations were examined by introducing a moderator into the model in addition to only a single main predictor and criterion. Gender is not a significant moderator in the case of the effect of knowledge about cognition (metacognitive process) on success in L2, $F(1, 456) = 0.09$ $p > 0.05$, and the introduction of the interaction between gender and knowledge about cognition does not improve the model. Gender is shown to be a significant moderator in the case of the influence of regulation of cognition (metacognitive process) on the success in L2, $F(1, 456) = 4.01$ $p = 0.046$, also in the case of the influence of self-confidence on the success in L2, $F(1, 456) = 4.92$ $p = 0.027$. In order to better interpret the moderation effect, significant interaction effects are shown in a chart. Chart 1 shows the moderation between regulation of cognition and gender, where it is noticeable that the biggest difference in the grade is among respondents with higher levels of regulation of cognition. In that case, female respondents have significantly higher grades than male respondents, while these differences are minimal at lower levels of regulation of cognition. Moderation of self-confidence and gender is such that at lower levels of self-confidence, both male and female respondents have practically identical grades in L2, while an increase in self-confidence leads to the improvement of grades among female respondents, while among male respondents this improvement is minimal.

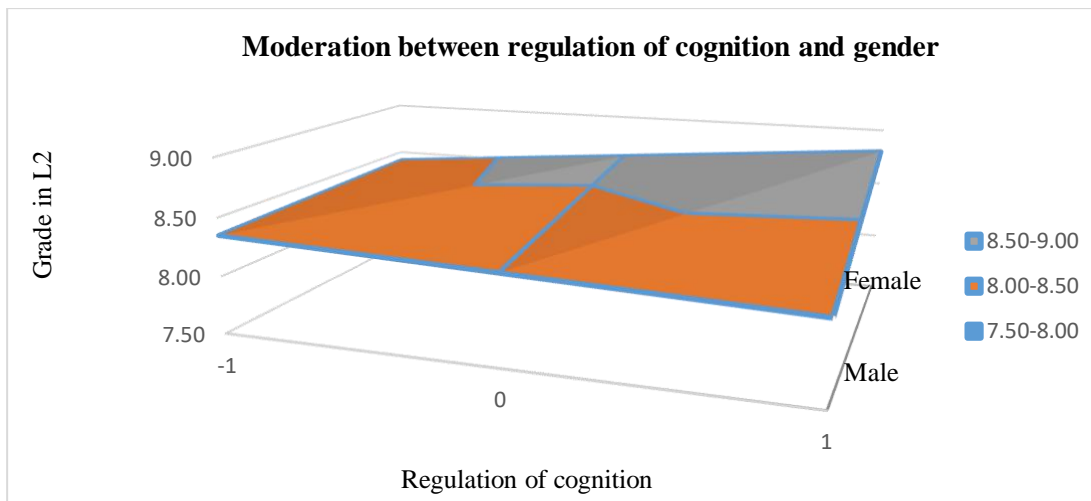


Chart 1: Moderation between regulation of cognition and gender as a function of the grade in L2

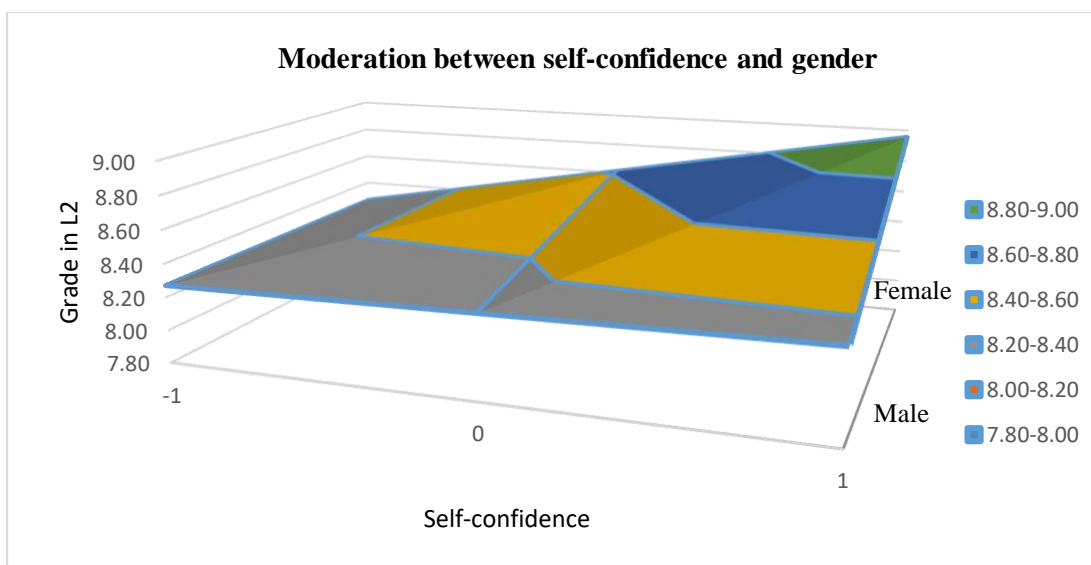


Chart 2: Moderation between self-confidence and gender as a function of grade in L2

2.5.6. Moderation analysis – residence in the country of a native speaker as a moderator

In the case of scales of metacognitive processes, knowledge and regulation, residence in the country of a native speaker did not prove to be a significant moderator, $F(1, 456) = 0.61, p > 0.05$ and $F(1, 456) = 0.10, p > 0.05$, and the introduction of the interaction does not improve the model. In the case of self-confidence, there is a significant interaction, $F(1, 456) = 13.16, p < 0.001$ and

introducing the interaction of self-confidence and residence in the country of a native speaker significantly improves the model. The interaction is shown in Chart 3. For students with low self-confidence, residence in the country of a native speaker is much more important for success in L2, while this influence is insignificant for students with high self-confidence, and independently of whether they resided in the country of a native speaker or not they achieve similar success.

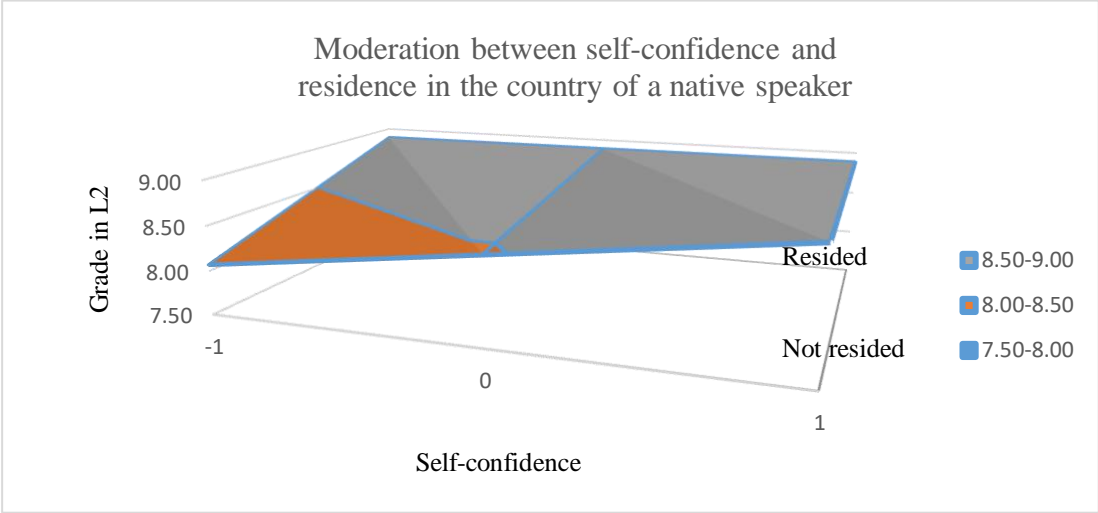


Chart 3: Moderation between self-confidence and residence in the foreign country of a native speaker as a function of the grade in L2

2.5.7. Moderation analysis - Length of residence in the foreign country of a native speaker

Moderation analysis in the case of the length of residence in the foreign country of a native speaker was performed on a sub-sample of those who stated that they had resided in a foreign country (n = 104). They were categorized into two categories: those who resided for less than a month (n = 44) and those who resided for a month or longer (n = 66). The length of residence did not emerge as a significant moderator in any of the models, $F(1, 100) = 2.29, p > 0.05$, $F(1, 100) = 2.82, p > 0.05$ and $F(1, 100) = 0.28, p > 0.05$

2.5.8. Moderation analysis – average grade in studies

The average grade in studies does not prove to be a significant moderator in the case of metacognitive processes, $F(1, 456) = 1.77, p > 0.05$ and $F(1, 456) = 0.97, p > 0.05$, and self-confidence $F(1, 456) = 2.51, p > 0.05$.

2.5.9. Moderation analysis - length of L2 learning

Length of L2 learning is shown to be a significant moderator in all models. The improvement in all three models, knowledge of cognitions, $F(1, 456) = 8.12, p = 0.005$, regulation of cognitions, $F(1, 456) = 11.23, p = 0.001$, and self-confidence, $F(1, 456) = 14.14, p < 0.001$, is statistically significant when introducing the interaction with the length of L2 learning. These moderating effects are shown in Charts 4, 5 and 6, and in all charts, different colors indicate different lengths of L2 learning (in standard deviations). Those who have learned L2 longer have the highest scores in the case of high scores on knowledge of cognition, while their score is the lowest in the case of low knowledge of cognition. This pattern is reversed in the case of those who have learned L2 for a shorter time. In the case of moderation between regulation of cognition and length of L2 learning, those with low regulation have a lower grade and the same regardless of length of learning, while in those with high regulation, the grade is higher for those who learn L2 longer. A high level of self-confidence is shown to be more significant than the length of L2 learning, and those with high levels of self-confidence also have high grades regardless of the length of learning. On the other hand, at lower levels of self-confidence, the length of learning is more crucial for achieving a better result on the L2 test.

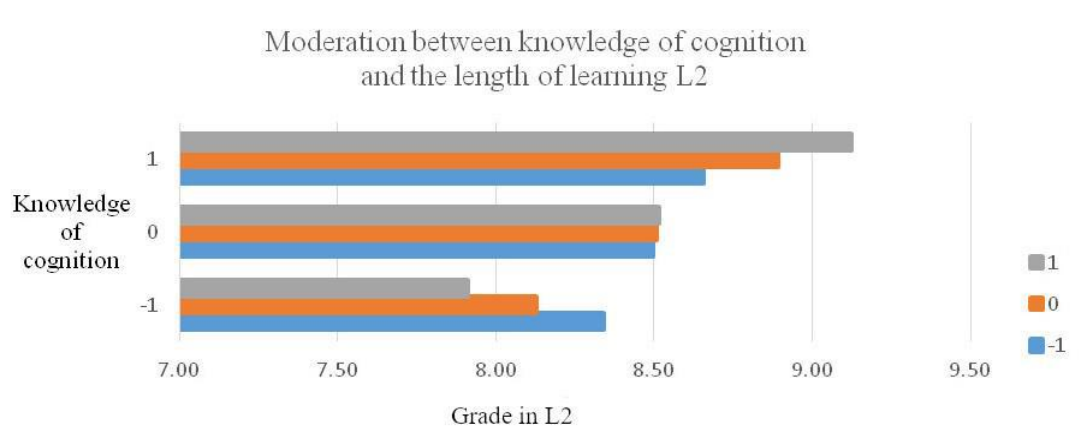


Chart 4: Moderation between knowledge of cognition and the length of learning L2

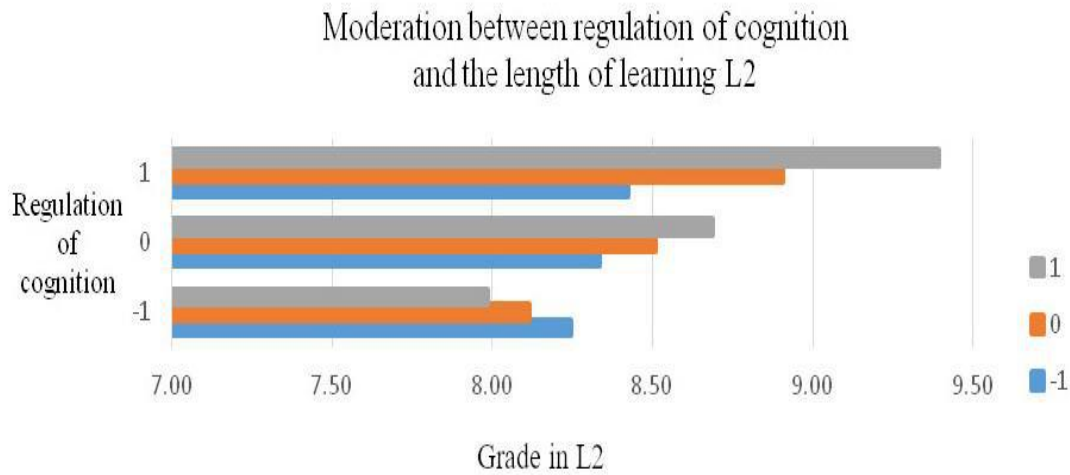


Chart 5: Moderation between regulation of cognition and the length of learning L2 as a function of the grade in L2

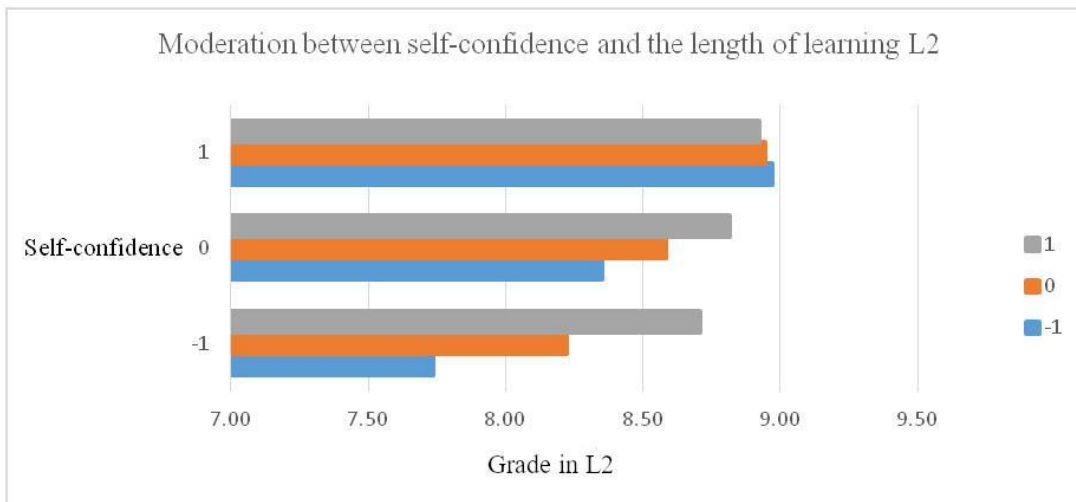


Chart 6: Moderation between self-confidence and the length of learning L2 as a function of grade in L2

2.5.10. Interpretation

The finding of a close relationship between *Knowledge* (MTK), *Achievement* and *Regulation* (MTK), with correlation coefficients close to $r = 0.70$ with the success in knowing L2, which refers to gifted students (average success in studies above 9.00), indicates a close relation of intellectual potentials, i.e. academic giftedness with the observed elements in the composite of cognitive and metacognitive variables, which in synergy, each in its own way, contribute to self-regulation manifested in the realization of academic giftedness. From the theoretical aspect, the above statements fit into the understanding of the

influence of the contextual approach and modern conceptions of intelligence, which emphasize the importance of the social context for determining the behavior that will be considered a reflection of intelligence, and directly the Sternberg's concept of intelligence (2009) in which metacognition is seen as regulation of intellectual functioning. Therefore, it could be said that the findings discussed here (the mentioned close relation of *Knowledge* (MTK), *Achievement* and *Regulation* (MTK), with correlation coefficients with a grade close to $r = 0.70$), confirm the importance of this understanding, as well as the components by which Sternberg (1997) determined this concept (metacognition as a cognitive phenomenon of a higher order - cognition about cognition - that is, as an intellectualization of various cognitive functions, including the intellect itself - about the characteristics, powers and limitations of cognitive functioning; regulative role concerning cognition - strategies for monitoring and managing one's own cognition and behavior (metacognitive decisions about what to pay attention to, what to check well, in which direction to look for a solution...)). The above statements indicate that strategies and metacognitive abilities used by the gifted have their effects, especially in more complex and demanding tasks. Thus, efforts to improve the application of strategies and meta-memory in the academically gifted, in this case in the field of L2 learning, appear to show significant effects, which is in agreement with previous studies, and it could be concluded that this direction is worth following (Gojkov Rajić et al. 2021; Šafranjanj & Gojkov Rajić, 2019).

The findings of this research are in line with other researchers' findings on the importance of metacognition (Kleitman & Stankov, 2007). In the search for clarification of the status of self-confidence within the taxonomy of cognitive/metacognitive processes, they concluded that these phenomena are crucial in identifying factors that facilitate intelligent behavior, as well as they are going beyond the limited scope of traditional concepts of intelligence. The same authors also accept the statement that metacognitive knowledge and skills are essential components of successful learning, because they can lead to the choice of strategies, and where necessary, predict their adjustment, which is emphasized by Sternberg (1997). In agreement with the findings presented here are also the research findings that confirm the importance of Knowledge (MTK), a component of metacognition, and underscore the importance of assessing the awareness of one's own cognitive weaknesses and strengths (Kleitman & Stankov, 2007). From the aspect of didactic implications, the

findings of this research, as Kleitman and Stankov (2007) also state, can help students to work on developing an adequate level of success and strengthening confidence in their cognitive performance and on self-assistance in the effective use of their own cognitive abilities and strategies during L2 learning.

A high correlation, $r = 0.70$, between the scales of memory and reasoning and self-confidence indicates the importance of yet another construct (self-confidence) for predicting success in L2 learning. Therefore, the following were also included in the composite of significant predictors of achievement in L2 learning: *extraversion, emotional stability, conscientiousness, identified regulation, stimulation and self-confidence*. Based on this, it could be concluded that several cognitive and non-cognitive components are significant for the self-regulation of gifted students, in this case in the field of L2 learning. The complexity of the phenomenon of self-regulation is also manifested in this finding. As the research focused on all these components, for the comparison of the findings we will mention the findings related to the construct of self-confidence. Kleitman and Stankov (Kleitman & Stankov, 2007; Stankov, 2013) characterize self-confidence as a broad psychological trait that cuts across different cognitive domains. This seemed interesting to include in this research in the composite of variables that are used in the pursuit for an answer to the question of what their relationship is and what is their individual contribution to achievements in L2 learning, thus helping teachers and students in the creation of metacognitive strategies in the acquisition of L2. The findings of this research are in accordance with the previously mentioned findings in terms of a close relation with intellectual and metacognitive potentials. Thus, it could be concluded that the correlation between self-confidence and metacognitive abilities of academically gifted students in manifesting achievements in L2 places self-confidence in the metacognitive field of cognitive/metacognitive taxonomy (Kleitman & Stankov, 2007). Moreover, analyses on the importance of the construct of self-confidence, which manifests as more significant for achievements than other moderator variables (length of learning L2 and residing in the country of a native speaker), are in line with findings that confirm the specific status of self-confidence in the taxonomy of cognitive/metacognitive processes. Thereby, they confirm the findings of other researchers (Teovanović et al. 2015) about self-confidence as a strong factor with which it is closely related, but also independent of other

constructs, of cognitive and non-cognitive abilities, which provides it with a special status, especially in agreement with metacognition and influences on achievements (Teovanović et al. 2015). This further leads to the conclusion about the importance of this construct for the initiation of cognitive abilities, and it could also be said, about their relationship. Therefore, it could be concluded here that self-confidence is a special variable; it functions independently in contributing to the self-realization of intellectual potentials and, in cooperation with other significant factors, contributes to the manifestation of intellectual, in this case academic, potentials in the acquisition of L2.

This finding is yet another confirmation of the position (Seligman, 1998) that a positive self-image by itself is not sufficient to have a sense of security and self-realization. Supporting the development of self-confidence implies the need to exercise it, because self-confidence is rooted in the manifestation of progress towards personally important goals. Self-regulation implies the awareness that failure is inherent to achievements and that on the way to self-realization and reaching self-confidence the individual must invest effort and face his weaknesses. Even the gifted perform lower in one area and higher in others. Through self-regulation, they accept the view that success does not come by chance, but it is something that individuals achieve and comes from complete dedication and investing effort in self-correction (Csikszentmihalyi, 1988), which in conclusion has significant glottodidactic implications. It could therefore be concluded that there is no place to accept the significance of research findings on negative correlations with self-confidence (Kremer et al., 2013). However, the agreement remains with findings about the need for encouraging self-esteem in children and young people more carefully, avoiding encouraging narcissism and the unrealistic sense of self-confidence, as in the knowledge of a foreign language, that illusion can be quickly shattered.

The above statements point to the conclusion that the basic findings confirmed the tested hypothesis of the existence of a high correlation between the observed variables in the metacognitive process, which distinguishes academically gifted students from other students, as well as that self-confidence has an autonomous status in the observed composite, and thus an important place in the self-regulated motivation of the gifted. This further

confirms the significant status of the phenomenon of self-confidence in self-regulation and, a step further, offers a mediating role in achieving success in L2 learning. So it is important for students, as well as for their L2 teachers, to get as close as possible to knowing the characteristics of metacognitive processes. Then, through introspection, they will come to self-awareness of their own knowledge about cognition and strategies, which they will be using in accordance with other cognitive and non-cognitive characteristics, such as personality traits and types of motivation to self-regulate.

3. COMPLEXITY OF THE CONSTRUCT OF SELF-REGULATION IN L2 LEARNING

Composition of factors defining the composite of the construct of self-regulation of L2 learning of academically gifted and other students; Relationships between predictive values for the possibilities of encouraging the realization of achievements in L2 learning, or the language for specific purposes in academically gifted and other students; The structure of motivation in L2 learning among gifted and other students; Self-regulated learning (SRL) as a construct and opportunity for a closer observation of the combined influence of cognitive strategies, metacognition, motivation, importance of personality traits, self-confidence, etc., and opportunities for a holistic approach to observing motivation and other learning and teaching factors.

3.1. Self-regulation as the key to effective learning a language for specific purposes

In the opinion of many authors (Zigler et al. 2021), self-regulated learning (SRL) has become attractive for researchers in the field of education in the last three decades, as it has been shown that SRL as a construct provides opportunities for a closer observation of the interaction between cognitive strategies, metacognition, motivation, importance of factors such as personality traits, self-confidence, etc., and as such it provides opportunities for a holistic approach to observing motivation and other learning and teaching factors (Paris & Paris, 2001). The complexity of SRL attracts the attention of researchers due to the possibility that, through research findings, SRL examples can be introduced to classrooms and undergo empirical validation. Both of the aforementioned researcher opinions (Kleitman et al. 2012) are basically a motivation for this research draft. Therefore, this research is intended to look at the essential characteristics of such a complex theoretical construct as the SRL and the dimensions of the holistic coverage of these factors, that is, their joint effect and contribution to self-regulation. In this research, we are talking about gifted students, because, according to the

findings of other research (Zigler et al. 2021), the phenomenon of SRL is expected to be more pronounced in gifted students than in others, and is related to success and self-realization in L2 learning or learning the language for specific purposes (LSP) during studies. Despite the fact that this construct has received considerable attention in recent decades, there are still many disagreements and unanswered questions, such as whether SRL should be seen as a set of skills that can be explicitly taught, or as a developmental process of self-regulation that arises from the experience when teachers introduce students to the contents they learn, provide students of all ages with information and opportunities to become strategically motivated and independent participants in the discovery of new knowledge, or what are the predictive scopes of specific variables for directing didactic procedures in the process of LSP learning and teaching.

3.2. Self-regulation - the ability to develop knowledge, skills and attitudes

Self-regulation of learning is considered the ability to develop knowledge, skills and attitudes that support learning and that can be transferred to other learning situations (Baumert et al. 1998; according to Sorić, 2014). Therefore, it is in the focus of interest of theoretical approaches and models, as well as practical validation in various types of research, from the creation of instruments and checking their adequacy in terms of covering phenomena, concepts, structure, etc. through looking for a way for mastering. This is the reason why it has been studied as a phenomenon of learning and teaching for decades. Zigler et al. (2021) believe that effective learning is more important than a high IQ; therefore, there is an ongoing pursuit after ways to include variables that best cover self-regulation. Therefore, the same author believes that the key to high achievement is effective learning, which is rooted in self-regulated learning. It is also important to note that self-regulation of learning, as Zimmerman (2002) suggests, is not a mental ability or a skill of performing a certain task, but a guiding process by which students transform mental abilities into learning skills. Thus, it is necessary to keep in mind that self-regulation of learning is not a property or ability that someone possesses or not and that his achievements are expected to be lower or higher accordingly. Instead, SLL implies a change in learning style, which reflects on success in self-regulation, and is recognized in the field of metacognition and learning

motivation. This is significant for learning LSP because the forces of learning and teaching are directed towards ways of developing the aforementioned mechanisms of self-regulation. The above characteristics of self-regulation are also the subject of attention of researchers who deal with encouraging the development of the gifted. Thus, for the sake of illustration, we can accept several important conclusions of Zigler et al. (2021), which will outline the essence of self-regulation in the field of giftedness. Ziegler believes that giftedness cannot be reduced solely to a high IQ and that it would be a mistake to assume that intelligence never changes. This means that giftedness in any field, including L2 learning, can be viewed as the high probability that one, later in life could reach extraordinary achievements with appropriate support (Ziegler et al. 2017). Thus, the conclusion goes in the direction of stating that neither giftedness nor IQ remains the same, nor do they grow as intelligence during development, and the lack of adequate support leaves consequences for development, i.e. the success of the gifted, which is not a rare case in practice (Gojkov, 2014, 2018). Therefore, it is considered (Gojkov-Rajić & Šafranji, 2021) that in learning L2, or LSP, as well as in other fields, giftedness fades and disappears if the gifted are left without support (Ziegler, 2005). Therefore, issues of encouraging the development of giftedness have increasingly turned towards didactics, and as Ziegler states, learning widens the existing gap in achievements (Zigler et al., 2021), and this is especially true for those with higher achievements. Given today's almost complete agreement about the importance of learning for the development of giftedness, and especially for the ability to learn, the statement that the more gifted people learn, the more gifted they become is accepted. This also applies to learning L2 or LSP. As believed by Zigler et al. (2021), this previously directed researchers in the field of giftedness to take into account several facts, confirmed by research results (Bloom, 1985), from which the following stand out: the inestimable importance of mentoring, because the findings indicate that their achievements are closely related to the incentives provided to the gifted and the improvement of learning skills; the successful gifted (experts) manifest at the international level, and their learning differs from the average in that they spend much more time in learning than others and the learning is of higher quality, because they use different learning strategies, metacognitive monitoring and acquire a large amount of content by themselves (Ericsson et al. 2018; MacNamara et al. 2014).

Zigler et al. (2013) also state that research has confirmed that successful students had significantly better performance than their peers across the entire spectrum of learning aspects, and this superior performance can be illustrated by the learning process model, i.e. self-regulated learning, during which learning strategies represent a significant part, but not the only component among other key processes. As a support to the practice in the use of the aforementioned findings, the same authors summarize the stages of self-regulated learning in a seven-step cycle (for more, see Gojkov-Rajić et al. 2021). In order to facilitate the mastering of self-regulation, they offer sophisticated methods of improving the steps in that cycle, emphasizing that the key to high achievement is effective learning, which is embedded in self-regulated learning (Zigler et al. 2021).

In the research, the author sought a complex, let's say holistic approach to a number of variables, because research findings are going in that direction and emphasize the importance of all variables selected here for observing the self-regulation of gifted students in L2 learning, but the some findings rely more on individual variables, i.e. they are not given the same value. Thus, this research is focused on studies that can, to a certain extent, evaluate the predictive value of variables in the complexity of the self-regulation construct and thus further provide the practice with the opportunity for validation. Several research findings and an understanding of the essence of the variables that were taken into account in this research will be listed below.

3.3. Importance of self-confidence as a factor of self-regulation

The findings of Kleitman et al. (2012) speak of the importance of self-confidence as a factor of self-regulation. Their findings suggest that self-beliefs combine to define the self-belief factor, thus in a sense defining the essence of self-confidence. They also state that in their studies conducted in elementary school age, they found significant positive correlations between memory and reasoning and self-concept and academic self-efficacy (ranging from .46 to .68, $p < .01$), as well as that the factor defined by measures of self-confidence explains about 70% of the total variation in these measures. Therefore, it can be concluded that students with higher metacognitive beliefs in their own cognitive abilities also have strong beliefs in their own academic self-efficacy

(Gibson 2008; Kleitman & Gibson, 2011). The same authors also suggest that the students' metacognitive beliefs about their own cognitive abilities can be seen both as an important predictor of self-confidence and as a key mediator in the prediction of other self-confidence variables. They also point out that the students' metacognitive beliefs in their cognitive abilities as a self-confidence factor can be more reliable for predictions regardless of intelligence, gender and other variables (Gibson 2008; Kleitman & Gibson 2011). Thomas and Gadbois (2007) conclude that there is a negative correlation between self-confidence and behavior defined as handicapping tendencies, which manifest as strategies, which imply delays in performing tasks, excuses, etc., which negatively reflects on weaker self-regulation, and thus on achievements. This leads to a conclusion important for practice, which considers that strong self-beliefs can act as possible insurance against harmful behavior with a handicap.

Based on the above, it could be concluded that self-confidence is considered an important internal factor of self-regulation, and this term refers to a psychological trait, which is considered a stable personality-based factor in confidence ratings (Kleitman, 2008; Stankov, 1999; Stankov & Lee, 2008). However, Stankov (1999) suggests that the aforementioned stability does not imply a connection with personality traits, and therefore it is not strongly connected with constructs of personality. Based on the above, the question is: what is the basis of stability of self-confidence? One of the answers is metacognitive beliefs, which refer to part of the aspect of metacognitive knowledge, stating that metacognitive belief is a specific subset of these beliefs, and refers to the individual's perception of the competence of his basic cognitive abilities, memory and response, the so-called memory competence or reasoning competence. One of the beliefs related to self-confidence is the academic self-concept. Marsh et al. (1988) consider academic self-self to be a multidimensional and hierarchical structure, which is acquired through achievements within the framework of school progress. This indicates that academic efficacy carries within itself the student's belief that he can achieve the expected outcomes through learning (Bandura, 1993), thus a sense of faith in the possibility of achieving self-realization. Research has shown (Efklides & Tsiora 2002; Biermann et al. 2008) that in adults metacognitive beliefs about reasoning competence were also predictive after controlling the outcome (Kleitman, 2008; Kleitman & Stankov 2007; Stankov & Lee 2008). This was also

confirmed by the findings of the same authors in children. This indicates that metacognitive beliefs in one's own reasoning competences and memory abilities, along with the academic self-concept and assessments of self-efficacy are good predictors of the level of confidence that subjects have in their own cognitive abilities (Gibson 2008; Kleitman & Gibson, 2011). This is significant for the practice, among other things, because of the possibility of encouraging reaching the goal and self-efficacy of teachers. Thus, based on the above, it could be concluded that in accordance with the understanding of the self-concept theory and self-efficacy theory, metacognitive beliefs can be seen as both a predictor and a mediating variable of predictions that other variables have on self-confidence, and self-belief is recognized to have a key role in academic achievements. According to the findings of the previously mentioned researchers, a higher level of self-confidence is predicted positively and reduces learning avoidance behaviors, and what is also significantly mediates the predictions of other variables on the self-confidence factor. As a confirmation of previous statements about the predictive value of self-confidence, the authors point to the importance of the role of internal student variables in predicting academic achievements.

Lee (2009) cites a research conclusion that confirms a significant correlation between self-concept, self-efficacy, emotional concepts (anxiety...) and self-confidence, defining self-confidence as a common factor that has a significant correlation with the accuracy of cognitive performances, and in addition to this, the understanding of self-confidence as the best individual predictor of accuracy of cognitive performances.

Other authors also find that in the majority of the available data, self-confidence absorbs the predictive variance of the aforementioned self-constructs in cases where they are viewed as individual predictors of accuracy (Stankov & Crawford, 1997). This finding suggests that the method of measuring self-confidence used by these authors is reliable, and other scales of self-efficacy, self-concept, and anxiety are not necessary. In addition, it is considered noteworthy that the property of the construct of self-confidence stems from its breadth as a factor, while the other three previously mentioned self-beliefs are specific to the domain, field, subject, and the measure of self-confidence obtained in one field (mathematics) can be used for assessing self-confidence from success in L2, etc. As stated by the authors, this property of

psychological constructs applies only to some psychological constructs, such as intellectual abilities. The previously mentioned property of the breadth of the construct of self-confidence, i.e. the ability to absorb predictive variance as a special predictor of accuracy, is the basis of the decision to include this factor in this research, i.e. in checking the predictive value of variables in the complexity of the self-regulation construct. The aforementioned property of the breadth of the self-confidence construct, i.e. the ability to absorb predictive variance as a special predictor of accuracy, is the basis of the decision to include this factor in this research, i.e. in checking the predictive value of variables in the complexity of the self-regulation construct. Previous studies emphasize personality traits as important for self-determination. Therefore, this factor is also included in the composite of variables used in this research to examine the possibility of using a holistic approach to self-determination and the importance of the included variables for explaining the complexity of the phenomenon of self-determination, and therefore they will be discussed here in more detail.

In drafting several basic properties, important for understanding self-regulation in theoretical classifications, Bandura (1997) briefly but effectively describes the pattern of self-efficacy and outcome expectations, which includes the importance of personality, stating that individuals who are prone to a depressive pattern of self-regulation would belong to the personality group with a low sense of self-efficacy but a high expectation regarding the outcome, should they perform the task correctly. The same author (Bandura, 1996) also finds that these individuals believe that they cannot complete the task (therefore, they do not initiate the proactive pattern of self-regulation), but they are aware that if they achieve the desired goals and are rewarded, the environment would react positively to their achievements. In this way, they do not have the possibility of reinterpreting the situation, attributing possible failure to negative factors from the environment and cannot reduce the value of academic activities and achievements. Therefore, they do not activate even the defensive pattern of self-regulation of learning aimed at protecting the ego, self-esteem, and sense of their own values. Researchers conclude that few empirical works observe the distinctiveness and relationships between the aforementioned patterns of self-regulation of learning. There are empirically obtained results that support the discriminative nature of proactive and defensive patterns of self-regulation and some, model-implied relations

between the components of those patterns, and their association with learning outcomes (Lončarić, 2008, 2011). On the other hand, as stated by Lončarić (2014), further work is yet to be done on a more detailed conceptualization and measurement of the depressive pattern of learning self-regulation, which is considered to be closely related to personality traits, and personality traits are considered to be closely related to academic achievements of the gifted in learning L2, or LSP. Thus, the structure of personality or personality traits is believed to represent a significant factor based on which ways are chosen in self-regulation that correspond to the situation, but also to the individual's personality.

3.4. Relationships between personality traits, self-regulation and academic success

The literature cites a large number of studies that confirm the relation between personality traits, self-regulation and academic success (Nikčević-Milković & Tatalović-Vorkapić, 2019), but also indicate the complexity of these relationships and their importance in the predictive explanation of self-regulation for academic achievements. The five-factor model of personality constructed by Costa and McCrae's (1992) structures the following basic factors: neuroticism (N), extraversion (E), openness (O), agreeableness (A) and conscientiousness (S). Tatalović-Vorkapić and Lončarić (2014) believe that the big five-factor model of personality is the most empirically confirmed model and is the most widely used in studying personality, as well as this is one of the most significant personality theories of the last century (Mlačić, 2002).

The previous statements are the reason why personality traits were included in the composite of variables of this research, which is intended to test the predictive value of variables in the complexity of the self-regulation construct. Research findings report that personality traits (*except for neuroticism*), as well as adaptive learning self-regulation strategies and strategies for coping with failure in school, are moderately positively related to both objective and subjective academic achievement. It is also significant to note that neuroticism is negatively associated with adaptive learning strategies and coping with school failure, so that with its increase, objective and subjective academic success decrease. Tatalović-Vorkapić and Lončarić (2014) suggest that

Conscientiousness is a significant positive predictor of objective academic success, as well as of *Agreeableness*. All predictors together managed to explain 29% of the objective and 18% of the subjective academic success. Tatalović-Vorkapić and Lončarić (2014) conclude that higher objective academic success is associated with higher satisfaction with school. *Openness, Conscientiousness, Extraversion and Agreeableness* are positively related to adaptive learning strategies and coping with school failure, as well as with strategies for seeking instrumental and/or emotional support from friends, parents or teachers.

The composite of variables based on which this research in the field of learning L2, or LSP, intends to look at the predictive value of the observed variables in order to better understand their mutual relations, as well as the place and role of each of them, also included the motivation for L2 learning among gifted and other students. Motivation is one of the observed variables that attracted the attention of researchers in many areas of learning and teaching in recent decades, including glottodidactics, given its significant role in the speed and success of L2 learning. Research findings state its importance in the primary incentive to start learning L2, and its later role as a driving force for maintaining the long and often boring learning process (Dörnyei, 1998). It has been defined as a complex and multifaceted construct (Gardner et al. 1985), consisting of several factors (value of the task, level of success expected by those who learn, self-confidence and understanding the reasons for their success or failure on the task (Dörnyei & Ushioda, 2011)). Due to its complexity, in which the types of motivation and motivational strategies occupy the first place, which would help students to adopt positive attitudes and develop motivation for L2 learning, it represents a great incentive for researchers. This implies knowing the types of motivation that are related to the approaches to encouraging the individual's level of motivation. Although the gifted, as research states, learn easily and quickly and have a high level of internal motivation, the inconsistency around these claims should still be checked for L2 teachers to harmonize the relationship between the type of motivation and didactic instructions to realize the expected achievements.

3.5. "Motivational self-respect" in L2 learning and personal identity

Dörnyei and Ushioda (2011) presented a new approach to L2 learning labeled "motivational self-respect" that relates L2 learning with personal identity. This approach has implications for L2 learning in the sense that the student develops self-maturity and thus self-motivation in language acquisition. Dörnyei believes that teachers could help students in this if there was a need for a more *pragmatic education, a focused approach, researching the reality in the classroom and identifying and examining the motives for L2 learning in the classroom* (Dörnyei & Ushioda, 2011), which teachers should keep in mind. Here, it is important to take into account the motivational orientations for adapting the effects of didactic instructions on students' academic efficacy in accordance with the characteristics of their motivation, enabling teachers to recognize the essence of the types of motivation more accurately and design the instruction accordingly. They can recognize amotivation when they notice that students do not see the connection between their actions and the consequences of these, and believe that they are wasting time on learning L2. However, it is important, as studies conclude, to recognize the difference between demotivation and amotivation. In this sense, important for teachers is the significant finding of Dörnyei (2001), which indicates that when the outcomes are believed to be unrealistic and unreasonable, this leads to amotivation, because the learner realizes that the goal is not achievable and is beyond his capabilities. Thus, amotivation is understood as a lack of motivation.

Current studies are using several instruments, such as the Scale of Academic Motivation - SAM 28 or 32, the Foreign Language Learning Motivation Questionnaire (LLOS-IEA; Noels et al., 2000), which are based on the Self-Determination Theory and have been statistically analyzed in several countries around the world, and received confirmation of their metric characteristics of factor analysis, dimensionality, reliability and construct validity. The hypothetical 7-factor model was also confirmed, for the most part: Internal motivation - knowledge; Internal motivation - achievement; Internal motivation - stimulation; External motivation – identified; External motivation – introjected; External motivation - external regulation; Amotivation.

However, some authors (Harvey, 1997; Hertzog & Robinson, 2005.) find that the scales need further revisions because in predicting success it was found that amotivation and identified regulation seemed stronger as internal motivational variables. As this is one of the questions in this research, i.e. the aim is to verify the importance of the motivational factor among other observed variables for overall self-regulation, several findings will be sketched that seek to shed light on this issue.

3.6. Importance of the motivational factor among other observed variables for overall self-regulation

It is interesting that Šarčević (2015), who checked academic motivation in adolescents using the SAM, which measures seven aspects of motivation according to the self-determination theory, came to the following conclusions: In the first version of this questionnaire, four factors were isolated on a sample from Serbia, and based on that version, another one was formed with 32 items on a sample of 1106 respondents and also defined four factors as Internal, External, Introjected motivation and Amotivation. The continuum of self-determination has not been fully confirmed. Therefore, as the author states, some dimensions are of a different status of self-determination than expected. She also states that the metric characteristics of the scale are very good, and therefore the second version has better psychometric characteristics, it more clearly depicts the theoretical assumption about aspects of academic motivation, and its continuum is only partially confirmed. The author believes that the SAM questionnaire is an acceptable indicator of academic motivation for the age group for which it is intended. However, the question of the continuum and structure of the construct defined in this way remains, i.e. the seven-factor structure, which is used and confirmed in many studies. This is one of the questions this paper seeks to clarify. This research, among other things, tested the seven-factor structure, and it will be briefly defined for a clearer overview of the research findings. Note that the theoretical foundation of this question is rooted in the self-determination theory, which seeks to explain the motivational aspects of academic success, because it integrates the starting points of the *theory of basic psychological needs, orientation of causality, cognitive evaluation and integration of the organism*. This means that different theoretical approaches were combined into a single theoretical framework to

provide a more complex picture of the phenomenon of academic motivation (Deci et al., 2001; Deci & Ryan, 2000). The intention of this research is to approach the motivational factors of academic achievements in learning L2 or LSP using the holistic approach.

In addition to the above, important to the foreign language teacher is the finding that the aspects of motivation depending on the internalization of behavior are running along the continuum (Deci & Ryan, 1985), and that in practice, three types of motivation are most often distinguished: internal and external motivation, with amotivation, which is located on the extreme left end of the continuum. In addition to the aforementioned, it is characteristic of amotivation that the locus of control is indeterminate and that individuals with this motivational characteristic do not see the reasons why they study nor see the sense of learning a foreign language (Deci et al. 1992; Niemiec et al. 2009). Most researchers find that behavior driven by external incentives (pressure or reward from the social environment to learn a language) is characterized by extrinsic motivation, which manifests within four narrower aspects as regulation with short effects (Ryan et al. 2008; Hagger & Chatzisarantis, 2007). This is an important conclusion for practice, because the interruption of external incentives can lead to a situation where the student stops learning a foreign language (Noels et al. 2001). Recent studies emphasize the fact that extrinsically motivated students aim to acquire knowledge for better career opportunities, etc., so their behaviors are a means leading them towards a certain goal, and not out of interest or satisfaction in acquiring knowledge; therefore, the behavior is encouraged by external incentives. Significant is the finding (Ryan et al. 1990; Deci & Ryan, 1985) that there are different types of external motivation along the continuum of self-determination (external regulation, introjection and identification). In this sense, in teaching, it is necessary to recognize the aforementioned levels and adapt the incentives accordingly, which facilitates learning, which in turn affects achievements. The next step, important for practitioners, is Introjected regulation, for which studies found to occur when individuals begin to internalize the reasons for their actions. When the behavior becomes valued and assessed as important for the individual, especially when it is perceived as if the individual adopted opinions and feelings taken from the environment, but did not fully include them in his personal value system. A new step towards higher levels of motivation and self-regulation in L2 learning is

Identified regulation, which is recognized as a consequence of realizing the importance and contribution to self-realization. Therefore, *identified regulation* manifests as a behavior that the student accepts because of its importance, and not only because of future benefits and contributions. It is important to note here that the identified regulation is not caused by an internal need, and that the outcomes of this regulation are of a lower degree of self-determination (Jang, Reeve & Deci, 2010). *Adopted or introjected* regulation is the next significant step on the ladder of the motivational hierarchy of self-determination in L2 learning, and is recognized by the acceptance of behaviors from the environment. This, as well as the previous level, has not yet been fully internalized (Deci & Ryan, 2000). The next step along the self-regulation continuum is *Integrated Regulation*. It is considered the closest to intrinsic motivation and is associated with positive outcomes such as pro-social development and psychological well-being (Ryan et al. 2008). Integrated regulation refers to behaviors, which are in accordance with the values of the individual for L2 or LSP learning, and is considered present in the system of students' self-regulation (Gojkov-Rajic et al. 2021b). On average, students show a relatively low level of amotivation and moderate levels of various aspects of motivation, with the scores being the highest for *Intrinsic (Knowledge, Achievement and Stimulation)* and *Identified regulation*. This indicates that students are well motivated, i.e. with good motivational orientation and types of motivation that are a significant predictor of self-regulation, which was manifested as an indicator of success on the L2 test. On the right end of an imagined scale, a continuum of described aspects of self-regulation is intrinsic motivation, which is characterized by an internal locus of control and reflects a natural tendency towards mastering, spontaneous interest and exploration, which are essential for the individual's cognitive development (Deci & Ryan, 1985). Vallerand et al. (2003) conclude that internal motivation consists of three dimensions that describe a natural inclination towards acquiring knowledge, stimulation and achievement. This is an incentive for further research, to provide a clearer picture of the possibility of personalizing didactic instructions in teaching L2 or LSP. The basic characteristic of intrinsic motivation is considered the behavior in which the student learns a foreign language for his own sake, out of pleasure he feels while learning, exploring or trying to understand something new (Vallerand et al. 1992). According to some authors (Deci & Ryan, 2000), intrinsic motivation stems from the innate psychological need for competence and self-determination, and what the

teacher can do to encourage the student's efforts on his way toward higher levels of motivational self-regulation in L2 learning is to create learning situations in which the student will be as autonomous as possible, determining his goals and ways to achieve them independently. It is important to note that the majority of research confirms the finding regarding the existence of a global intrinsic motivational construct, but there are also opposing opinions, according to which (Deci, 1975) intrinsic motivation could differ in more specific motives. This is accepted as a tripartite taxonomy of intrinsic motivation, investigated on an independent basis (Vallerand et al. 1992). For this, the present research is interesting, because it is indirectly within the framework of analyzing the issue of predictive value of variables in the complex construct of self-regulation and the issue of structure of the motivational variable. The space in this text does not allow for a broader analysis of these issues, but for the sake of a clearer understanding of the findings of this research, it will be at least mentioned that studies concluded that there is *Internal motivation towards achievements* as a special type of motivation, encountered in pedagogical psychology and didactics as motivation for mastery, motivation for efficacy and task orientation. It is recognized by the willingness of students to communicate with the environment in order to feel competent and create unique achievements (Deci & Ryan, 1991). Thus, it is defined as an orientation towards achievements, or engaging in an activity out of pleasure; after mastering complex training techniques, etc., it creates a sense of personal satisfaction (communication in a foreign language, participation in a scientific meeting in the language for specific purposes being learned...).

The third type is *internal motivation for experiencing stimulation*, which is manifested as a specific stimulating experience (aesthetic experiences, fun, excitement). The previous statements of the taxonomy of motivational regulation are well concluded by the understanding (Deci & Ryan, 2000), according to which *Intrinsic motivation* is characterized by a sense of satisfaction arising from a sense of competence, autonomy and connectedness, as well as that concerning external motivation it is considered more self-determined and associated to internal factors such as enjoyment and self-satisfaction in researching new ideas and developing knowledge for mastering a task or achieving a goal.

The previously presented types of motivation are also important for L2 or LSP teachers at the faculty, in order to see more clearly the ways of their manifestation and how the teacher can help the student in self-regulation of learning and encourage their motivational potential. This is especially important today, as technological advances have changed the way today's generations are motivated. A significant number of young people are amotivated, and they do not perceive unforeseen situations between the outcome and their own actions. They are neither intrinsically nor extrinsically motivated. They are attending school without understanding the meaning of learning, and for them, it is a useless effort and wasted time. Gilbert (2013) explored motivation among the youth, what works, and what are the opportunities for addressing the complexity of learning, the complexity of educational systems, and the complexity of determining positive outcomes of educational efforts. He recommended changing didactic approaches and providing different learning environments to meet students' needs. The same author believes that students may not be academically motivated because they feel disregarded. Similar conclusions related to the need for greater autonomy in learning and teaching are also found by other authors (Gojkov-Rajić et al., 2020). Findings that are consistent with the previous conclusion highlight the following:

Identified regulation stands out as a positive predictor, which indicates that motivation through *identified regulation is associated* with a higher grade in L2 and general success.

It has been concluded that there are differences in motivational orientations, or types of motivation, between the gifted and other students, which are indicators of self-regulation in L2 learning, as well as that types of learning motivation are determining factors for achievements in L2 learning;

Age of starting to learn L2, length of learning a foreign language, gender, and type of faculty attended are not significant factors for the relations between the observed variables (Gojkov-Rajic et al. 2021a).

The findings of Mastoor Al Kaboodi (2013) based on the synthesized conclusions of a meta-analysis on the motivational role of teachers, emphasize the importance of responsibility for initiating motivation and maintaining it

throughout the entire learning process. Other researchers (Dörnyei & Skehan, 2003; Dörnyei & Ushioda, 2011) suggest that the integrative component has a significant part in the variances when it comes to motivational mood and persistence in L2 learning. This led to a certain turnaround in the acceptance of the motivational model, i.e. the transition from the socio-educational model to the psychological model. Gardner's model is directed towards the integrativeness of the multifactorial complexity of L2 learning, and unlike him, further applied research in the field of L2 learning found that instrumental orientation has a greater impact on language learning. In addition, studies on motivation to learn a foreign language (Dörnyei, 2001; Dörnyei & Clément, 2001; Dörnyei & Ushioda, 2011; Gojkov-Rajić et al. 2021b) have revealed a need for a more pragmatic education, focused approach, researching into classroom reality and identifying learning motivations in the class.

The complexity of the self-regulation construct and the relations between motivational orientations were observed from several aspects. Crnjak (2019) investigated the relationships of different motivational orientations with different aspects of adaptation to studies, which include confidence in oneself and the own abilities, perceived social support and the experience of stress among students at the University of Zagreb. Important for this research are the findings, which indicate that higher levels of self-determined motivational orientations, or types of motivation, are positively correlated with stress reactions in adapting to studies. Therefore, the research concludes that the perception of stress among students is a significant factor in motivation, and those with higher stress levels have higher levels of amotivation and introjection, which is further related to a lower level of confidence in themselves and their own abilities, and affects the mechanisms of adaptation to studies. The findings also indicate potential gender differences in the mechanisms of adaptation to changes caused by studies as a new way of organizing learning and life.

The previous findings were yet another driver for this research because they indirectly point to the possibility that self-determined motivational orientations, as a phenomenon, cannot be understood to the required extent by simplified divisions into basic motivational orientations. Instead, it is necessary to delve deeper into the multidimensionality, complexity of the motivational construct and several motivational orientations, that is, types of

motivation. Contrary to the findings of the aforementioned research (Crnjak, 2019), Jandrić et al. (2018) in their search for an answer to the question of gender differences in intrinsic and extrinsic motivation, self-efficacy, test anxiety and learning strategies, found that there were no gender differences among the students they examined. However, they found statistically significant age differences across all the mentioned variables. Interestingly, the finding that weaker motivation and self-regulated learning among older students is confirmed by previous research in this area, which is a significant indicator for glottodidactics, i.e. L2 teaching practice.

Prompted by the great interest in the concept of academic motivation, Ramos and Habig (2019) found that gender and age do not have a significant effect on any of the subscales of the Academic Scale of Motivation (ASM). Therefore, based on the findings, it was concluded that gender does not have a significant effect on academic motivation, which is not consistent with the findings of other researchers. The same was noted for age as a predictor of motivation. The authors attribute this to the small sample size. However, findings of other research supported the use of the ASM, which was found to have satisfactory metric characteristics, as well as a confirmed seven-factor ASM structure, offering thus yet another confirmation of the multifactor structure of the construct of motivation, which challenges simpler models based on basic types of motivation (internal, external, amotivation). Suggestions for practical pedagogical implications of findings addressed to teachers, administrators and educational policymakers refer to the need to provide students with more direct information, facilitating their easier orientation in self-regulation, and then to associate the contents of curricula more closely with the students' careers, providing them with greater practical efficiency, etc.

In their research, Utvær and Gørill (2016) also started from the positions of the Self-Determination Theory, distinguishing between types of motivation as a function of types of self-regulation along the continuum of internalization, which are normally used as types of motivation for the difference in quality and outcome. They listed the following variables as predictors of educational outcome: learning, performance, engagement and persistence. The ASM, which is based on the Self-Determination Theory, received confirmation of its metric characteristics and confirmation of the hypothetical seven-factor model through statistical analyses. However, the authors find that *the scale needs further revisions, because in predicting success, it was found that amotivation and*

identified regulation seemed to be stronger than internal motivational variables. This was another incentive for researching the relationship between types of motivation and academic success, which is the basis for defining the methodological framework of this research.

The research was aimed at getting a closer view of the complexity of the self-regulation construct and the relationship between its variables to see their influence on the success in L2 learning, and thus on the self-regulation of gifted students, because it is assumed that a wider range of variables creates the possibility for more room for applying a holistic approach to the phenomenon of self-regulation, which, after three decades of intensive attention and research activities in this field, still has a lot of open questions, i.e. conflicting or vague findings.

The question to which this research seeks to find an answer refers to the following: what is the scope of variables that are usually taken in the composite that observes the construct of self-regulation, in the sense of satisfying the conditions for applying the holistic approach to the phenomenon of self-regulation? This also includes the analysis of their mutual relationship and scope in terms of their predictive value for the possibilities of encouraging students in the realization of achievements in L2 learning. This is especially observed in academically gifted students (those with an average grade above 9.00). Thus, the paper seeks to answer the following question: to what extent academic students differ in terms of the observed variables, or what is their predictive value for their achievements in L2 learning.

It is assumed that a larger coverage of variables (in this case: personality traits, motivation for learning L2, metacognition, self-confidence – memory and reasoning competencies), will result in a clearer picture of the composition of factors that self-regulate L2 learning of academically gifted and other students, and affect achievements in this area. This is expected to yield a clearer picture of the influence of individual types of motivation on the success in L2 learning among academically gifted and other students, i.e. to provide a clearer picture of the structure of motivation among gifted and other students, around which studies come across different types of motivational orientations, i.e. the number and type of motivation, as well as the importance of other predicted variables.

Working hypotheses:

The expression of the seven-factor model of motivation for L2 learning is expected, as well as a difference in favor of the academically gifted students in the manifestation of intrinsic types of motivation and a statistically significant effect on success in the L2 test;

Metacognition and other variables (personality traits, self-confidence, memory and reasoning competencies) are significantly correlated with motivation, and their mutual relationship is also correlated with explaining a high percentage of variance.

The influence of the observed variables on success in L2 is manifested equally.

After the above, the following information should be obtained:

What types of motivation for L2 learning are manifested in respondents and whether and in what ways do the academically gifted (students with an average grade above 9.00) differ from others? What is the relationship between motivation types and the general success and success in L2, so that based on this, it could be concluded about the importance of motivation as a factor of self-regulation, as well as about the structure of motivation as a construct important for self-regulation and practical glottodidactic interventions? What is the relationship between types of motivation and metacognition, self-confidence (memory and reasoning competencies) and self-esteem?

How much does the model conceived in this way, with these variables, contribute to providing a clearer picture of self-regulation and its influence on the success in L2?

What personality traits are expressed in all respondents? Are there differences between the academically gifted and other respondents? How are they reflected and what is their relationship with motivation, general success and success in L2, metacognition and self-confidence (memory and reasoning competencies)?

What is the mutual relationship between all observed variables? What percentage of variance do they explain together, and what percentage do they explain individually?

Variables:

Predictor variables: types of motivation (intrinsic motivations, extrinsic motivations and motivational subclasses: amotivation, external incentives, integrated incentives, identified regulation, internal motivation-knowledge, internal motivation-fulfillment, internal motivation-stimulation); Metacognition, personality traits, self-confidence, memory and reasoning competencies;

Criterion variables: success in the L2 test; average grade in studies above 9.00 as an indicator of giftedness.

Moderator: gender.

3.7. Method

The research was quantitative in design and conducted using systematic non-experimental observation.

3.8. A sample

The sample consisted of 500 students from two faculties, 144 students from the Faculty of Teacher Education, University of Belgrade and 356 from the Faculty of Technical Sciences, University of Novi Sad. There were 360 (72.0%) female participants. The type of sample is convenience, and 15 academically gifted students (with an average grade of 9 or higher) participated in the research.

3.9. Instruments

Big Five Inventory (Goldberg's Big Five Personality Traits from the International Personality Item Pool; Goldberg, 2001). The 50-item questionnaire is designed to assess the Big Five personality traits: extraversion, emotional stability, intellect, agreeableness and conscientiousness.

The Metacognitive Awareness Inventory (Schraw & Dennison, 1994) consisted of 52 items with a binary response format (True/False) along two scales: Knowledge of Cognition and Regulation of Cognition.

Language learning orientation scale - intrinsic motivation, subscales of extrinsic motivation and amotivation (LLOS, Noels et al., 2000). The questionnaire consisted of 21 items on a five-point Likert scale designed to measure 7 types of motivation for L2 learning. Previous research indicates that 7 factors might be too much for this questionnaire, so this research assessed its latent structure (see section: Data analysis and results)

The Memory and Reasoning Competence Inventory (MARCI; Stankov & Crawford, 1997) consisted of 16 items measured on a six-point Likert scale. The instrument has two subscales intended to measure memory competencies and reasoning competencies.

The 10-item Rosenberg Questionnaire (Rosenberg, 1965) measures the global level of self-esteem (self-image) by assessing the positive and negative feelings a person has about himself. Items are given using a four-point Likert scale.

The foreign language test contained 36 questions related to the four language skills and was developed for this research; Questionnaire GD - General data: average in studies, grade in foreign language, gender, type of faculty.

3.10. Data analysis

To estimate the latent space of the LLOS scale, the principal components were analyzed using Promax rotation. The optimal number of factors/components to be retained was identified using Velitzer's minimum average partial (MAP),

as it was shown to be a better technique for identifying the number of factors compared to the Scree plot and the Guttman-Kaiser criterion (Ziegler & Hagemann, 2015).

For all the instruments used, average summation scores were calculated in order to reduce them to the response scale of each particular instrument for easier interpretation and comparison. A t-test for independent samples was used to check for possible differences on the motivation scales between the academically gifted (average score 9 and above) and other students. Relationships between other variable traits (personality traits, metacognitive awareness, memory and reasoning competence, and self-image) and motivation were assessed based on multiple regression analysis. One regression analysis was conducted for each motivation scale, where motivation was the criterion variable and other variables were predictors. To evaluate the relationships between trait variables, multiple regression of motivation and grade in L2 was performed, with the grade being the criterion variable and all other variables being predictors.

The moderating role of gender between types of motivation and grade in L2 was assessed by applying the PROCESS macro for SPSS. The PROCESS macro performs the moderation analysis by testing for moderation between a single predictor, single moderator, and single criterion per analysis.

3.11. Results

Velitzer's MAP achieved a minimum of 0.04 for the 5-component solution, indicating that 5 components should be retained. The five components explained 73.18% of the total item variance. The Promax sample matrix of the rotated solution is presented in Table 1. The first component consists of all items originally associated with the subscales of intrinsic motivation and is called Internal Motivation. The second component consists of all items in the original amotivation scale, so it is called Amotivation. The third component is made up of 3 items that originally belonged to it, so the name Identified Regulation has been retained. The fourth component consisted of three items that make up the Introjected regulation component, the same as in the original formulation of the questionnaire. The last component consisted of only two

items that originally belonged to the external regulation subscale, so this name was retained. Compared to the original formulation of the 7-scale questionnaire, the extrinsic motivation subscales remained largely the same, while all intrinsic motivation scales formed a single, merged component.

Table 1: Matrix of LLOS items: Item PC1 PC2 PC3 PC4 PC5

1.	Because of the satisfaction I feel in the process of performing difficult exercises in another language.	.92
2.	Because I love to know everything about the community of English/German-speaking people and their way of life.	.90
3.	Because I feel pleasure when I hear English/German language.	.80
4.	Because of the satisfaction I experience when I understand a difficult construction in English/German language.	.80
5.	Because of the satisfaction I experience when I learn more about the literature of the English/German language.	.74
6.	Because I feel good when I speak English/German language.	.72
7.	Because I feel good when I hear native speakers speaking English/German.	.70
8.	Because of the pleasure I feel when I surpass myself while learning a foreign language.	.52
9.	Because of the pleasure of discovering new things.	.66
10.	Frankly, I don't know, I really have the feeling of wasting time on learning a foreign language.	.93
11.	I don't know why I am learning English/German, and frankly, I don't care.	.92
12.	I don't know what I am doing while learning English/German language.	.62
13.	Because I want to speak several languages.	.84
14.	Because I want to know several languages.	.79

15.	Because I think it is good for my personal development.	-.54
16.	Because of the impression that I am expected to do it.	.40
17.	Because I would be embarrassed if unable to speak with my friends in their mother tongue.	.95
18.	Because I would feel guilty for not knowing a foreign language.	.79
19.	To prove myself that I am a good citizen by speaking a foreign language.	.52
20.	In order to have a more prestigious job later.	.90
21.	To have a higher salary later.	.78

3.13. Descriptive statistics

Descriptive statistics and Cronbach's coefficients of reliability for the study variables are presented in Table 2. Skewness and kurtosis values of all research variables were within the suggested range of ± 2 (George & Malleri, 2010), indicating no significant deviations from univariate normal distributions. It is important to note that for the Metacognitive Awareness Scale, 1 is the highest possible score as the agreeing answers were coded with 1 and disagreeing with 0. Scale reliability ranges from .62 to .93, which indicates that reliabilities ranged between acceptable and excellent.

Table 2: Descriptive statistics

<i>Variables</i>	Min	Max	M – Mean value	SD- standard deviation	Skew-ness	Kurtosis	α
<i>Personality</i>							
Extraversion (Ex)	1.40	4.90	3.28	.72	-.03	-.54	.78

Emotional stability (EmS)	1.00	4.80	3.21	.79		-.24	-.52	.84
Intellect (Int)	2.20	5.00	3.66	.50		.03	-.53	.65
Agreeableness (Ag)	2.40	4.90	3.87	.54		-.59	.20	.68
Conscientiousness (Con)	2.20	5.00	3.76	.53		-.18	-.21	.62
<i>Metacognitive awareness</i>								
Knowledge (MAK)	.41	1.00	.76	.15		-.46	-.72	.63
Regulation (MAR)	.34	1.00	.75	.14		-.38	-.27	.78
<i>Motivation</i>								
Intrinsic motivation (IM)	1.00	5.00	3.32	1.05		-.32	-.93	.93
Amotivation (Am)	1.00	3.67	1.44	.76		1.62	1.53	.83
Identified regulation (IdR)	1.75	4.75	3.88	.83		-.61	-.65	.62
Introjected regulation (InR)	1.00	5.00	2.60	1.08		.26	-.68	.72
External regulation (ER)	1.00	5.00	3.38	1.31		-.40	-1.04	.85
<i>Memory and reasoning competences</i>								
Memory (MC)	1.00	6.00	4.01	.94		-.41	-.01	.86
Reasoning (RC)	1.63	6.00	4.15	.79		-.21	.29	.82
Self-image								

Rozenberg self-image (RSI)	1.00	4.00	1.98	.67	.77	.16	.87
<i>Grades</i>							
Grade in foreign language	5	10	8.48	1.36	-.55	-.70	

Note: M – mean value; SD – Standard deviation; Sk – Skewness; Ku – Kurtosis.

3.14. Differences in motivation between academically gifted and other students

The results of t-tests for independent samples are shown in Table 3. Statistically significant differences were found for all types of motivation. Academically gifted students scored higher on internal motivation, identified and introjected regulation, while other students scored higher on emotional and external regulation.

Table 3: T-tests and differences between the academically gifted and other students

	t	P	gifted M	gifted SD	others M	others SD
IM	-10.28	.000	3.84	.84	2.95	1.03
Am	1.96	.050	1.36	.63	1.49	.83
IdR	-4.08	.000	4.05	.86	3.75	.78
InR	-2.37	.018	2.73	1.12	2.50	1.03
ER	3.53	.000	3.13	1.38	3.54	1.23

Note: M – mean value; SD – standard deviation

3.15. Relationships between personality traits and types of motivation

The regression analysis of personality traits as predictors and motivational types as criteria is presented in Table 4. For all types of motivation, personality traits were significant predictors. $F(10, 489) = 15.21, p.001, R^2 = .24$, indicating

that personality traits explained about 24% of the criterion variance. Agreeableness, metacognitive awareness-knowledge, reasoning competence, and Rosenberg's self-image were significant positive predictors, indicating that higher scores on these variables are associated with higher intrinsic motivation, while emotional stability was a negative predictor of intrinsic motivation. In the case of the amotivation scale, $F(10, 489) = 12.87, p < .000, R^2 = .20$, and explained about 20% of the criterion variance. Memory competence and intellect were significant negative predictors, while reasoning competence was a positive predictor. For identified regulation, $F(10, 489) = 6.47, p < .000, R^2 = .12$, predictors explained about 12% of criterion variance, with Intellect, Agreeableness, Metacognitive Awareness - reasoning (positive) and Conscientiousness (negative) being significant predictors. In the case of introjected regulation, $F(10, 489) = 3.60, p < .000, R^2 = 0.07$, predictors explained about 7% of the criterion variance. Significant negative predictors were Intellect and Conscientiousness, while Metacognitive awareness - knowledge was a positive predictor. The predictors explained about 7% of the variance in external regulation, $F(10, 489) = 3.58, p < .000, R^2 = 0.07$, with memory competence being a significant positive predictor, and agreement, metacognitive awareness - knowledge and reasoning competence being a significant negative predictor.

Table 4: Partial contributions of predictors in the explanation of motivation

	IM	Am	IdR	InR	ER
	β	β	β	β	β
Ex	.01	-.05	-.08	-.07	.05
EmS	-.16**	-.04	-.02	-.07	.07
Int	.04	-.17**	.11*	-.11*	.10
Ag	.21**	.01	.10*	.04	-.15**
Con	.02	.03	-.10*	-.18**	-.04
MAK	.21**	-.08	-.03	.14*	-.13*
MAR	-.03	-.05	.18**	.01	.08
MC	-.02	-.50**	.11	-.04	.27**

RC	.17**	.29**	.08	.10	-.21**
RSI	.32**	-.08	-.06	.04	-.07

Note: * - $p < .05$; ** - $p < .01$.

3.16. Relationships between personality traits, motivation and grades in L2

Multiple regression analysis with personality traits, metacognitive awareness, motivation, memory and reasoning competences, and self-image as predictors showed that these traits significantly predict grades in L2, $F(15, 484) = 13.83$, $p < .000$, $R^2 = .22$. Predictors explained about 22% of the variance of grades in L2. Extraversion, intrinsic motivation, identified regulation, and self-image were significant positive predictors (Table 5), indicating that higher scores on these variables are associated with a higher average grade in L2. On the other hand, emotional stability and conscientiousness were negative predictors of grade in L2.

Table 5: Partial contribution of predictors to grade in L2

	B	t	p
Ex	0.21	4.65	0.000
EmS	-0.12	-2.71	0.007
Int	0.04	0.88	0.377
Ag	0.03	0.65	0.515
Con	-0.10	-2.18	0.029
MAK	0.09	1.60	0.111
MAR	0.02	0.38	0.704
IM	0.12	2.27	0.024
Am	0.01	0.21	0.834
IdR	0.22	4.34	0.000

InR	0.02	0.35	0.730
ER	0.01	0.23	0.814
MC	-0.06	-0.94	0.346
RC	-0.04	-0.64	0.524
RSI	0.12	2.66	0.008

Table 6: Correlation between variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ex (1)	1	-0.00	.25*	.29*	.08	.17**	.09*	.11*	-.11**	.00	-.06	.01	.10*	.14*	-.08	.22**
EmS (2)		1	-.07	.04	.22*	.11**	.15**	-.18**	-.03	.02	-.08	.06	.12**	.16*	-.23*	-.19**
Int (3)			1	.20*	.31*	.29**	.27**	.16**	-.25**	.21**	-.10*	.07	.39**	.45*	-.18*	.10*
Ag (4)				1	.22*	.20**	.32**	.21**	-.08	.13**	-.01	-.10*	.05	.02	-.13*	.13**
Con (5)					1	.34**	.19**	.06	-.15**	.03	-.18**	.01	.34**	.23*	-.26*	.11*
MAK (6)						1	.54**	.24**	-.25**	.15**	.05	-.03	.45**	.41*	-.17*	.10*
MAR (7)							1	.15**	-.11**	.24**	.04	-.02	.15**	.32*	-.12*	.10*
IM (8)								1	-.26**	.40**	.23**	-.08	.12**	.17*	.25*	.30**

Am (9)									1	-	.24	-	-	-	.05	-
										.38	**	.18	.38	.18*		.11*
IdR (10)									1	.07	.28	.19	.22*	-.11*		.26**
											**	**	*			
InR (11)										1	.19	-.03	.01	.09*		.09*
											**					
ER (12)											1	.12	.02	-.10*		.03
												**				
MC (13)												1	.71*	-.26*		.03
													*	*		
RC (14)													1	-.18*		.01
														*		
RSI (15)														1		.16**
L2 Grade (16)																1

Note: * - $p < .05$; ** $p < .01$.

3.17. Moderation analysis, moderation between motivation and grades in L2 as a function of gender

A total of five moderation analyses were conducted, one for each type of motivation as a predictor. The addition of a moderating term to the model significantly improved the model for two types of motivation: intrinsic motivation ($F(1, 496) = 14.93, p = .001$) and identified regulation ($F(1, 496) = 4.93, p = .026$). In order to better interpret the moderation effect, significant interaction effects are presented in charts. Moderation between intrinsic motivation and gender is shown in Chart 1. Male respondents have a similar grade in L2 regardless of the level of intrinsic motivation. On the other hand, regarding female respondents, an increase in L2 grades is associated with higher scores on intrinsic motivation. Moderation between identified regulation and gender is shown in Chart 2. Both male and female respondents

have lower L2 grades at lower levels of identified regulation. When compared to male respondents, the grade in L2 goes up significantly when the level of motivation goes up.

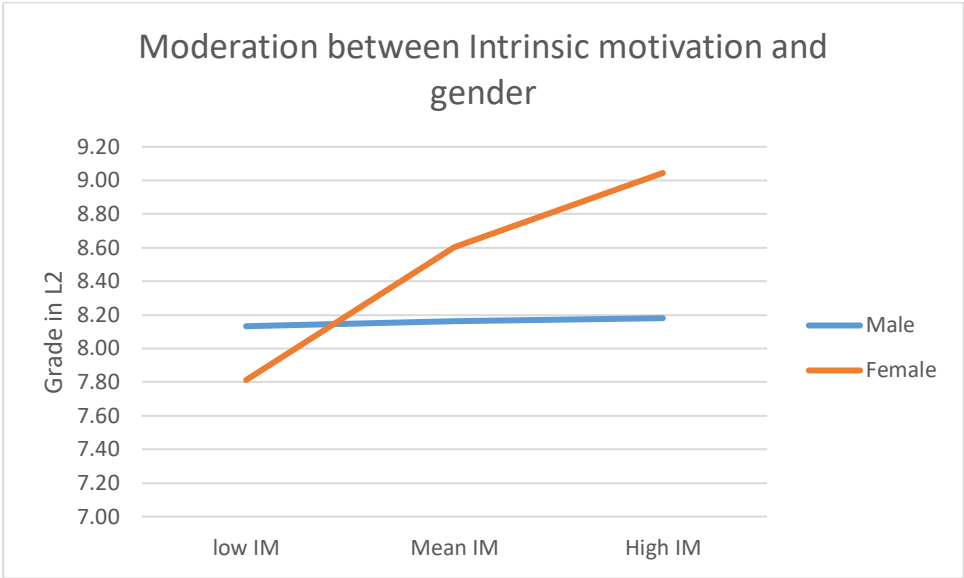


Chart 1: Moderation between intrinsic motivation and gender

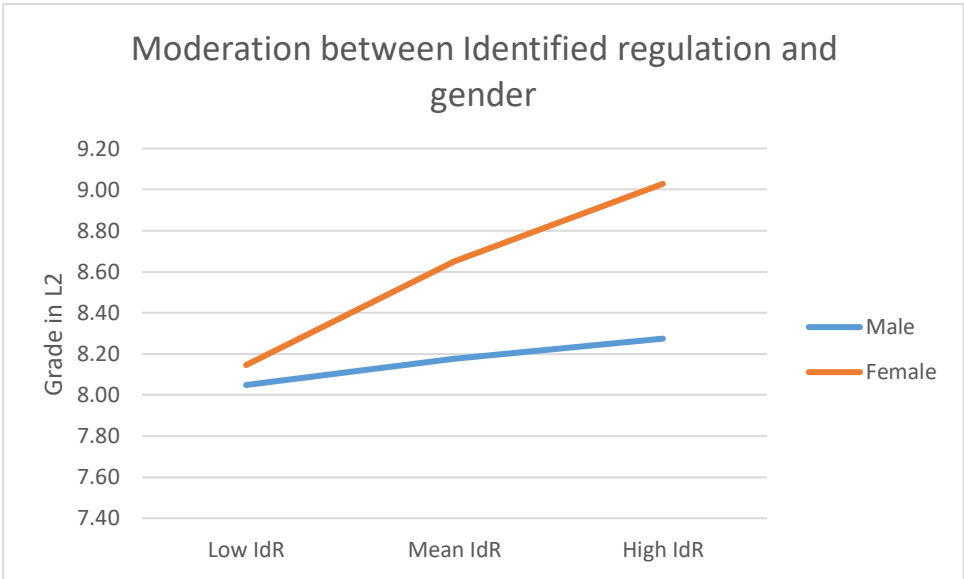


Chart 2: Moderation between identified regulation and gender

3.18. Interpretation of findings

The fact that Velitzer's MAP analysis found five components indicates that the motivational continuum did not extend to seven levels, as found in other research (Ramos & Habig, 2019; Šarčević, 2015). This disproves part of the first

hypothesis, which refers to the assumption of the seven-factor model. It is significant that these five components were able to explain 73.18% of the motivation space at such a high percentage. It is also significant that the component of external regulation consisted of only two items that originally belonged to the subscale of external regulation, so this name was retained. Thus, extrinsic motivation is a subtype, but all scales of intrinsic motivation now form one subtype, a combined component, which reduces the number of motivational scales on the continuum from seven to five: internal regulation, amotivation, identified regulation, and extrinsic motivation. Thus, subscales of internal motivation are combined into a single component, which is different from the original taxonomy (Šarčević, 2015; Deci & Ryan, 2000).

Multiple regression analysis with personality traits, metacognitive awareness, motivation, memory and reasoning competence, and self-image as predictors showed that these traits significantly predicted grades in L2. The predictors explained about 22% of the variance in the L2 grade. Significant positive predictors were extraversion, intrinsic motivation, identified regulation, and self-image, indicating that higher scores on these variables are associated with higher average L2 grades. On the other hand, emotional stability and conscientiousness were bad predictors of the L2 grade, which partly confirmed the second and third hypotheses about how important personality traits are for self-regulation and success in learning a foreign language.

The previous statements cast doubt on the seven-factor model of motivation in the field of second language learning. This is because it doesn't support part of the general hypothesis and part of the first working hypothesis, which said that the seven-factor model would show up. This gives the impression that the five-factor model is enough, which is something that other researchers have also found (Ramos & Habig, 2019).

Differences in motivation between academically gifted and other students were one of the questions observed in the research as part of the first hypothesis. Results of t-tests for independent samples indicate statistically significant differences, which were found for all types of motivation. It is important to note that academically gifted students scored higher on internal motivation, identified and introjected regulation, while other students scored higher on emotional stability and external regulation. Thus, the pronounced

difference in favour of academically gifted students was manifested in intrinsic types of motivation and had a statistically significant influence on success in the L2 test. This confirmed the second part of the first hypothesis, which assumed a statistical difference in intrinsic motivation among the gifted, which is in line with the findings of other researchers. However, the question related to the number or subtypes of internal motivation that did not manifest but were combined into a single type remains. This could be interesting for new research designs that would focus more thoroughly on the nuances of intrinsic motivation or its subspecies or types and whether this is characteristic of gifted students or other students as well.

Findings from the regression analysis of personality traits as predictors and motivational types state that personality traits were significant predictors for all types of motivation. For intrinsic motivation, personality traits explained about 24% of the criterion variance. Significant positive predictors were agreeableness, metacognitive awareness-knowledge, reasoning competence, and Rosenberg's self-image, indicating that higher scores on these variables are associated with higher internal motivation, while emotional stability was a negative predictor of internal motivation. In the case of the amotivation scale, the predictors explained about 20% of the criterion variance. Significant negative predictors were memory competence and intellect, while reasoning competence was a positive predictor. For identified regulation, the predictors explained about 12% of the criterion variance, with Intellect, agreeableness, Metacognitive Awareness - Inference (positive) and Conscientiousness (negative) being the significant predictors. In the case of introjected regulation, predictors explained about 7% of the criterion variance, with Intellect and Conscientiousness being significant negative predictors, while Meta-cognitive awareness - knowledge was a positive predictor. Predictors explained about 7% of the variance in external regulation, with a significant positive predictor being memory competence, and agreement, metacognitive awareness - knowledge, and reasoning competence being significant negative predictors. It could be concluded here that these findings confirm the second hypothesis because metacognition and other variables (personality traits, self-confidence, memory and reasoning competencies) are in significant correlation with motivation, and their mutual relationship is also correlative. This explains the obtained percentage of variance, which is apparently not high (49% in total), but it indicates that the observed variables explain almost half of the total

effects on the success of surveyed students. Also, as they clearly refer to the internal sphere of self-regulation and its relationship with the observed variables, it could be concluded that self-regulation of gifted students in L2 learning can be reliably assessed and thus encouraged based on the predictive values of variables in this complex construct, because the part that refers to external factors, which were not observed in this research, remains and can play a significant role in self-regulation. This confirms the second hypothesis related to the significant relationship between metacognition and other variables (personality traits, self-confidence, memory and reasoning competencies) with motivations and their mutual correlative relationship with a high percentage of variance. This confirms the general assumption and purpose of this research, which refers to the fact that more variables better explain self-regulation and create a basis for a holistic approach to understanding its construct, which is further important for teaching practice as a guide for understanding the complexity of the needs of gifted students. An analysis of the relationship between intrinsic motivation, which proved to be a significant predictive variable, and gender helps to detect significant interaction effects, which is part of the second hypothesis. The finding of the influence of the observed variables on success in L2 with equal manifestation can be taken as a confirmation of the same, as can the next one that confirms the high correlation between motivation and the grade in L2, which gives a clearer picture of the importance of internal motivation for the results of L2 learning. Other researchers have similar findings (Crnjak, 2019; Jandrić et al., 2018).

3.19. Conclusions

Meta-cognition and other variables (personality traits, self-confidence, memory, and reasoning competencies) have a significant correlative relationship with motivation, and their mutual relationship is also correlative with explaining the high percentage of variance.

The influence of the observed variables on success in L2 is equally manifested.

The high percentage of explanation of variance speaks in favour of the self-regulation model conceived in this way and its importance, i.e., its predictive

contribution to the model and its influence on success in L2. So, it could be argued that more variables allow for a more complete look at the phenomenon and more effective ways to teach the gifted in ways that are more tailored to them.

The fact that the analysis found five components instead of seven, as is the case in other studies, as well as that these five components could explain 73.18% of the motivational space, requires further examination of this construct. This happened because the component of external regulation consisted of only two items that originally belonged to the subscale of external regulation. This leads to the conclusion that extrinsic motivation, i.e. its subtype, and all scales of internal motivation now form a single, combined component, which reduces the number of motivational scales on the continuum from seven to five: internal regulation, amotivation, identified regulation, and extrinsic motivation. So, the subscales of internal motivation are combined into a single component, which is different from the original taxonomy.

Findings from the regression analysis of personality traits as predictors and motivational types conclude that personality traits are significant predictors for all types of motivation.

As shown by a high percentage of explained variance, metacognition and other variables (personality traits, self-confidence, memory and reasoning competencies) are positively correlated with motivation, and their mutual contribution is significant. The observed factors in this model add to the complexity of self-regulation and help show how their interactions can be used to make predictions.

3.20. Pedagogical implications

The only thing that could be added to the above is that teachers need to get to know as wide a range of variables as possible, which have a motivating effect on students and thus ensure success in L2 learning. This especially applies to gifted students, who, as seen in this research, have a very pronounced intrinsic motivation, which ensures their success in L2 learning. However, it is the responsibility of the teacher to maintain it throughout the entire learning process because, due to the complexity of the phenomenon of self-regulation, it does not take much for motivational mood and persistence in L2 learning to

escape. In addition to the significant correlations between personality traits, motivation and grade in L2, especially important is identified regulation in L2 learning, which is closely related to instrumental regulation, which supports the statement that instrumental orientation should be kept in mind in L2 learning, as studies (Dörnyei & Ushioda, 2011; Gojkov-Rajić et al., 2021b) indicated the need for a more pragmatic education, a more focused approach, studying reality in the classroom and identifying motivations for learning in the class.

4. RECEPTION ANXIETY IN L2 LEARNING

The phenomenon of receptive language anxiety; Reception anxiety in L2 learning as a cause of information processing problems (Rost, 2001); importance of affective, cognitive and behavioral components for the level of language anxiety when receiving a message; role of the level of tolerance in receiving new and complex information in a foreign language in the manifestation of reception anxiety in a foreign language; sources of reception anxiety in gifted students: personality traits, language skills (clarity of speech, speed of speech, inappropriate use of language strategies and mismatch in levels of communicative competence between the receiver and sender of the message); year of study and gender.

4.1. Challenges of anxiety in adequate expression in a foreign language

Learning a foreign language has proven to be a necessity in the time of globalization and with it the search for ways to make it easier and effective with as few difficulties as possible. Research has shown that a large number of people who learn a foreign language, regardless of age, have problems with language anxiety (Petrović, 2011). Students, even though they have been learning a foreign language for a long time, also encounter the challenge of anxiety, i.e. difficulties in adequately expressing themselves in a foreign language, which affects their attitude towards L2 learning, and then certainly also their efficacy in mastering it (Suzić, 2015). Studies also conclude that causes of anxiety are already well known, reviewed and explained in journals, but there are still a lot of open questions, especially in searching for a holistic approach, which would better explain the influence of individual factors. In addition, anxiety is not viewed equally thoroughly in all its aspects, and there is room for viewing it from multiple angles.

The issue of students' reception anxiety, as one of the anxieties in language skills, has been studied a lot. However, there are also several open questions in this area, such as: is reception anxiety in L2 learning caused by problems in information processing (Rost, 2001); the importance of affective, cognitive and

behavioral components for the level of language anxiety when receiving a message; the role of the level of tolerance in receiving new and complex information in a foreign language for the manifestation of reception anxiety in L2 learning, which exhausts the room for processing information received in a foreign language, etc. One of the important questions, which is also in the focus of this research, refers to the problem of reception anxiety, as a factor in learning and teaching L2. This problem manifests in a large number of academically gifted students (Petrović, 2011; Gojkov-Rajić, 2020), and there is a need for taking a closer look at it in the group of gifted students.

4.2. Anxiety as a component of the affective domain in L2 learning

In research findings, anxiety as an emotional component of personality was found to be a significant factor in L2 learning (Brown, 2007), meaning that emotions can be an incentive for learning if they are positive and vice versa, because they reduce the brain's capacity for understanding, perceiving the meaning and remembering. This is confirmed by findings of neurological studies, which concluded that analytical thinking is influenced by emotions. Thus, for example, depression, anger, worry, fear and other negative emotions cause frustration, interfere with concentration, etc., which reflect on learning (Petrović, 2011). Important are the conclusions of numerous researches in the field of L2 learning and teaching (MacIntyre et al. 2002), saying that it should be borne in mind that learning is not viewed only as a mental function, because of the present influence of emotions, and that the brain prioritizes all emotionally driven information (Suzić, 2015). Thus, the affective domain, or emotional states, is considered important for the perception and production of those who learn a foreign language, and such emotions can create the so-called affective filter for learning a foreign language.

The affective filter is conceptually defined as an obstacle that prevents the learner from acquiring language from an available source (Lightbown & Spada, 1999). This is considered a theoretical position in the acquisition of a foreign language, which tries to explain the emotional variables important for success or failure in mastering it. Stronger affective filters are not always clearly manifested psychological filters that, as previously stated, have a significant function, because they can help or hinder efforts to acquire a

foreign language. Research findings (Krashen, 1985) suggest that strong affective filters such as stress, nervousness, anxiety and lack of self-confidence inhibit learning processes, as well as that less expressed affective filters, as components of self-regulation of learning, help to create a sense of security, self-efficacy, which is an important factor of motivation of self-confidence and leads to better L2 learning efficacy. Based on this, it has been concluded that it is important to create a context in which L2 learning takes place, because it can adapt the interactions in the group in which the individual learns a foreign language, as well as with the teacher with whom he adopts the learning process, to help and keep up with his language abilities (Gardner et al. 1997; Gardner & MacIntyre, 1993), motivation and level of mastery, components of self-regulation of learning that the individual possesses, and personality traits. These are all significant factors that must be taken into account in L2 learning and the sense of security created by the situation when learning a foreign language (Safranjanj & Zivlak, 2019; Gojkov-Rajić, 2020). It is important to keep in mind the possibility of eliminating situations that create anxiety and restlessness in which students sense fear or discomfort from engaging in a dialogue or from negative reactions of the group, or teacher criticism, thus it is necessary to avoid situations that favor the creation of affectively weak filters.

Krashen (1982) in his observation of the affective side of personality and its importance for L2 learning emphasizes the role of understandable input and a sufficiently weak affective filter that allows the input to pass through. According to him, affective factors are motivation, attitudes, self-confidence and anxiety. Stronger affective filters prevent the input from reaching the innate language acquisition mechanism, and weaker filters allow the input to pass through, i.e. the innate mechanism to manifest. With this, the affective filter is at the basis of individual differences in L2 learning, which is not the case in the acquisition of the mother tongue, because in that situation the affective filter does not appear. Krashen (1985) also believes that there are four basic affective factors important for L2 learning, and he considers these responsible for individual differences and tendencies toward L2 learning among students: motivation, attitudes, self-confidence and language anxiety.

4.3. Motivation as a basis for the initiation of language abilities and reception anxiety

It is important to note that there is agreement about the concept of motivation, which is seen as the basis for initiating language abilities and directing the personality to achieve the set goals. For L2 learning, it is defined as the level, that an individual strives to reach by learning a language because of the desire to do so and the satisfaction he gets from performing that activity (Gardner, 1985, 2007). This is also the basis of newer understandings of the concept of self-regulation of the learning process, and goals, motivation and affects are considered important factors in self-regulation models of learning and behavior (Mischei et al. 1996; Pintrich, 2003, 2004; Lončarić, 2014). Newer studies (Carver, 2004) are based on the understanding of self-regulation as a process of self-control, or self-monitoring of the own progress in achieving a goal, in the sense of reaching the set standards from the point of view of personality. This helps to choose ways of self-regulation that match the situation, but also the individual's personality as the factor of personalization of didactic procedures. From the aspect of personality, when it comes to L2 learning and teaching, significant attention is devoted to anxiety, which is considered an important factor for the success of self-regulation, because it is associated, along with the importance of beliefs about self-efficacy, with setting the level and type of goals, as well as to their influence on the formation of standards of achievement and strategies for reaching them, which is the basis of initiating the personality towards the achievement of goals in the field of a foreign language (Cervone, 2004; Luszczynska & Schwarzer, 2005). This implies reciprocity between personal factors in the form of cognitive, affective and biological characteristics, individual behavior and the influence of social-contextual factors. One of the important points is the individual's reception of reality, which in L2 learning also includes issues of reception anxiety and is part of the level of motivation, emotions and behavior that the student undertakes, and therefore it affects what he believes, rather than what is the reality. Reception anxiety is thus a part of the structure of the person's self-determination, important for the acquisition of language competence, as part of problem-solving skills, coping with the demands of the environment; beliefs and expectations; goals and standards of behavior in relation to which we evaluate our own behavior. As such, reception anxiety in the field of L2 learning is seen as an element of self-regulation important for the sense of self-

efficacy, which the social cognitive theory (Bandura, 1986, 1991a) considers the core mechanism of human action. In that sense, from the aspect of the title of this paper, it represents a significant point when performing a behavior that is aimed at achieving the desired goal of acquiring a foreign language. Motivation for the acquisition of a foreign language is considered to develop gradually through the action of factors of socialization such as modeling, communication, expectations and direct instructions from the teacher (Bojović, 2017). When it comes to L2 learning, it is also important to note that since motivation is not a single entity, but includes effort, self-efficacy, self-regulation, interest, control, goal orientation and disposition towards learning, therefore reception anxiety can be a disruptive factor not only for L2 learning, but also for the overall sense of self-confidence, self-efficacy, creating a sense stress and success in self-regulation in general (Bojović, 2017).

Based on the above, it can be concluded that Bandura's (Bandura, 1977) social cognitive theory, which attaches importance to the relationship between motivation and cognition, with special emphasis on the importance of didactic strategies and instructions, as factors of self-regulation of academic achievements for understanding the self-confidence of gifted people in learning a foreign language, and in within this framework, self-confidence as a component of self-regulation of learning and behavior, which as such makes it a theoretical basis in the observation of affective factors in overcoming foreign language, and thus reception anxiety, can be accepted.

Self-confidence is also considered one of the most important affective factors that can play a decisive role in the process of language acquisition, and thus, this is an internal factor that significantly contributes to the success in L2 learning (Casado & Dereshiswsky, 2004). Self-confidence as an internal factor is said to be one of the personality factors present during every cognitive or affective activity related to the process of acquiring and learning L2 (Suzić, 2015). In addition to the above, for issues of language anxiety, as well as for overall achievements in this area, besides the internal factors, external factors are also important, as they can help in reaching achievement, i.e. self-realization, which results in self-confidence. Contrary to this, people who do not achieve success in L2 learning, find it more difficult to acquire new vocabulary and constructions, they usually lack self-confidence, which makes the learning process difficult (Heyde, 1977). This further leads to a vicious

circle, as consequences of this are failure in learning, failure in the group and, as a consequence, a drop in the level of self-perception occurs. Findings (Reasoner, 1992) speak in favor of the previous conclusions, so that individuals with positive self-perception and self-confidence have a higher sense of security in the group than students with low levels of self-confidence. They have a realistic image of themselves and manage to recognize their strengths, but also their weaknesses. They assess their abilities based on the feedback they receive from peers, teachers, and parents, and not based on what they would like to think about themselves. These people usually have a wider circle of friends and acquaintances, easily make new friends and get along with most of their peers in the group. They often assert themselves as leaders, because they are not ashamed to speak publicly and are always willing to help others (Suzić, 2015).

In contrast, people with low levels of self-confidence have only a few friends, and have a strong defense mechanism that helps them hide their insecurity from others. Such individuals are not ready to cooperate, do not participate willingly in the execution of tasks and tend to blame others if something does not go according to the plan. They are trapped in a personal perception of themselves as an unsuccessful person, unable to meet the expectations of others, and therefore consider themselves unworthy and unlovable (Bandura, 1977). From the aspect of self-confidence, L2 learning is a specific subject, because it has been proven that compared to other subjects taught at the school, the level of anxiety among students in foreign language classes is extremely high (Arnold, 1999), which highly affects the level of self-confidence. Students with a lower level of self-confidence are unsure of themselves, and socially distant, which means that in L2 classes they will avoid situations in which they are required to express themselves in a foreign language, which is in turn necessary for the acquisition of communicative competence. These situations additionally contribute to the development of insecurity among students, which highly affects their self-confidence.

4.4. Foreign language speaking anxiety - a research review

In the previous paragraph, the importance of security or confidence that a person should have in his ability to express himself in a foreign language was highlighted. In addition, it is also worth mentioning that the focus should be further directed towards significant features of the context that can reduce anxiety factors and thus facilitate learning in the classroom, because on that occasion one communicates in a foreign language, and communication experiences gained during classes are crucial in the formation of the student's attitude towards the foreign language and its use (Horwitz et al. 1986). The influence of L2 learning on communication anxiety has been known for decades. Research has identified the following as the main reasons for communication anxiety in a foreign language: excessive emphasis on grammar and grammatical structure, lack of authentic speaking exercises, frontal way of working and interaction between teacher and student in the form of asking questions and giving answers (Suzić, 2015). Thus, learning grammatical rules and structures is considered to be in the core L2 classes, rather than improving verbal skills. Therefore, students strive to speak by avoiding mistakes (Suzić, 2015), and those who have not sufficiently mastered these requirements have this as a serious obstacle, which creates discomfort or anxiety for them. Other researchers, such as Salo-Lee (1991), conclude that these are unrealistic requirements when it comes to the oral interpretation of a foreign language: they evaluate oral expression but following the norms for written expression in a foreign language, although those norms vary greatly (Harjanne & Tella, 2009). Thus, feedback that is directed towards the deviation from the right grammatical form means that the student should speak grammatically completely correctly, which is equal to perfect. For these researchers, this is enough to conclude that in L2 classes, a false model of spoken language is often created among students, which, along with personality traits, creates a difficult context for learning a foreign language and conditions for the appearance of language anxiety. In addition to the above, the causes for the occurrence of language anxiety are numerous, and it is possible to look at them from several angles. One of them is reception anxiety, which is considered a frequent manifestation of language anxiety, and according to many studies, it can be classified as the most common form of language anxiety (Bojović, 1917).

If we start from research findings that language anxiety is one of the most important emotions affecting the process of L2 learning and that in a certain way, it represents a reaction to what many students perceive as a threat to their sense of security or self-confidence, then it is not difficult to understand the claims that L2 learning often represents a traumatic experience for many students, and the number of those who declare that they feel some kind of anxiety when expressing themselves in a foreign language is increasing every day. Thus, it is obvious why language anxiety is considered one of the most compelling areas of interest of contemporary applied linguists and psychologists, who define it as a subjective sense of tension, fear, nervousness and concern that manifests when learning a foreign language, as a unique type of language learning and use, and language anxiety is inherent to that experience (Horwitz & Young, 1991; Safranjanj & Zivlak, 2019). Language anxiety is most often defined as an intense, short-term state of uneasiness that is accompanied by great tension, as an unpleasant, often unclear feeling of anxiety, associated with one or more bodily experiences (palpitations, rapid breathing, headache, or nausea...) (Popović-Babić, et al. 2007, according to: Suzić, 2013). In her studies, Von Wörde (1998) found that almost half of respondents feel some kind of anxiety when learning a foreign language: fear of a low grade, or indirect threat, facing failure in mastering a foreign language, a sense of inadequacy, loss of self-confidence (Mihaljević-Đigunović, 2005). The same findings are also provided by other authors (Horwitz et al. 1986). According to these authors, language anxiety is a type of anxiety related to a specific situation, emphasizing that language anxiety is largely dependent on other types of anxiety, because students are in a situation, as Littlewood (1984) observes, that they use a foreign language in a group in a foreign language class where they are expected to pronounce sounds they have yet not mastered adequately in front of their colleagues, which creates a sense of helplessness. If they are not successful in doing this, they are exposed to comments and corrections, sometimes for reasons that are not entirely clear to them, because most students have not mastered the pronunciation or lack linguistic means for expressing their personality, the style in which they usually communicate, etc. Also important is the fact that usually there are not enough opportunities to master all of this in foreign language classes, because the interactions are led by the teacher. In addition to the above-mentioned sources of anxiety, meta-research can also be

encountered in studies on this topic. Thus, Young (1991) classified the findings of research into sources of anxiety into the following groups:

- personal and interpersonal anxiety;
- students' beliefs about learning a foreign language;
- teachers' beliefs about the way of teaching a foreign language;
- teacher-student relationship;
- classroom procedures;
- way of checking knowledge.

Personal and interpersonal anxiety are closely related to self-confidence and competitive spirit, and are more often noticeable in people with poor foreign language skills. Leary (1982) notes that the terms "public speaking anxiety," "speech anxiety," and "communication anxiety" are commonly used to describe the social anxiety experienced by people speaking in front of others. Students' beliefs about L2 learning also play a significant role in the emergence of language anxiety. Sometimes, even though they speak grammatically incorrectly, students believe that they speak correctly and fluently, which gives them a sense of self-confidence. On the other hand, some students are convinced that they do not have an ear for the language and that even with the greatest effort, they will not be able to master it. This acts defensively and contributes to creating anxiety when communicating in a foreign language.

The teacher's beliefs about the way to teach a foreign language can also contribute to creating a sense of language anxiety, especially if the teacher has an authoritative attitude aimed at correcting every student's mistake to improve the general knowledge of the foreign language (Ibidem). Thus, Young finds that constant error correction can cause significant language anxiety, but he notes that error correction is nevertheless desirable to some extent. The appearance of anxiety is also caused by the use of a foreign language in front of peers.

The method of testing L2 knowledge is one of the frequent causes of language anxiety. Young cites that Madsen et al. (Madsen et al., 1991) came to the conclusion that many students are sensitive to L2 tests, especially if the testing method deviates from the content covered in the class or from the way exercises were performed.

The findings of von Wörde (von Wörde, 2003) are interesting for the topic of this paper, which highlights the following causes of language anxiety:

- inability to understand,
- negative experiences in the classroom,
- pedagogical practice,
- error correction, and
- native speakers.

In anxiety caused by the *inability to understand*, a sense of anxiety occurs when students do not understand what the teacher says or asks them, when the teacher speaks too fast for them to understand, or when the teacher does not use the mother tongue at all in the L2 class. Difficulties in understanding also occur when using video and audio material in a foreign language. In addition, negative experiences in the classroom cause anxiety during speaking exercises in the group. Fear of peer and teacher opinions is also present, even when the student is prepared to speak. Speaking in front of others is usually uncomfortable in some situations, and when it comes to a foreign language, it certainly manifests more strongly in students. The problem is also the fast coverage of content due to the volume of the curriculum, and there is a lack of time for practice. Correction of mistakes in public causes a drop in concentration for some, increasing concern, which is also the case with anxiety in learning with a native speaker (von Wörde, 2003).

Also important for the topic of this paper are the findings that look at language skills, such as listening, reading, writing and speaking, which were subjects of many studies with the aim of explaining language anxiety, because in this way the elements of L2 learning are approached more directly. Therefore, one of the important aspects in looking at anxiety is the position of the recipient of the message, that is, the person learning a foreign language. In this sense, findings of research dealing with issues of language anxiety are significant, given that it is a very specific phenomenon related to both learning and the way of teaching L2, and is especially noticeable in skills of listening, reading, writing, speaking, as well as learning vocabulary.

4.5. Reception anxiety - ways of manifestation and approaches in observation

Anxiety when listening in a foreign language has been confirmed in research as the so-called reception anxiety. Wheelless (Wheelless, 1975) defines it as "fear of misunderstanding, inadequate understanding and/or inability to psychologically adapt to other's needs", which most often occurs when expecting and receiving an oral message. Some authors find that the cause of listening anxiety is not clearly established, and the question arises of whether anxiety causes problems in information processing or it is a consequence of unsuccessful information processing (Swain, 1995; Rost, 2001). However, Vogely (1999: 107) suggests the following as sources of listening anxiety:

- manner of speaking (clarity of pronunciation, speed of speech),
- inappropriate use of language strategies,
- fear of failure, and
- mismatch in the levels of communicative competence between the recipient and the sender of the message.

Wheeles (1975) warns of an interesting relation between reception anxiety and the recipient's education. He believes that there is a possibility that reception anxiety is related to developmental processes, and anxiety therefore decreases as people become more proficient in communicating in L2, or decreases with the development of cognitive abilities that are a consequence of education. The same author (Wheelless, 1975: 302-308) suggests that reception anxiety can manifest in different situations and therefore have different observation approaches:

- Situational anxiety when encountering new information;
- As an integral part of the reaction to anxiety during information processing. This is explained by the fact that the recipient of a message with a high level of reception anxiety often has an excess of accumulated unassimilated information;
- Reception anxiety occurs in people who do not have enough prior knowledge to process information, thinking that they will inadequately understand or misinterpret the message.

For this author, the affective, cognitive and behavioral components when receiving a message are important and believes that people with a high level of language anxiety, when receiving a message, have a reduced level of tolerance, especially when it comes to new and complex information. People

who receive a message and feel anxious about the new information may react emotionally by withdrawing into themselves. After that, reactions on the cognitive and behavioral level most often occur. Therefore, people with pronounced reception anxiety spend most of their cognitive capacity on anxiety, leaving little room for processing the received information. This is a phenomenon that should also be viewed from the aspect of personality traits because some of the characteristics overlap with the traits that we recognize in neuroticism as a personality trait.

After reviewing the research findings, it is clear that the issue of student reception anxiety, as one of the anxieties in language skills has been well researched, but it also presents many challenges for researchers. There are numerous open questions posed by Rost (2001). Some of them were previously placed in the context of reception anxiety, such as: is reception anxiety in L2 caused by problems in information processing; what is the importance of affective, cognitive and behavioral components for the level of language anxiety when receiving a message; what is the role of the level of tolerance in receiving new and complex information in L2 in the manifestation of L2 reception anxiety, which exhausts the room for processing received information in a foreign language? This can lead to a negative experience in the field of listening L2, after which reception anxiety occurs in future listening experiences.

The incentive of these and other issues, i.e. inconsistency of research findings in the field of anxiety in the skill of L2 learning and teaching, directed this study towards the search for an answer to the following question: what are the sources of reception anxiety in academically gifted students?

Based on the theoretical context and research findings on the phenomenon of receptive language anxiety, it was assumed that sources of receptive anxiety in gifted students can be found in *personality traits, language skills (clarity of pronunciation, speed of speech, inappropriate use of language strategies and mismatch in levels of communicative competence between the recipient and the sender of the message); year of study and gender.*

The working hypotheses refer to the following:

- Academically gifted students perceive language skills (*clarity of pronunciation, speed of speech, inappropriate use of language strategies and mismatch in levels of communicative competence between the receiver and the sender of the message*) as sources of reception anxiety;
- Reception anxiety in academically gifted students is caused by ways of attributing success and failure and coping with failure;
- Success in learning a foreign language is dependent on reception anxiety;
- Personality traits are correlated with reception anxiety;
- Gender and years of study are not correlated with language anxiety.

4.6. Method

The research is exploratory and quantitative in nature. It was conducted by using the method of systematic non-experimental observation on a convenience sample of 327 first-year students of the University of Belgrade and Novi Sad, of which 122 were academically gifted, that is, with an average grade above 9.00. Receptive anxiety was measured using a Likert-type scale (FLLAS (Foreign Language Listening Anxiety Scale; Rost & Ross, 1991). The translation was taken from Suzić (2015), *which observed the causes of listening anxiety: clarity of pronunciation, speed of speech, inappropriate use of language strategy, fear of failure and mismatch in the levels of communicative competence between the receiver and the sender of the message*. Scale reliability expressed by Cronbach's alpha was 0.87.

One of the observation factors is the student's personality structure, and the BFIIV personality test was used as an instrument. From *Table 1: Reliability statistics – BFIIV*, it can be seen that the reliability of subscales related to personality traits is acceptable, and the scale can be considered reliable.

Table 1: Reliability statistics - BFIIV

Extraversion	Cronbach alpha .595	Cronbach alpha based on standardized items: .565	Number of items: 10
Emotional stability	Cronbach alpha .570	Cronbach alpha based on standardized items: .623	Number of items: 10

Intellect	Cronbach alpha .542	Cronbach alpha based on standardized items: .550	Number of items: 10
Agreeableness	Cronbach alpha .680	Cronbach alpha based on standardized items: .689	Number of items: 10
Conscientiousness	Cronbach alpha .619	Cronbach alpha based on standardized items: .629	Number of items: 10

Test anxiety and coping with failure, as components of self-regulation, were examined using a battery of components of self-regulation of learning of the Likert type (KSU-ten subscales), whose reliability coefficient, expressed by Cronbach's alpha, was 0.84. The factor structure of the scales as defined in the literature was confirmed. Individual Cronbach's coefficients are also adequate and can be seen in the following scale:

Table 2: Reliability statistics – components of learning self-regulation

Motivational strategy scale	Cronbach alpha .595	Cronbach alpha based on standardized items: .565	Number of items: 10
Failure attribution scale	Cronbach alpha .542	Cronbach alpha based on standardized items: .550	Number of items: 10
Test anxiety scale	Cronbach alpha .888	Cronbach alpha based on standardized items: .887	Number of items: 8
Failure coping scale	Cronbach alpha .824	Cronbach alpha based on standardized items: .819	Number of items: 26

The sample was convenience, consisting of 327 students of the Faculty of Teacher Education, University of Belgrade, of which 122 were academically gifted, with average success in studies above 9.00 (*Chart 1: Number of students by years of study*). Gender, year of study and personality traits were the predictive variables, with components of self-regulation (metacognitive

strategies; attribution style...) and academic success (average grade in studies) being the criterion variables.

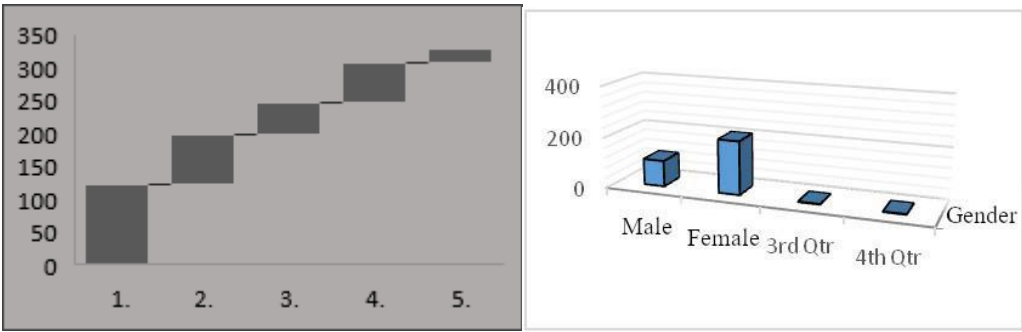


Chart 1: Sample structure as a function of the year of study

Chart 2: Sample structure as a function of gender



Chart 3: Sample structure as a function of academic giftedness

Predictor variables: *personality traits, clarity of pronunciation, speed of speech, inappropriate use of language strategies and mismatch in levels of communicative competence between the receiver and the sender of the message, year of study, gender.*
 Criterion variables: *reception anxiety, success in L2.*

4.7. Findings and Interpretation

First in the presentation of findings, the data, which test the assumption that observes the relationship between the components of self-regulation of learning and success in L2 are provided, and in this sense, the correlation between these two variables was checked. From Table 1, which follows, it can

be seen that the components of self-regulation of learning, which refer to the attribution of failure, are in a significant correlation with the attribution of success in L2. Thus, it could be said that this finding is in agreement with the findings of other researchers (Jurčević-Lozančić, 2014) which in the theory of attribution find another theoretical framework that searches for the causes that people use in a certain situation of success or failure. Here, only elements of self-regulation in the field of attribution, which relate to the defense against failure were observed, because even this theory (Ibidem) suggests that people explain achievements, i.e. behaviors aimed at reaching a certain goal, while trying to discover and interpret the causes of their successes or failure, and the attribution process itself takes place in stages (Koestner et al. 1992; Moore & Kearsley, 2011): *observing the behavior, determining it as intentional, and attributing it to internal or external causes*. As can be seen from the following table, only three aspects of attribution were selected: *attribution of failure, test anxiety and coping with failure*, because in previous research (Gojkov, 2020) they were shown to be good predictors of success, which was also proven in this situation. Therefore, it could be concluded that in academically gifted students, attributive motivational aspects were confirmed as good self-regulatory strategies. This confirms the first assumption on the correlation between self-regulatory learning strategies and success in L2. Thus, it could be said that the better the students perceived the causes of failure and the more stable their locus of control was, the more the choice, persistence, level of effort, expectation of success and self-efficacy were in a function of the choice of strategies for self-regulation of learning, persistence and achievement.

Table 1: Correlation between language anxiety, components of learning self-regulation and average grade of success of gifted students

<i>Components of learning self-regulation</i>	<i>Success in L2</i>
Failure attribution scale	.477**
Test anxiety scale	.419**
Failure coping scale	.450**
<i>Clarity of pronouncing</i>	.397**
<i>Speaking rate</i>	.210?

<i>Inappropriate use of language strategies and discrepancy in the levels of communication competences between the sender and the receiver of the message</i>	.410**
*. Significant correlation at the level of 0.05 (2-tailed).	
** . Significant correlation at the level of 0.01 (2-tailed).	

In accordance with the previous finding, the following findings are also given in Chart 1 that follows. The data point to the fact that self-regulation is present as one of the success factors of gifted students. This confirmed also the second hypothesis, which refers to the assumption that *academically gifted students are coping better with test anxiety, failure and attribution of failure than other students.*

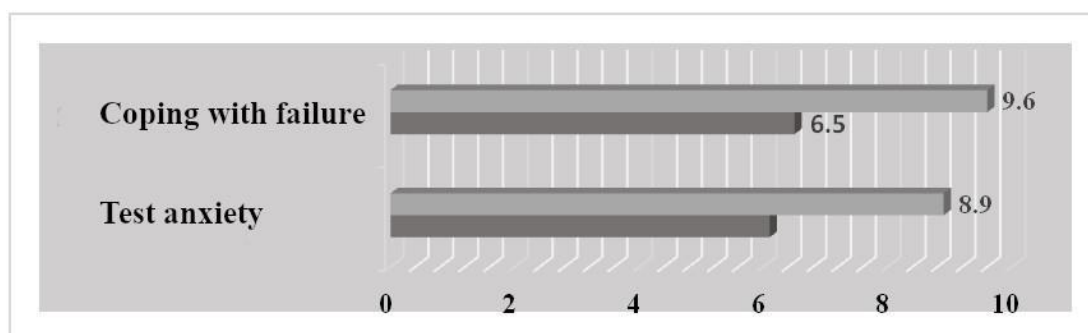


Chart 1: Differences in the relation between components of self-regulation and success of academically gifted and other students

Therefore, it can be concluded that the success of academically gifted students is related to self-regulatory learning strategies. In this case, this is directly related to the attribution mechanisms of regulation, which they obviously master better than other students, and to which, among other things, success in achievements is attributed, which again confirms the above hypotheses.

The third assumption tests the relationship between language skills and attribution components of self-regulation of learning. The analysis leads to the conclusion that, as can be seen in Table 2, all three listed language skills, which are mentioned as the most frequently encountered, manifested in this research as significant disruptive factors for academically gifted students and predictors of reception anxiety, and achieved significantly high correlation

coefficients here. The highest correlation coefficients were achieved between the competences between the recipient and the sender of the message on the one hand, and coping with failure, on the other hand. This speaks of a deep awareness of respondents, but also of the level of adaptation of didactic strategies to students' needs. As we are talking about the academically gifted, those who have demonstrated the ability to self-regulate learning in their progress, it remains to be assumed that there is a need for personalizing the program and didactic approaches to overcome these problems.

Table 2: Correlation relationships between language skills and components of self-regulation of learning in gifted students

Language skills	Test anxiety	Failure attribution	Coping with failure
<i>Clarity of pronouncing</i>	.530*	.461**	.512**
<i>Speaking rate</i>	.278?	.301*	.403*
<i>Inappropriate use of language strategies and discrepancy in the levels of communication competences between the sender and the receiver of the message</i>	.503**	.548*	.649**

Research findings on issues of self-regulated learning often lack more findings on the influence of personality traits on self-regulation of learning, and self-determination and personality development in general. Therefore, the fourth hypothesis includes this issue in the observation of the relationship between language skills, i.e. reception anxiety, as one of the speaking skills, which was found to be influential on the sense of self-competence in L2 as one of the factors in the chain of self-regulation of learning. The hypothesis about the correlative relationship between personality traits and reception anxiety and components of self-regulation of learning (attribution of success and failure, test anxiety and coping with failure) was tested (Table 3).

Table 3: Correlation relationships between reception anxiety (language skills), components of self-regulation of learning and personality traits

<i>Language skills – reception anxiety</i>					
<i>Failure attribution, language anxiety and personality traits</i>					
	<i>Conscientiousness</i>	<i>Agreeableness</i>	<i>Intellect</i>	<i>Emotional stability</i>	<i>Extraversion</i>
<i>Clarity of pronouncing</i>	.346**	.321**	.389**	.433**	.137**
<i>Speaking rate</i>	.351**	.115**	.434**	.366*	.203**
<i>Inappropriate use of language strategies and discrepancy in the levels of communication competences between the sender and the receiver of the message</i>	-.304**	-.226**	.389*	.327**	-.018
<i>Failure attribution</i>	.206*	.234*	.438**	.410**	.181**
<i>Test anxiety</i>	.149*	.160**	-.013	.528**	-.105*
<i>Coping with failure</i>	.333**	.125**	.481**	.502*	.175**

Correlation relationships presented in the above table point to the significant interrelationships between the observed variables. Among other things, these emphasize the role of personality traits. According to some studies (Smederevac et al. 2010), these explain 21.1% of variance in discriminativeness of the proactive and defensive pattern of self-regulation and the implied relationship between the components of those patterns, their relation with learning outcomes, and speak in favor of the need for further research on the conceptualization of the depressive pattern of learning self-regulation.

The data shows that all personality traits, which are statistically significant at the level of 0.01 or 0.05, are associated with the components of reception anxiety and failure attributions, i.e. coping with failure.

Negative, or low positive correlations indicate weaker defensive beliefs about control; attributions that encourage passivity, reception anxiety, error avoidance, self-protection competencies, and effort avoidance. Motivational strategies for the protection of self-esteem (self-handicapping and defensive pessimism) are related to the inappropriate use of language strategies and the mismatch in the levels of communication competence between the receiver and the sender of the message.

The above leads to reception anxiety and attributions aimed at protecting emotions by distancing (avoidance, diverting attention) and are aimed at protecting the ego by distancing (giving up and reinterpreting, ignoring problems and towards the disappearance of security and other useful aspects of motivational strategies for L2 learning).

Negative correlations or a low level of positive correlations in this case only confirm a relationship that is in a correlative relationship. This also speaks of the nature of giftedness, i.e. the manifestation of academic giftedness thanks to a strong intellectual trait, which refers not only to general intellectual abilities, but also implies an active imagination, introspectiveness, preference for diversity, intellectual curiosity and independence of thought.

In some definitions of personality traits, openness is associated with intellect. People who manifest it are said to be prone to experimentation, new ideas and unconventional values. In this study, the academically gifted showed a much more intense experience of both positive and negative emotions than close-minded people, which is also found in other studies (Smederevac et al, 2004). As findings in the previous table speak for themselves, it is sufficient to state that this finding also confirms the importance of personality traits as a factor in the formation of an adequate self-regulation model of learning, which leads to the realization of high intellectual potential, among other things by being in harmonious relationship with components of self-regulation of learning and development.

Agreeableness, as a less significant feature compared to the others, was also expressed, which in this research manifested as a correlate in *coping with failure in L2 learning*. The same applies to *conscientiousness*, which refers to the ability to control impulses, and self-control. A low expression of conscientiousness as a trait has far-reaching consequences for development (carelessness, aimlessness, giving up when it comes to the effort leading to a goal; pronounced hedonism...).

As can be seen in the findings, *emotional stability* was manifested with lower coefficients, but statistically significant. Thus, it could also be said that it is a significant factor for successful self-regulation of learning, which helps in linguistically stressful situations, that is, with receptive anxiety in a foreign language. It helps students face stressful situations without excessive panic anxiety, helps them not succumb to irrational ideas, control their impulses well, and have stronger capacities to overcome stressful situations, which helps them to cope with failure more easily, while the positive attribution of failure and success and overcoming stress opened the way to self-regulation and academic success.

As can be seen, *extraversion* is also important for self-regulation of learning L2 and overcoming the students' receptive anxiety. It manifested as sociability, cooperativeness in the group, assertiveness, activity and communicativeness, cheerfulness, openness, optimism and energy. Introverts manifested in a smaller degree (Smederevac et al. 2004; Međedović et al. 2017).

Gender and years of study did not prove to be significant variables for reception anxiety.

In a conclusion, it can be stated that the previous findings are in favor of the socio-cognitive theory, but that the self-determination theory is finding more and more room for application in all aspects of the functioning of personality due to the possibility of supporting the satisfaction of needs for competence, autonomy and connection. This is supported by findings on the close relationship between the observed variables: personality traits, components of self-regulation, success, and from the aspect of reception anxiety, they all proved to be significant regulators within the internal factors of self-determination. Some of the practical implications of the aforementioned

theoretical frameworks, as well as the findings for the teaching process can be seen in the following:

The need for support in meeting the need for student autonomy;

Taking into account the students' individual characteristics and personality traits, which in L2 learning can be a greater obstacle than in other areas of learning, because causing reception anxiety can lead to frustrations, which in students with characteristics that could be classified as depressive patterns of self-regulation can provoke the sense low self-efficacy, if they conclude that they cannot complete the task (therefore they do not activate the proactive pattern of self-regulation). In this way, they do not have the possibility of reinterpreting the situation, attributing possible failure to negative factors from the environment, and they cannot reduce the value of academic activities and achievements. Thus, they do not activate even the defensive pattern of self-regulation of learning aimed at protecting the ego, self-esteem and sense of self-worth. This all sounds like a description of theoretical understandings until one encounters a number of gifted students straying in late adolescence in neurotic patterns on antidepressants and depressive self-isolation. Counseling centers where attempts are made to save these capable young people neither have enough resources nor opportunities, because life takes place somewhere outside of these people in social contexts for which they are not ready, or from which they have derailed due to depressive crises. Many gifted people would be saved if they started in time with motivational strategies towards useful patterns of self-regulation also in L2 learning, which can change behavior because success succeeds best.

It is important to note the positive assessment of the subject that by applying the means which he masters, the expected or desired outcomes can be achieved. In addition, the cognitive-social theoretical orientation underscores that self-regulation of learning often does not come easily, and especially not by itself, but requires investing time, cognitive control, caution, suppressing conflicting goals, and investing various resources for self-regulation (Zimmerman, 2000). For the results of such efforts to be successful, they must be attractive to students, to motivate them to self-regulate learning. Also, L2 teachers should have fewer classes and fewer students to be able to get to know them better and, based on that, personalize the mentoring work, which

would affect L2 learning positively, but also in a sense of security, meeting the needs for competence in communication with others in a foreign language and motivate students to self-regulated learning.

5. ICT: SELF-REGULATED SUPPORT IN LANGUAGE LEARNING

Possibilities offered by new technology for the modernization of education and adaptation of the learning process to the needs of students; applications of ICT in learning a foreign language for specific purposes (LSP); how students evaluate the importance of ICT for general learning and L2 learning; students' interest in the application of ICT, which encourages their motivation and achievements in learning LSP; the use of ICT for the creation of new pedagogical practice in the conditions of the creation of multiple modalities of distance learning, including blended learning; ICT in standard teacher competences (UNESCO, 2008); Internet, as one of the most frequently used technologies, as an inexhaustible source of written, audio/video materials for various professions; Advantages in the use of ICT in learning LSP.

5.1. Possibilities of technology to modernize education and adapt the learning process to the needs of students

In considering the issues that are discussed here, we should not lose sight of the fact that new technologies provide various opportunities for the modernization of education and the adaptation of the learning process to the needs of students. Consequently, a major trend in education is the integration of widespread digital technology into classrooms to make it smart and encourage students to learn using modern devices. The development and spread of information and communication technologies (ICT) has brought many changes, including the ways of teaching and learning (Simeunović, 2004). The Internet enables wider and faster access to various teaching contents, a more attractive and interactive way of learning than before, but it can also imply a need for new teaching and learning models, as well as their distribution (Brzaković et al. 2017). That is why new learning and teaching paradigms have appeared. Thus, the use of ICT enabled the creation of a new teaching practice in the form of the creation of several modalities of distance learning, including blended learning. Learning activities are no longer

imaginable only in classrooms but also appear in virtual learning, and thus forms of learning have been developed, which are different from traditional methods. Today's students, who were born in the digital generation, are already predetermined and prepared for easier access to relevant sources of information (Bates, 2004).

According to Valenta et al. (2001), learning styles reflect how students accept and process information during the learning process. ICT has been applied in many segments of teaching activities so that through multimedia presentations, students can acquire knowledge that holistically illustrates complex and abstract theoretical problems. This approach makes it easier to access free online resources, video materials, educational tools, and more. One of the latest trends is the ability to display reality in an augmented form. It allows teachers to make teaching material exciting and interesting with realistic 3D visualizations, demonstrations and simulations of objects from nature, as well as processes, and scientific models from all scientific fields. In addition, the concept of education is also changing. Modern education requires transforming the "traditional model of knowledge reproduction" into a model of "active knowledge construction", where teachers and students are partners and work together to expand knowledge in the sense that teachers as mentors refer to sources, monitor the level of understanding and adoption of concepts, and provide feedback for self-assessment as the final stage of self-regulation in learning.

The new era imposes new trends in learning LSP, such as lifelong learning, when an active individual is forced to deal autonomously with the collected information. Students should be taught to find new information independently, manage it, analyze and turn it into useful knowledge. The role of teachers is changing in terms of emphasizing their instructive role in regard to mentoring assistance in the search for getting to know one's own learning style, adopting metacognitive skills, for easier and more efficient processing of information, i.e. turning them into knowledge. Their main task is to teach the students to learn, create students with information literacy, and future IT experts for the needs of information literacy. An IT-literate individual understands the role of the computer as a tool in the process of searching for and processing information, but is also aware that this process mainly depends on him and not on the technology he uses (Uhl & Gollenia, 2016)

On the other hand, according to the preface to UNESCO's ICT Competence Standards for Teachers (UNESCO, 2008), technology should enable students to:

- become capable users of information technology,
- be seekers, analysts and evaluators of information,
- solve problems and make decisions,
- become creative and efficient users of production tools, communicate, collaborate, publish and create, and
- become informed, responsible citizens and contribute to the community.

It has been further stated that the teacher is the key person in providing these skills to students and that traditional educational practices no longer provide teachers with the skills to teach students and prepare them for successful careers. ICT for learning LSP and technology have a dual role: they serve as a tool to assist traditional forms of learning and also become a space for creating new forms of communication (Bloch, 2013). The choice of technology and its application depends on the profession or the needs of students. Almost all the traditional needs of students can be met with some of the latest technologies. The Internet, as one of the most widely used technologies, is an inexhaustible source of free written, audio/video materials for various professions, such as newspapers, magazines, scientific journals, news, lectures, online courses, professional dictionaries, etc. (Ahmed, 2014). However, the large amount of available material can be a problem, because it is necessary to know how to decide which material is useful, in what way and for what purposes. Butler-Pascoe (2009) and Kern (2013) suggest several advantages of using ICT for learning LSP, such as:

- enables interaction and communication activities that are representative of the professional and academic environment;
- provides an understanding of the socio-cultural aspects of the language as it is practiced in different areas and professions;
- provides comprehensible input related to a specific area and facilitates the demonstration of student knowledge;
- provides appropriate strategies for language development and understanding specific contents (design, associating with students' experiences, contextualization, metacognitive activities, etc.);
- uses task-based strategies and tasks that are reflected through tasks in environments and situations related to their discipline;
- uses authentic materials from certain disciplines and professions;

- provides an authentic audience, including external experts in specific fields;
- supports the cognitive abilities and critical thinking needed in the given discipline;
- uses collaborative learning;
- facilitates focused practice to develop language skills (reading, writing, listening and speaking) across the curriculum and disciplines;
- focuses on the student and their special needs;
- uses multiple modalities to support different learning styles;
- satisfies students' affective needs: motivation, self-assessment and autonomy;
- provides adequate feedback and knowledge about foreign language skills.

Another benefit of ICT is connecting teachers over the Internet, where practitioners share their experiences and learn from each other. In addition, ICT offers tools that simulate real-world situations so that students have the opportunity to practice and acquire the necessary professional skills (Kern, 2013). One of the main advantages of using ICT in learning LSP is its willingness to respond to students' needs (Safranji et al. 2022a; Bloch, 2013).

After the previous review of research findings and expectations of the modern world of work of social functioning, the goal of this research was defined, and it refers to understanding the thinking and attitudes of students, ICT participants, to supplement their LSP learning. Thus, the research question is the following: how much do students use ICT to learn LSP, and to what extent does it affect the improvement of their language skills? In addition, the choice and frequency of using ICT will be analyzed.

This research study used the method of systematic non-experimental research. The basic assumption is that students of the digital generation are aware of the possibilities and advantages of using ICT to learn LSP, and they know how much it affects the improvement of their language skills.

5.2. Method

The research sample consisted of 350 students, of which 51.2% were females, from the Faculty of Teacher Education in Belgrade and the Faculty of Technical Sciences in Novi Sad. The mean age of the sample was 22.19 years (SD = 1.76). 221 (63.1%) participants were from the Faculty of Teacher Education, and 129

from the Faculty of Technical Sciences: 88 (25.14%) participants were from the Department of Biomedical Engineering (BMI) and Electrical Systems (E1), and 41 (11.71%) from the Department of Graphic Engineering and Design (GRID). Students from the Faculty of Teacher Education from the pre-school department learned German as the LSP, while students from the Faculty of Technical Sciences learned English as the LSP. The data were collected through an assessment scale, i.e. a five-point Likert-type questionnaire that was tested using the SPSS statistical package. The questionnaire is in the Appendix. Only a small percentage of students (16.7%) say that they know a foreign language at the starting (A1) or lower (A2) level; 27.4% of participants stated that their knowledge of a foreign language was at an intermediate (B1) level, and 36.9% at an upper-intermediate (B2) level; 19% of participants indicated that their level was advanced (C1/C2). Most of the participants stated that they use the Internet daily, 20% of them stated that they use the Internet for more than 6 hours a day, 32.1% of them use the Internet for 4 - 6 hours, 35.7% of them use the Internet for 2 - 4 hours, and 11.9% of them use internet 1 - 2 hours a day. No one reported using the Internet less than an hour a day.

5.3. Results

One of the survey questions was focused on the time spent using ICT with 5 answers offered (daily, several times a week, once a week, once a month, never). Almost 80% of respondents stated that they use ICT on a daily basis, and 15% checked the second option. Only 2.4% of them stated that they use ICT once a week or once a month. None of the participants stated that they do not use ICT at all. Since the majority of respondents indicated that they use ICT daily, the remaining participants who use ICT were grouped together for future analyses.

5.3.1. Differences in the use of ICT for learning between students who use ICT daily and those who do not

Most of the participants use sites on a daily basis (28.57%), several times a week (35.7), or several times a month (28.57%). Synchronous communication was also frequently used with most participants reporting that they use it for studying daily (30.9%) or several times a week (26.1%). Asynchronous

communication is also often used and provides answers, with the majority of participants reporting that they are using it every day, several times a week and several times a month, in each case confirming answers were higher than 25%. Social networks seem to be the most frequently used ICT on a daily basis, with 50% of respondents reporting this. Office applications, information sharing, and the Moodle platform are used several times a month by the majority of participants with over 30% of respondents choosing this answer option for these ICTs. Digital media for entertainment is also widely used, with 34.5% of respondents saying they use it every day. The answers are shown in the following Chart 1.

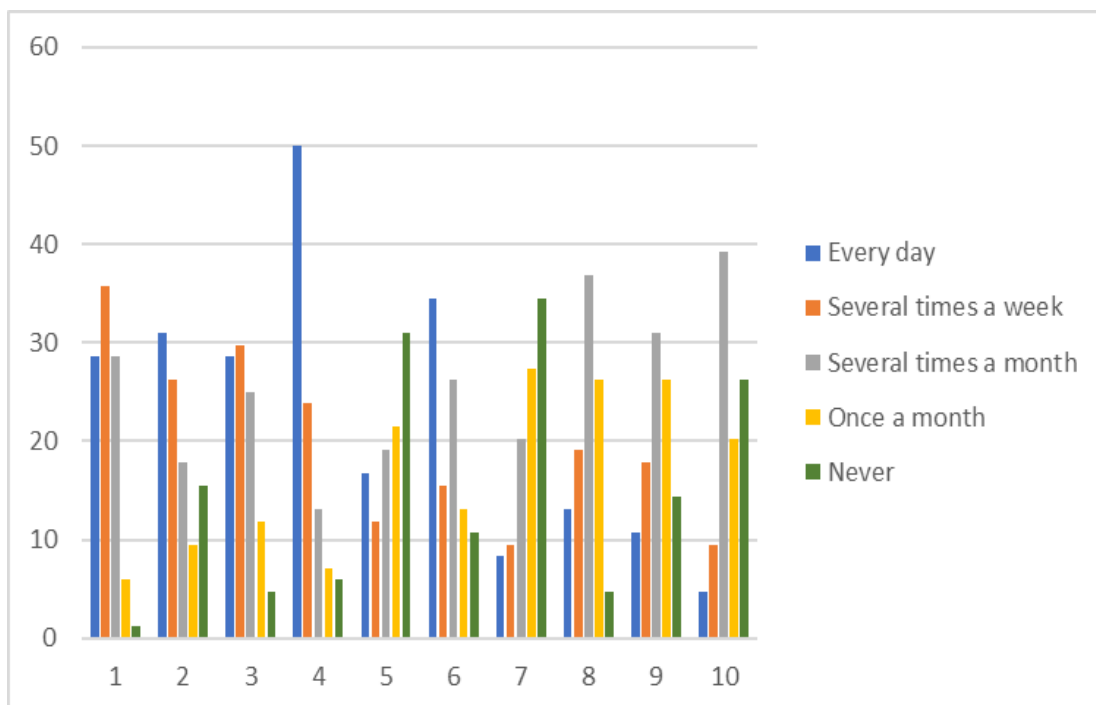


Chart 1: Differences in the use of ICT for learning between students who use ICT on a daily basis and those who do not

Ten Mann-Whitney U-tests were conducted to test whether there are differences in the use of ICT for learning among participants who use ICT daily and those who do not.

The only significant differences were found in the use of Office applications ($U = 396, p = .044$) and the exchange of information on the Internet ($U = 368.5, p = .016$), and in both cases these ICTs are used more often by the group that uses ICT daily.

This indicates that ICT is most often used for studying at a similar frequency, regardless of whether ICT is used daily or less frequently, but that those who use ICT daily are increasingly using more complex forms of information exchange on the Internet and Office applications.

Ten Kruskal-Wallis tests were conducted to determine whether there are significant differences in the use of ICT for learning among students from different faculties and departments. Significant differences exist in the use of media services ($\chi^2 = 7.396$, $p = .025$), digital entertainment media ($\chi^2 = 6.931$, $p = .031$) and the Moodle platform ($\chi^2 = 8.788$, $p = .012$).

Mann-Whitney U tests were conducted as post-hoc tests to compare groups on variables on which there were significant differences. In the case of media services, students from the E1 ($U = 396$, $p = .021$) and GRID group ($U = 49.5$, $p = .017$) use media services more frequently than students from the BMI group.

There were no significant differences between the E1 and GRID group in the use of media services. The same pattern of differences can be seen for digital entertainment media, with both the E1 ($U = 380$, $p = .29$) and GRID ($U = 51$, $p = .022$) group scoring higher than the BMI group.

In the use of the Moodle platform, the only difference was between the E1 and BMI group ($U = 345.5$, $p = .008$), with BMI students using Moodle significantly more.

5.3.2. Usefulness of ICT in learning

The assessment of the usefulness of ICT in learning is shown in Figure 2. Over 85% of respondents believe that ICT can serve as a learning tool and believe that it helps. Over 80% of them agree that ICT helps with learning obligations and that it enables easier and faster obtaining of the necessary information for studying. The majority of the sample (34.5%) is not sure whether ICT allows monitoring regular classes, and 44% of them are unsure whether it makes lectures more fun.

Five Mann-Whitney U-tests were conducted to test whether there are differences in the assessment of the usefulness of ICT for studying among participants who use ICT daily and those who do not. Significant differences were found in items "ICT can serve as a teaching tool" ($U = 404$, $p = .044$) and "ICT helps me to do my study duties better" ($U = 325$, $p = .003$) and in both cases the group using ICT daily scored higher. These results seem to indicate that students who use ICT on a daily basis can get the most out of ICT and contribute more to their studies.

Five Kruskal-Wallis tests were conducted to test whether there are significant differences in the assessment of the usefulness of ICT for studying among students from different departments. No significant differences were found.

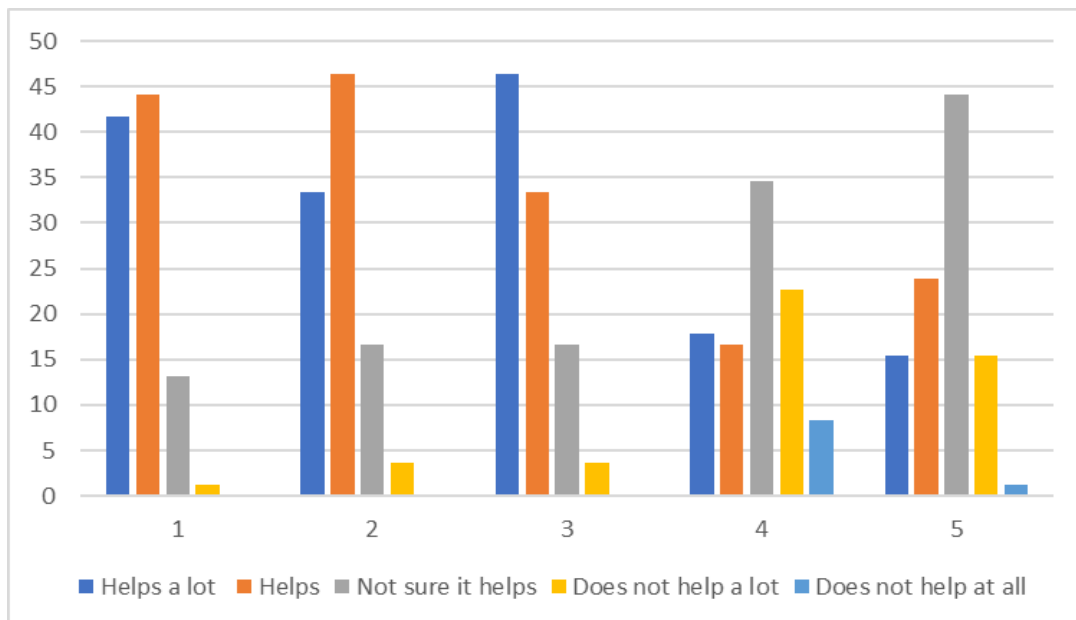


Chart 2: Usefulness of ICT in studying

1 – ICT can serve as a tool in studying, 2 – ICT helps me perform my study duties better, 3 – ICT enables me to easily and quickly access information I need for studying, 4 – Thanks to ICT, I don't have to follow classes at the faculty regularly, 5 – ICT makes lectures more fun.

5.3.3. The use of different ICT devices

The use of different ICT devices is shown in Figure 3. Most students mainly use either a computer (PC) or a phone, while all of them rarely use tablets or

MP3 devices as well. Mann-Whitney U-tests were conducted to test whether there are differences in the use of ICT devices between students who use ICT on a daily basis and those who do not. Significant differences were found for the use of PC ($U = 376$, $p = .010$).

Students who use ICT on a daily basis, use the PC more often than those who use ICT less often. Kruskal-Wallis tests were performed to test whether there are significant differences in the use of ICT devices between participants from different departments. A significant difference was found only in the use of phone ($\chi^2 = 6.129$, $p = .047$). Post-hoc comparisons a significant difference only between E1 students and the GRID department ($U = 159$, $p = 0.14$). Students studying in a pre-school study department indicated that they use phones significantly more as ICT.

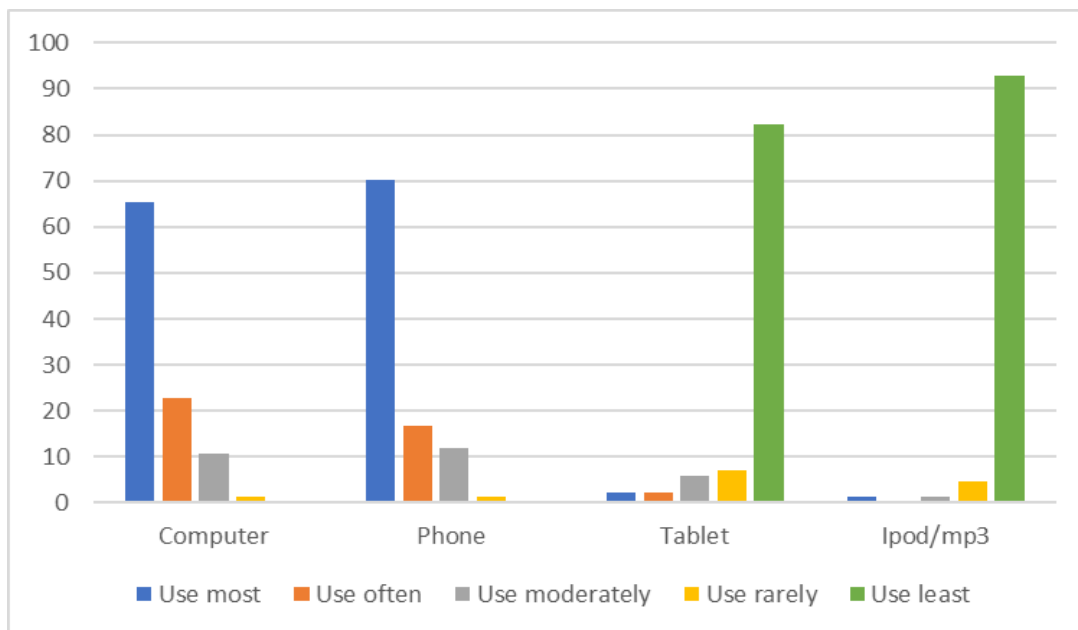


Chart 3: The use of ICT devices

5.3.4. Importance of ICT in learning a foreign language

Almost all students believe that ICT is important for learning a foreign language, whether it is general German/English or German/English LSP (Chart 4). Over 90% of respondents agree that it is either very important, important or moderately important. There were no students who believed that ICT was not important for learning German/English. There were no significant

differences in the assessment of the importance of ICT for learning English between the group that uses ICT daily and the group that uses it less often. There were no significant differences in the assessment of the importance of ICT in learning English between different study groups.

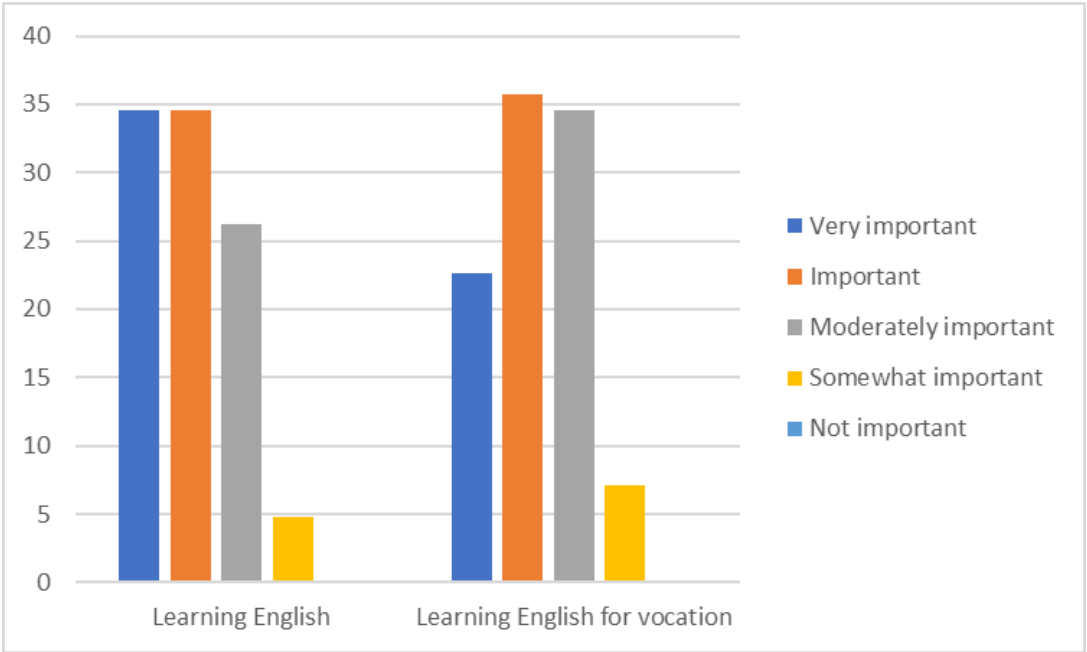


Chart 4: Importance of ICT in learning English/German for specific purposes

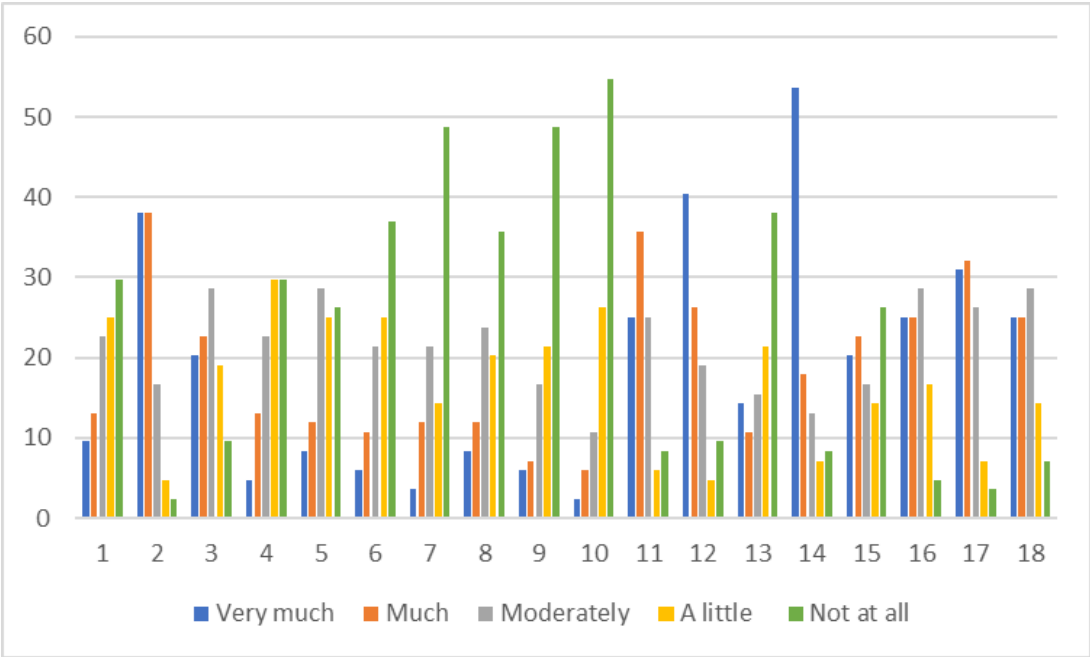


Chart 5: Usefulness of various ICTs in learning German/English LSP. 1 – Software that accompanies traditional textbooks, 2 – Web sites, 3 – Chatting, 4 – SMS, 5 – e-

mail, 6 – Blog, 7 – Moodle platform, 8 – Discussion forums, 9 – Skype, 10 – Video conferences, 11 – Social networks (Facebook, Twitter, Instagram, LinkedIn...), 12 – Web videos (YouTube), 13 – Podcasts, 14 – Movies (with or without subtitles), 15 – Video games, 16 – Automatic translators, 17 – Online dictionary and grammar, 18 – Online courses and materials for L2 learning

5.3.5. Different uses of ICT for learning LSP

The evaluation of the use of different ICTs for learning German/English as LSP is presented in Chart 5. The use of overall websites with general web videos and films was rated as the most useful. Each of these ICTs was rated as helpful by more than 35% of students. More than 50% of respondents rated that movies helped them a lot. Social networks, automatic translators, online dictionaries and grammars, as well as online courses and materials for German and English were also rated as useful. They scored lower, even though they were very helpful, but were generally rated as useful. For each of these categories, the combined ratings are very useful or useful for 50% of respondents. Software that accompanies regular textbooks, chats, SMS and e-mail were rated less favorably. The majority of students rated these ICTs as moderately or little useful. Blogs, the Moodle platform, forums and video conferences were rated the least positively. Each of the ICTs was rated by at least 35% as not helpful at all, while video conferencing was rated as unusable by 54.7% of students.

Mann-Whitney U-tests were conducted in order to test whether there are differences in the assessment of the usefulness of ICT for learning German/English as LSP between students who use ICT on a daily basis and those who do not. No significant differences were observed.

Kruskal-Wallis tests were conducted to test whether there are significant differences in the assessment of the usefulness of ICT for German/English language learning between students of different faculties. There are only significant differences in the use of SMS ($\chi^2 = 6.860$ $p = .032$). Post-hoc comparisons with the Mann-Whitney U test indicate that there are differences between the Faculty of Teacher Education and the GRID department at the Faculty of Technical Sciences ($U = 132.5$ $p = .01$). Students from the Faculty of

Teacher Education believe that SMS is much more useful than students from the GRID department for mastering German/English as LSP.

5.3.6 Discussion and Conclusions

The results obtained in the study showed that students use ICT to learn and get the necessary information. When it comes to using ICT for studying, social networks seem to be the most frequently used on a daily basis, as half of the respondents reported this. Most students use office applications, information sharing, and the Moodle platform several times a month. In addition, digital media is widespread for entertainment on a daily basis, which is in line with earlier research (Radić-Branisavljevič & Milovanović, 2014). The most commonly used ICTs, such as office applications and sharing information on the Internet, are used for studying, regardless of whether they are used daily or less often, but those who use them on a daily basis increasingly use more complex forms of technology. There are significant differences in the use of media services and the Moodle platform. With regards to using the Moodle platform, a difference was found only between students from the Faculty of Teacher Education and students of Biomedical Engineering (BMI) from the Faculty of Technical Sciences. BMI students use Moodle considerably more. This can be explained by the fact that BMI students have many years of practice in using all the advantages of L2 learning using the Moodle platform. The usefulness of ICT in learning is obvious because it makes it easier for students to master their duties and enables easier and faster access to the necessary information for learning. Students who use ICT on a daily basis can make the most of its application and contribute more to their studies. Most students mainly use either a PC or a phone, while all of them, but rarely, use tablets or MP3 devices. Students of the Faculty of Teacher Education - preschool department, stated that they use phones significantly more than those from the Faculty of Technical Sciences. Almost all participants think that ICT is important for L2 learning, whether it is general German or English or German / English as LSP. Most respondents agree that it is either very important, important or moderately important when practicing in a foreign language, vocabulary or grammar. None of the participants believed that ICT is unimportant for L2 learning. No significant differences were observed, indicating that similar ICTs are considered useful in both groups. There are

differences between students in the preschool department of the Faculty of Teacher Education and the GRID department of the Faculty of Technical Sciences. Students of the Faculty of Teacher Education evaluate text messages as more useful for mastering LSP than students of the GRID department. In addition, more than half of respondents rated movies as useful along with social networks, automatic translators, an online dictionary and grammar, as well as online courses and materials for learning German/English. Software that accompanies regular textbooks, chat, text messages, and e-mails was rated moderately. Finally, blogs, the Moodle platform, forums and video conferences were rated the most unfavorably. This finding is consistent with previous studies (Knežević, 2017). In general, the findings are in line with previous research and do not deviate from the answers of students from other faculties (Arno-Macia, 2012; Knežević, 2017; Radić-Branisavljević & Milovanović, 2015). Statistically significant results were achieved only for some technologies such as computers, mobile phones and movies.

The results show that students use modern technologies to learn LSP. Their learning is indirect, i.e. students generally do not use technology with the intention of learning a language, but for searching for information on the Internet, communicating with others for personal reasons, usually through social networks, listening to music, watching movies and videos, and playing video games. In fact, students infrequently use technology specifically for learning a foreign language, especially LSP or learning in general, such as software that accompanies regular textbooks, virtual learning environments, automatic translators, online courses, language learning materials, and online dictionaries and grammars. Students are aware that with the help of technology they improve their language competence and language skills, which means that better communication is mostly done online. English is also the language of the Internet, so students often unconsciously acquire vocabulary and grammar and develop language skills.

The conclusion is that students have a need to communicate and satisfy their need for information and entertainment, but they also must demonstrate language skills. By meeting their needs, students demonstrate and improve their language competence. Given that the results showed that students use the Internet for an average of more than four hours a day, they definitely have enough time to get to know different tools and, even passively, learn a foreign

language. To learn LSP, students mainly use computers, mobile phones and television, and among technologies, tools and applications, students choose video technologies – movies, video materials, and social networks. Then there are websites, chats, discussion forums, blogs, video conferencing, etc. These results show that students use all language skills and thus improve them. First of all, universities and faculties should create conditions for appropriate technologies and their application in teaching and, accordingly, adopt strategies for defining the way of their application. In addition, higher education institutions should organize adequate training for teaching staff and familiarize them with the capabilities and benefits of specific technologies, applications and tools. The Ministry of Science could be involved in addressing these issues, for example, by providing free Internet for educational institutions, various software or installation of a learning platform (Moodle, Microsoft Teams, etc.), as well as to participate in the creation of a strategy on the application of technology in higher education.

Further research could focus on the use of individual technologies at faculties and universities in Serbia. The use of social networks is also of interest to students and should be further explored. Future research should also focus on the importance of language skills for learning LSP in Serbia.

6. MOODLE PLATFORM IN SELF-REGULATED LEARNING OF LSP

Using information and communication technologies (ITC) in foreign language teaching; e-learning: expands and enriches the content of learning and interaction; Moodle platform for L2 learning; Moodle platform and the didactic approach to language learning; Student opinions about the Moodle platform; Frequency of using ICT for the purpose of learning; Gender differences between subscales of the Moodle questionnaire; Differences between faculties and departments on the subscales of the Moodle questionnaire; Correlations between age, grade achieved and subscales of the Moodle platform questionnaire.

6.1. The use of information and communication technologies in foreign language teaching

Today, the use of information and communication technologies in foreign language teaching is highly topical. The new technology provides various opportunities for modernizing education and adapting the learning process to the student's needs. Consequently, a major trend in education is the introduction of widespread digital technology into classrooms to encourage students to learn using the Internet as a tool for researching and publishing papers that include web-based instruction or submission of papers via the school/faculty Intranet (Gojkov-Rajić & Prtljaga, 2016b). E-learning expands and enriches learning content and emphasizes the teacher-student, student-student, and teacher-teacher interaction, and facilitates the preparation of tests and assignments (Norman & Furnes, 2016).

E-learning meets two criteria: a) spatial distance is no longer an obstacle in direct teacher-student communication, and b) learning is a two-way communication, i.e. interactive. E-learning favors interactive learning as a social process in which students take an active role and learn new content by supporting and encouraging each other. Interactive learning has a positive impact on the emotional climate and increases learning motivation because

students use new technology to explore and come to independent conclusions, which is something common and desirable for them today (Gojkov-Rajić & Prtljaga, 2016a; Waterhouse, 2005). E-learning encompasses several types of applications and processes, including computer-assisted learning, Internet-based learning, virtual classroom, and peer-to-peer collaboration. In addition to realizing the value added of planned learning, it also recognizes the value of unplanned learning and the desire of students to improve their learning to improve the results achieved (Gojkov-Rajić & Prtljaga, 2016c; Zivlak & Šafranĳ, 2018; Morrison, 2003).

E-learning, also known as online learning or online instruction, allows for bridging the gap between generations of students, which are coming, and underscores the need for higher education (Gilbert, 2013). Available tools for creating e-learning include basic computer programs such as word processing and graphic presentation software, as well as complex computer programs for creating animations, movies and 3D graphic simulations (Bach et al. 2007). Learning Management Systems (LMS) are the main tools used for e-learning today. One of them is the Moodle platform, a free online LMS, which is suitable for language teaching (Šafranĳ & Zivlak, 2018).

6.2. Moodle platform for learning a foreign language

The word Moodle is an abbreviation for Modular Object-Oriented Dynamic Learning Environment. The Moodle platform is an open-source software (OSS), or software freely available for people to use and modify (Devetaković et al. 2009). The software is easy to use and can be upgraded according to the user's wishes. The Moodle platform is available for free under the terms of the General Public License (GPL) and has no additional licensing costs (Brandle, 2005). It is a software package designed to help educators in creating online courses with dynamic interaction capabilities. Such distance learning systems require only a browser (e.g. Google Chrome, Firefox, Internet Explorer, Opera) enabling students to attend the course created for them.

This very popular LCMS (Learning Content Management System) tool was created as a doctoral dissertation of the Australian scientist and lecturer Martin Dougiamas (Dougiamas & Taylor, 2003). The system is based on

pedagogical principles, and is used for e-learning, blended learning, flipped learning and other approaches to electronic learning. This software tool is used by universities, schools, and individuals to improve L2 teaching as well as the teaching of a large number of subjects with the help of Web technologies. It is an easy-to-use tool for creating and conducting courses that are designed to be compatible, flexible and easily changeable (Lalić et al. 2017). The tool was developed using the PHP language, which ensures independence from the platform characterized by the following elements:

- clear and obvious web design,
- software displays are easy to understand,
- documentation is simple for developers and users,
- mailing lists and forums are well structured and easy to use, and have a system for monitoring log information.

The application can be downloaded for free from the official website (<https://moodle.org/>) and currently has over 125 million users and 93.000 registered sites in 232 countries. The Moodle platform is constantly being improved thanks to the work of top experts. Its installation and maintenance have been significantly simplified in the latest versions so that more and more institutions are choosing this platform when choosing an environment for e-learning of teaching subjects or foreign languages. The platform is designed so that each user has a unique access account. Moreover, depending on the course accessed, the user can have different roles such as: assistant, teacher, student, course manager, administrator, and guest, with the possibility of renaming roles if a need arises. Each role implies a certain degree of editorial rights in the course. A big advantage of the Moodle platform is the existence of a strong and numerous Moodle community, and teams dedicated to the continuous improvement of the network (Sarrab & Rehman, 2014).

6.3. Moodle platform and didactic approach to language learning

The development of students' communicative skills is significantly improved in L2 teaching, which implies interactivity between teachers and students, students and students, and teachers and teachers. In addition, significant advances in technology, such as high-speed Internet connections, and more powerful and affordable computers, make the implementation of synchronous and asynchronous learning tasks pedagogically feasible (Safranjan et al. 2022b;

Brandle, 2005). In this way, the Moodle platform enables a social constructionist approach to education, and students can contribute to educational experiences in alternative ways.

The Moodle platform is configurable according to the needs of students and teachers, allowing features to be enabled or disabled and quickly integrated with everything needed for the course using a full range of built-in features, including external collaborative tools such as wikis, forums and blogs. Data and privacy protection of students has been improved through constant updating and the implementation of components responsible for protection against unauthorized access and loss of data. The platform allows students to post comments or discuss a given topic in the forum. The Moodle platform enables conventional classroom instruction (Cole & Foster, 2008), that is, a social constructionist approach to learning.

Some of the main features of the Moodle platform related to L2 learning and teaching are as follows:

- it is a powerful and eclectic LMS tool, and administrators can fully control its functions,
- student activities can be saved in logs, so teachers can check what students have done,
- teachers can fully control the preparation and deadline of submission of papers and time frames for the preparation of assignments, tests, participation in the forum and discussions,
- The Moodle platform allows for different assessment strategies,
- tests include the following response types: fill-in, multiple choice, true-false, matching, short answer, essay, combining, etc. (Brandle, 2005)

The Moodle platform, designed for a social constructionist approach to learning, offers many useful tools such as Wikis, forums, discussions, blogs and workshops, so that teachers can apply different formats of social interaction and collaboration to their teaching. Students can be divided into subgroups (visible or separate), collaborate in chat activities, or engage in asynchronous discussions in Wikis and forums. All written "dialogues" in chat rooms can be saved for later (Wu, 2008).

The Moodle platform not only provides online L2 learning, but also provides several opportunities for active discussion, and exchange of ideas and

information, and at the same time, it is a cooperative learning tool for students. The teacher's role in such an environment is to facilitate the generation of information by students, as well as the exchange of that information, rather than to control its delivery and pace (Bonk, 2009). However, the key objective of the activities is practicing and group problem-solving, which helps students to do what they could not do individually. According to earlier research (Bonk, 2009), electronic collaboration in a small group of students requires significantly more time and effort than the traditional learning environment, but it can generate new knowledge, attitudes and behaviors in students much faster.

The application of technology in LSP teaching has a multiple role. On the one hand, it is an auxiliary tool for learning, and at the same time, it is a place where new forms of communication are created. For their proper application, it is important to recognize the student's needs, and considering the developing pace of technologies, giving way to new forms, it is important to choose the appropriate one in accordance with those needs and learn to use them in the best way.

Studies (Escobar-Rodriguez & Mongo-Lozano, 2012) have shown that the teaching activity and the acquisition of teaching content are significantly changed and improved by the use of electronic courses (Moodle platform), and students improve their knowledge and skills, which is confirmed by their grades. Another study (Knežević, 2017) with the Moodle platform and the use of blogs and Wikis in L2 teaching confirmed some earlier results about learning with the help of new technologies (Bradley et al. 2011). Namely, the acquisition of new knowledge is limited, because these activities serve for knowledge testing, while students have the freedom to interpret their experiences and share their ideas and thoughts with colleagues. Ward's research (Ward, 2005) was also confirmed, according to which using blogs, students are enabled to demonstrate their knowledge, which makes them suitable for alternative ways of knowledge testing. Another research (Radić-Branisavljević & Milovanović, 2015) highlights the unlimited source of information on the Internet, i.e. communication via platforms, forums, chats, social networks, and Skype, which prioritizes language learning outside the classroom, at any time and in any place. Also present is the independent organization of the learning process with the help of teachers and explanations

on the Internet. The authors point to the fact that there are still no detailed studies on the application of new technologies, that they are not applied on a regular basis, that teachers are insufficiently trained to work on the Internet, and that they use Web tools inadequately.

In 2014, the Faculty of Technical Sciences of the University of Novi Sad founded a distance-learning laboratory (eLLab) intending to bring electronic learning closer to its students and enable them to work and study in a virtual environment (Lalić et al. 2017). The Moodle platform for distance learning supports conventional studies in all subjects, including L2 learning. The flexibility of this platform is confirmed by the fact that teachers and students can access electronic courses every day, at any time from different locations, using devices that have access to the Internet, regardless of which Web browser they use. The intensity of use of the platform has doubled since its introduction. Research has shown that by applying electronic courses, the process of learning and teaching is significantly improved, and users acquire better knowledge and skills, which is confirmed by their grades. The latest studies on the intensity of use of the Moodle eLLab platform confirm a trend of constant growth in all important segments of measurement: number of page views, number of courses, number of active users on the platform and the total number of users. The distribution of courses by faculty departments is continuously monitored, as are the types of browsers, operating systems, types of devices used, access by days of the week, access locations, and the like (Lalić et al. 2017).

In the field of LSP, it should be emphasized that nowadays, the digital discourse is getting more and more attention. Thus, this research aims to look at the opinion of students of the Faculty of Technical Sciences of the University of Novi Sad and the Faculty of Teacher Education in Belgrade, who use the Moodle platform to supplement their LSP learning and overview the relation between the age of respondents and their L2 grades, and their opinions and use of the Moodle platform. The purpose of this is to assess the possibilities of using electronic tools in personalized learning of LSP for providing better motivation to learn and greater learning efficacy.

The research question is the following: how do students evaluate the importance of the LCMS (Learning Content Management System) tool for

learning LSP? According to the aim of the research and the research question, the following hypotheses were set:

General hypothesis:

"Student opinions of the Moodle platform are positive."

Working hypotheses:

First: "Students find it easy to access the Moodle platform."

Second: "Student opinions about accessing and using the platform are unchanged even when the following variables are included in the observation: gender, type of faculty or course, age of the respondents and grade in LSP."

Access to the Moodle platform is the predictive variable, while the student opinions about the value of learning LSP through the Moodle platform is the criterion variable. Gender, age, achievement, and faculty/department are the intervening variables.

6.4. Method

6.5. Sample

The sample is convenient, consisting of 348 students of the Faculty of Teacher Education in Belgrade and the Faculty of Technical Sciences of the University of Novi Sad. The age of respondents ranged from 20 to 30 years ($AS = 22.19$, $SD = 1.76$), where 179 (51.14%) of respondents were females. 87 (24.85%) respondents were from the Faculty of Teacher Education (FTE) in Belgrade, and 261 (75.15%) from the Faculty of Technical Sciences (FTS) in Novi Sad. 220 (62.85%) respondents were from the Department of Electronics, Energy and Telecommunications (E1), while 41 (11.71%) respondents were from Graphic Engineering and Design (GRID). Students of the Faculty of Teacher Education in Belgrade studied German as LSP, while students of the Faculty of Technical Sciences in Novi Sad studied English as LSP.

6.6. Instruments

Moodle platform questionnaire. This instrument is intended to assess the attitudes towards the Moodle platform. It consists of 20 questions in binary answer format and is divided into 5 smaller units (subscales). The subscales contain questions related to access to the Moodle platform (3 questions), interaction (3 questions), layout and structure of the Moodle platform (2 questions), Moodle resources (6 questions), and student opinions about the platform (6 questions). The reliability of the parts of the questionnaire is satisfactory and for 4 subscales it is above $\alpha = .7$ (from $\alpha = .708$ for student opinions to $\alpha = .901$ for interaction). Only the arrangement and structure subscale has a slightly lower coefficient of reliability $\alpha = .62$. The coefficient of reliability should be $> .7$ for the reliability to be characterized as satisfactory, but it also depends on the number of items in the scale. Given that we have 2 items here, $.62$ is not too low.

In this exploratory research, the method of systematic non-experimental observation was used, and the data were collected through an assessment scale, i.e. questionnaire of the Likert type, with five points and a scale with a binary response format. The obtained data were tested with the SPSS statistical package.

6.6.1. Data analysis

Descriptive statistics and graphical presentations were used to review student opinions about individual aspects of the Moodle platform, as well as the information and communication technologies they use for learning.

Non-parametric tests (Mann–Whitney U test and Kruskal–Wallis test) were used to examine gender differences and differences between departments concerning scores on subscales of the Moodle platform questionnaire. Nonparametric tests were chosen because the subscales are of the ordinal level of measurement. The relationship between age, grade in L2 and the subscales of the Moodle platform questionnaire was examined using the Spearman correlation coefficient.

6.6.2. Results

6.6.3. Student opinions about the Moodle platform

An overview of students' responses to the questionnaire about the Moodle platform is shown in Chart 1. 88.1% of students believe that the Moodle platform is easy to access both from the computer classroom and from home. As many as 92.8% of students think that the Moodle platform is fast and reliable.

The student opinions are also positive in the case of the assessment of interaction. Over 83% of students think it is easy to present and express themselves on the platform. 85.7% of them think that they easily communicate with the teacher, while 79.7% of them think that they easily communicate with colleagues on the platform.

More than 88% of them believe that the information is easy to understand, while 85.5% of them agree that the platform is well-planned and structured and easy to use.

Students also have a positive opinion about Moodle resources. 84.5% of them agree that the platform is useful in updating information, and 82.14% of them agree that it is useful for downloading or reading online written resources for learning L2. Almost 80% of them find it useful for online tests and exercises for learning L2, and 82.14% of them find it useful for engaging and participating in forum discussions. 73.8% of them consider it useful for watching or listening to audio and video files, and the same percentage of students consider it useful for online chatting.

When asked whether they are more confident when using the platform, 67.8% of them answered positively. 73.8% of students agree that their learning is improved when they use the platform. 77.3% of them feel that they need to be very disciplined when using the platform and 66.6% of them feel that they need to improve their typing skills when using Moodle. 83.3% of them stated that they use the platform only as part of their foreign language course requirements, but 75% of them reported that they would like to use the Moodle platform in other courses in the future.

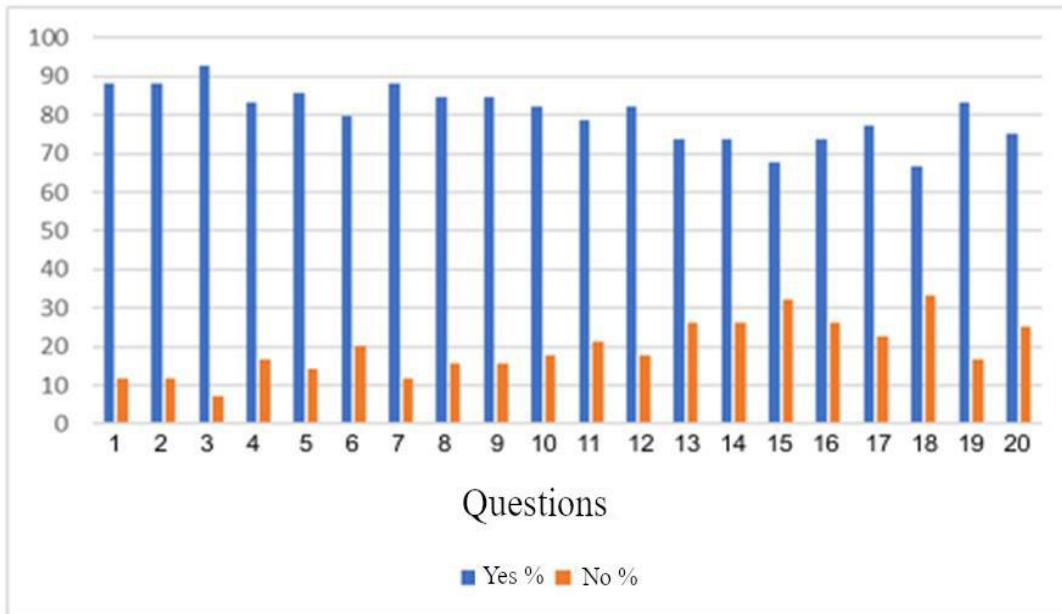


Chart 1: Student answers to questions regarding the Moodle platform

6.4. Frequency of using information and communication technologies for learning purposes

From Chart 2, it can be seen that half of the students reported that they use social networks daily for learning purposes or digital media for entertainment. Web sites, synchronous and asynchronous communication are used by a third of respondents on a daily basis or several times a week for the purposes of L2 learning. They use other information and communication technologies somewhat less often. We can say that students know the opportunities of the Internet and are happy to use the advantages of digital media.

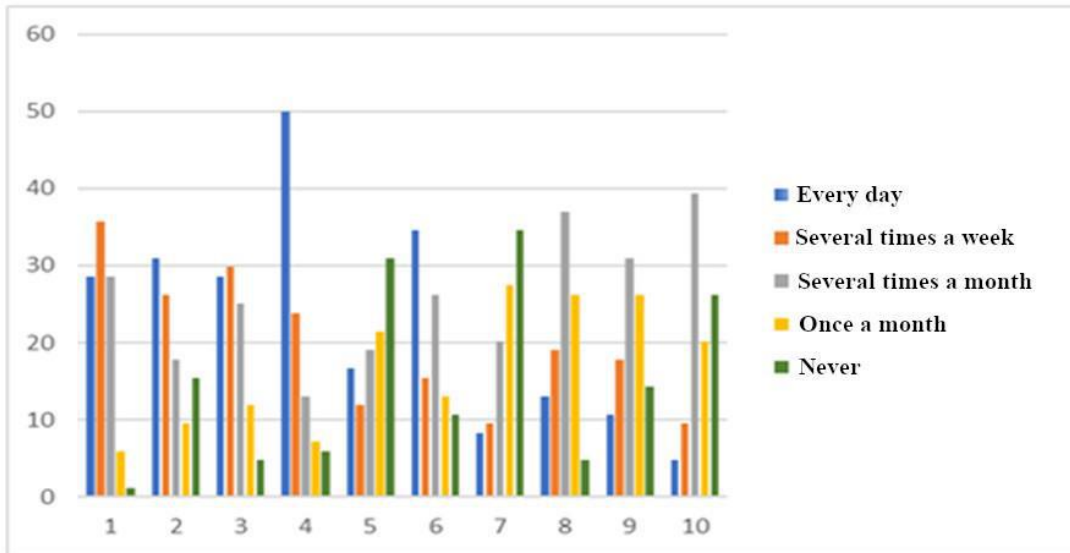


Chart 2: Students' answers to the question about which ICTs they use, expressed in percents: 1 – Web sites, 2 – synchronous communication (chats, video conferences, Skype, virtual worlds, etc.), 3 – asynchronous communication (e-mail, SMS, forums, etc.), 4 – social networks (Facebook, Twitter, Instagram i sl.), 5 – media services (TV, online TV, online radio), 6 – digital entertainment media (movies, music), 7 – digital games, 8 – various Office applications (Word, Excel, PowerPoint, 9 – Sharing information over the Internet (Wiki, blog, interest groups, etc.), 10 - Moodle platform.

6.6. Gender differences between subscales of the Moodle questionnaire

Five Mann–Whitney U tests were conducted to examine gender differences between scores on the subscales of the Moodle questionnaire. The results (Table 1.) show that there are no gender differences on any of the scales.

Table 1: Gender differences on the five subscales of the Moodle questionnaire

Group	Average rank	U test	p
Access	Males 42.45	879.5	.977
	Females 42.55		
Interaction	Males 43.83	827	.505
	Females 41.23		

Structure	Males	42.98	862	.803
	Females	42.05		
Sources	Males	44.11	815.5	.526
	Females	40.97		
Stud. Opin.	Males	43.40	844.5	.728
	Females	41.64		

6.6. Differences between faculties and departments on the subscales of the Moodle questionnaire

Five Kruskal–Wallis tests were conducted to examine differences between faculties and departments in order to evaluate various aspects of the Moodle platform. The results (Table 2.) indicate that there are significant differences between faculties and departments in relation to the assessment of access and interaction of the Moodle platform, as well as on the student opinions scale. In addition, Mann–Whitney U tests (Table 3.) were conducted to post-hoc compare the groups with variables on which significant differences were obtained. On the access subscale, higher scores are achieved by students from the E1 and GRID departments than by students of TEF. There were no significant differences between the evaluations of students from E1 and GRID. In the case of interaction, there are differences between students from E1 and TEF, where students from E1 achieve slightly higher scores. On the subscale of student opinions, the E1 department shows a slightly more positive opinion compared to students from TEF and GRID.

Table 2: Differences between faculties and departments on the five subscales of the Moodle platform questionnaire

Group	Average rank	χ^2	df	p	
Access	TEF	34.52	8.60	2	.013
	E1	44.53			
	GRID	48.50			

Interaction	TEF	32.74	10.63	2	.005
	E1	47.22			
	GRID	38.00			
Structure	TEF	40.50	.38	2	.825
	E1	43.16			
	GRID	43.20			
Sources	TEF	35.00	3.05	2	.217
	E1	45.00			
	GRID	45.00			
Student opinions	TEF	27.21	16.59	2	.000
	E1	50.29			
	GRID	33.30			

Table 3: Differences between groups on the variables of access, interaction and student opinions

Group 1	Group 2	AM 1	AM 2	U test	p	
Access	TEF	E1	2.28	2.79	424	.013
	TEF	GRID	2.28	3.00	70	.043
	E1	GRID	2.79	3.00	240	.316
Interaction	TEF	E1	1.81	2.73	372.5	.002
	TEF	GRID	1.81	2.60	84	.318
	E1	GRID	2.73	2.60	199	.051
Student opinions	TEF	E1	3.28	5.01	251	.000
	TEF	GRID	3.28	3.80	89.5	.519

	E1	GRID	5.01	3.80	157.5	.029
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Note: AS 1 and 2 – Arithmetic means of groups on the variable.

6.7. Correlations between age, grade achieved and subscales of the Moodle platform questionnaire

Spearman's correlation coefficient indicates that there is a significant positive correlation between age and access ($r_s = .232$, $p = .034$) and age and interaction ($r_s = .245$, $p = .025$). The achieved L2 grade does not have a significant correlation with any of the subscales of the Moodle platform questionnaire.

The research results show the following:

The general hypothesis "Student opinions about the Moodle platform is positive" was confirmed.

The first working hypothesis "Students find it easy to access the Moodle platform" was confirmed.

The second working hypothesis "Student opinions about accessing and using the platform is unchanged even when the following variables are included in the observation: gender, type of faculty or course, age of the respondents and grade in LSP" was partially confirmed.

6.8. Discussion and conclusions

A review of student responses indicates that as much as half of the respondents use social networks daily for learning purposes. A third of respondents use digital media for entertainment every day. Students also use synchronous communication, i.e. chats, video conferences, Skype and virtual worlds to a large extent, some of them daily (30.9%), and some several times a week (26.2%), which is in line with earlier research (Radić-Branisavljević & Milovanović, 2015). Websites are generally used frequently and students use them for learning purposes either daily (28.5%) or several times a week (35.7%), which supports Ward's research (Ward, 2005). The frequency of using asynchronous communication, that is, the use of e-mails, SMS messages and

forums for learning purposes is similar (28.5% of them daily and 29.7% of them several times a month). For other information and communication technologies, students declare that they use them somewhat less often, and in the case of Office applications, sharing information on the Internet and the Moodle platform, they report that they use them several times a month (30-40%). Students the least use media services and digital games for learning purposes, and the largest percentage of them (> 30%) never use these technologies for learning.

Student opinions about the Moodle platform are positive, that is, 88.1% of students think that the Moodle platform is easy to access both from the classroom computer and at home, while almost all respondents (92.8%) think that the Moodle platform is fast and reliable.

Student opinions are also positive in the case of evaluation of interaction. Almost all students believe that it is easy to present and express themselves on the platform and find it easy to establish communication with the teacher and colleagues. More than 88% of them find the information easy to understand, while almost all agree that the platform is well-planned and structured, and easy to use.

Student opinions are also positive about Moodle resources. 84.5% of them agree that the platform is useful for updating information and downloading written resources or reading them online for learning L2. Almost 80% of respondents find it useful for online tests and exercises for learning L2, joining and participating in forum discussions, and watching video files or listening to audio files, and a similar percentage of students find it useful for online chat.

When asked whether they are more confident when using the platform, 67.8% of them answered affirmatively. More than two-thirds of students agree that their learning is improved when they use the platform, which is consistent with previous research (Escobar-Rodriguez & Mongo-Lozano, 2012). Also, they must be very disciplined when using it and improve their typing skills. 83.3% of them stated that they use the platform only within the requirements of the foreign language course, but 75% of them stated that they want to use the Moodle platform for the needs of other courses in the future.

The results show that there are no gender differences on any of the scales of the questionnaire. There are slight differences between departments on the access, interaction, and student opinions subscales of the Moodle platform questionnaire. In the case of access, students of the electrical engineering department have a slightly higher assessment. In the case of interaction and student opinions, these students have slightly higher scores compared to the other respondents. Such opinion can be explained by the greater interest and predisposition of students of electrical engineering to work with digital tools, given that they use them daily for other subjects as well. Their future profession requires constant advancement in the use of software and digital tools.

The age of the students achieves significant positive, but rather low correlations with the access and interaction subscales, which means that the older the students are, the higher they evaluate these aspects of the Moodle platform.

ATTACHMENTS

Instruments

The Big Five Personality Test

BFIIV: This is a personality test, it will help you understand why you act the way that you do and how your personality is structured. Please follow the instructions below.

Instructions:

In the table below, for each statement 1-67 mark how much you agree with on a scale 1-5, where 1=disagree, 2=slightly disagree, 3=neutral, 4=slightly agree, and 5=agree, in the box to the left of it.

1	I often leave my stuff all over the place.	1	2	3	4	5	35	I often insult other people.	1	2	3	4	5
2	I sympathize with others.	1	2	3	4	5	36	I'm not always honest with myself.	1	2	3	4	5
3	I don't care about other people's problems.	1	2	3	4	5	37	I have little to say.	1	2	3	4	5
4	I believe there is never an excuse for lying.	1	2	3	4	5	38	I'm always the boss at the party.	1	2	3	4	5
5	I have a lot of abstract ideas.	1	2	3	4	5	39	I consider myself to have a rich vocabulary.	1	2	3	4	5
6	I know that anyone who tries can get a job.	1	2	3	4	5	40	I never lose hope.	1	2	3	4	5
7	I care very little about others.	1	2	3	4	5	41	I never give up.	1	2	3	4	5
8	I have frequent mood swings.	1	2	3	4	5	42	I'm always ready to start again.	1	2	3	4	5
9	I feel comfortable when I am with other people.	1	2	3	4	5	43	I perform my duties immediately.	1	2	3	4	5
10	I easily succumb to stress.	1	2	3	4	5	44	I'm always ready for anything.	1	2	3	4	5
11	I'm staying in the background.	1	2	3	4	5	45	I often make a mess.	1	2	3	4	5
12	I like order.	1	2	3	4	5	46	I spend time thinking about things.	1	2	3	4	5

13	I often use complicated words.	1	2	3	4	5	47	I don't mind being the center of attention.	1	2	3	4	5
14	I'm full of ideas.	1	2	3	4	5	48	I get annoyed easily.	1	2	3	4	5
15	I rarely have new ideas.	1	2	3	4	5	49	I feel other people's emotions.	1	2	3	4	5
16	I'm not interested in abstract ideas.	1	2	3	4	5	50	I have some bad habits.	1	2	3	4	5
17	I know immediately what to do.	1	2	3	4	5	51	I often forget to put things back where they belong.	1	2	3	4	5
18	I have a soft heart.	1	2	3	4	5	52	I'm easily upset.	1	2	3	4	5
19	I always know what I'm doing.	1	2	3	4	5	53	I am not overly interested in others.	1	2	3	4	5
20	Sometimes I had to lie.	1	2	3	4	5	54	I make time for others.	1	2	3	4	5
21	I'm avoiding my responsibilities.	1	2	3	4	5	55	I follow a certain schedule.	1	2	3	4	5
22	I don't like to draw attention to myself.	1	2	3	4	5	56	I get upset easily.	1	2	3	4	5
23	I am quiet in the presence of unknown people.	1	2	3	4	5	57	I change moods often.	1	2	3	4	5
24	I am relaxed most of the time.	1	2	3	4	5	58	I talk to a lot of different people at parties.	1	2	3	4	5
25	I have great ideas.	1	2	3	4	5	59	I am precise in the work I do.	1	2	3	4	5
26	I make people feel at ease.	1	2	3	4	5	60	I am not always what I seem.	1	2	3	4	5
27	I'm always ready for anything.	1	2	3	4	5	61	I'm interested in people.	1	2	3	4	5
28	I'm often the one who starts the conversation.	1	2	3	4	5	62	I don't talk much.	1	2	3	4	5
29	I don't always do as I say.	1	2	3	4	5	63	I have a vivid imagination.	1	2	3	4	5
30	I don't have a vivid imagination.	1	2	3	4	5	64	I always know why I do something.	1	2	3	4	5

31	I often feel depressed.	1	2	3	4	5	65	I never gossiped about others.	1	2	3	4	5
32	I always admit when I make a mistake.	1	2	3	4	5	66	I am often worried.	1	2	3	4	5
33	I understand things quickly.	1	2	3	4	5	67	I am ready to do anything for others.	1	2	3	4	5
34	I pay attention to details.	1	2	3	4	5							

Willingness To Communicate (WTC), McCroskey, J. C. (1992)

Directions: Below are 20 situations in which a person might choose to communicate or not to communicate. Presume

you have completely free choice. Indicate the percentage of times you would choose to communicate in each

type of situation. Indicate in the space at the left of the item what percent of the time you would choose to communicate.

(0 = Never to 100 = Always)

- _____ 1. Talk with a service station attendant.
- _____ 2. Talk with a physician.
- _____ 3. Present a talk to a group of strangers.
- _____ 4. Talk with an acquaintance while standing in line.
- _____ 5. Talk with a salesperson in a store.
- _____ 6. Talk in a large meeting of friends.
- _____ 7. Talk with a police officer.
- _____ 8. Talk in a small group of strangers.
- _____ 9. Talk with a friend while standing in line.
- _____ 10. Talk with a waiter/waitress in a restaurant.
- _____ 11. Talk in a large meeting of acquaintances.
- _____ 12. Talk with a stranger while standing in line.

- ____ 13. Talk with a secretary.
- ____ 14. Present a talk to a group of friends.
- ____ 15. Talk in a small group of acquaintances.
- ____ 16. Talk with a garbage collector.
- ____ 17. Talk in a large meeting of strangers.
- ____ 18. Talk with a spouse (or girl/boyfriend).
- ____ 19. Talk in a small group of friends.
- ____ 20. Present a talk to a group of acquaintances.

**Rosenberg, M. (1965). Society and the adolescent self-image. Princeton, NJ:
Princeton University Press.**

- 1 - I completely agree.
- 2 - I agree.
- 3 - I disagree.
- 4 - I completely disagree.

1.	Overall, I'm happy with myself.	1	2	3	4
2.	Sometimes I think I'm no good at all.	1	2	3	4
3.	I feel that I have many good qualities.	1	2	3	4
4.	I am capable of doing things like most other people.	1	2	3	4
5.	I feel I have nothing to be proud of.	1	2	3	4
6.	I certainly feel useless sometimes	1	2	3	4
7.	I feel that I am a valuable person, at least on an equal level with others.	1	2	3	4
8.	I wish I could respect myself more.	1	2	3	4
9.	All in all, I think I'm a failure.	1	2	3	4
10.	I take a positive attitude towards myself.	1	2	3	4

The validated Serbian version of the Anxiety Scale in Foreign Language Teaching

(Horwitz, Horwitz, & Cope, 1986)

1 = I completely agree.

2 = I agree.

3 = I neither agree nor disagree

4 = I disagree

5 = I completely disagree.

1.	I am never sure of myself while speaking in a foreign language class	1	2	3	4	5
2.	I'm not worried that I might make a mistake in a foreign language class	1	2	3	4	5
3.	I always get nervous when I know I'm going to be called on in a foreign language class	1	2	3	4	5
4.	I get scared when I don't understand what the teacher is saying in a foreign language class	1	2	3	4	5
5.	I don't mind taking more foreign language classes	1	2	3	4	5
6.	In a foreign language class, I think about things that have nothing to do with the topic	1	2	3	4	5
7.	I keep thinking that other students are better than me	1	2	3	4	5
8.	During foreign language tests I am usually relaxed	1	2	3	4	5
9.	I panic when I have to speak in a foreign language class without preparation	1	2	3	4	5
10.	I'm worried about the consequences of failing a foreign language class.	1	2	3	4	5
11.	Ne razumem zašto neki studenti postaju nervozni na času stranog jezika	1	2	3	4	5
12.	In foreign language class, I get so nervous that I forget even what I know	1	2	3	4	5
13.	I am ashamed to volunteer for a foreign language class	1	2	3	4	5
14.	I wouldn't have any anxiety if I had to speak a foreign language with a native speaker	1	2	3	4	5
15.	It annoys me when I don't understand what the teacher is correcting	1	2	3	4	5
16.	Even when I come prepared to a foreign language class, I am anxious	1	2	3	4	5

17.	I often don't feel like going to a foreign language class	1	2	3	4	5
18.	I feel confident when I speak in a foreign language class	1	2	3	4	5
19.	I'm afraid my foreign language teacher is ready to correct every mistake I make	1	2	3	4	5
20.	My heart beats fast when I have to be called on in a foreign language class	1	2	3	4	5
21.	The more I study for the foreign language test, the more confused I am	1	2	3	4	5
22.	I don't feel any pressure when preparing for a foreign language class	1	2	3	4	5
23.	I always think that other students speak a foreign language better than me	1	2	3	4	5
24.	I feel very confident when communicating in a foreign language in front of other students	1	2	3	4	5
25.	The foreign language class is moving so fast that I'm afraid I'll fall behind	1	2	3	4	5
26.	I am more nervous in foreign language classes than in other classes	1	2	3	4	5
27.	When I speak in a foreign language class, I get nervous and confused	1	2	3	4	5
28.	When I go to a foreign language class, I feel confident and relaxed	1	2	3	4	5
29.	When I don't understand every word that the foreign language teacher says, I get nervous	1	2	3	4	5
30.	The large number of rules that I have to learn in order to speak a foreign language seems insurmountable to me	1	2	3	4	5
31.	I am afraid that the other students will laugh at me when I speak in a foreign language	1	2	3	4	5
32.	I would probably feel comfortable in the company of native speakers of the foreign language I am learning	1	2	3	4	5
33.	I get nervous when the foreign language teacher asks a question for which I have not prepared in advance	1	2	3	4	5

Metacognition Questionnaire

Metacognitive Awareness Inventory Schraw, G. & Dennison, R.S. (1994).
Assessing meta-cognitive awareness. *Contemporary Educational Psychology*, 19,
460-475.

Read each statement carefully. Consider whether the statement is true or false, as it usually applies to you when you are in the role of a student (attending classes, university, etc.)

		correct	incorrect
1.	Sometimes I wonder if I am meeting my goals.		
2.	I consider several alternatives to the problem before answering.		
3.	I try to use strategies that have worked in the past.		
4.	I adjust my learning speed so that I have enough time.		
5.	I understand my intellectual strengths and weaknesses.		
6.	I think about what I really need to learn before I start the assignment.		
7.	I know how well I did when I finished the test.		
8.	I set specific goals before starting a task.		
9.	I slow down when I come across important information.		
10.	I know what information is most important to learn.		
11.	I wonder if I have considered all possibilities when troubleshooting.		
12.	I am good at organizing information.		
13.	I consciously focus my attention on important information.		
14.	I have a specific purpose for each strategy I use.		
15.	I learn best when I know something about the subject.		
16.	I know what the teacher expects me to learn.		
17.	I remember the information well.		
18.	I use different learning strategies depending on the situation.		
19.	I wonder if there was an easier way to get things done after I complete the task.		
20.	I have control over how well I study.		
21.	I review occasionally to help me understand important relationships.		
22.	I ask myself questions about the teaching material before I start.		

23.	I think of several ways to solve the problem and choose the best one.		
24.	I summarize what I learned after I finish.		
25.	I ask others for help when I don't understand something.		
26.	I can motivate myself to study when I need to.		
27.	I am aware of what strategies I use when I study.		
28.	I find myself analyzing the usefulness of my learning strategy.		
29.	I use my intellectual strengths to compensate for my weaknesses.		
30.	I focus on the meaning and importance of new information.		
31.	I put my own examples to make the information more meaningful.		
32.	I am a good judge of how well I understand something.		
33.	I automatically use useful learning strategies.		
34.	I pause regularly to check my understanding of what I am learning.		
35.	I know when each strategy I use will be most effective.		
36.	I wonder how well I will achieve my goals when I finish studying.		
37.	I draw pictures or diagrams to help me understand what I am learning.		
38.	I wonder if I have considered all the possibilities after solving the problem.		
39.	I try to translate new information into my own words.		
40.	I change strategies when I fail to understand.		
41.	I use the organizational structure of the text to learn better.		
42.	I read the instructions carefully before starting the task.		
43.	I wonder if what I'm reading is related to what I already know.		
44.	I question my assumptions when I get confused.		
45.	I organize my time to best achieve my goals.		
46.	I learn more when I am interested in the subject.		
47.	I try to break studying into smaller steps.		
48.	I focus on the overall meaning, not the specifics.		
49.	I ask myself questions about how I'm doing when I'm learning something new.		

50.	I wonder if I learned as much as I could when I finished the assignment.		
51.	I stop and look for new information when something is not clear to me.		
52.	I stop and re-read when I get confused.		

Questionnaire of motivation for learning a foreign language

Language Learning Orientations Scale - Intrinsic Motivation, Extrinsic Motivation and Amotivation Subscales (LLOS-IEA), (Noels, K.A., Pelletier, L., Clement, R., & Vallerand, R., 2000).

- 1 - I completely disagree.
- 2 - I partially disagree.
- 3 - undetermined
- 4 - I partially agree.
- 5 - I completely agree.

PART A						
1	I don't know why I study English and I don't really care.	1	2	3	4	5
2	I think I'm wasting my time learning English.	1	2	3	4	5
3	I don't know and I can't figure out what I'm even doing learning English.	1	2	3	4	5
PART B						
4	I learn English because I have the impression that it is expected of me.	1	2	3	4	5
5	I am learning English so that I can have a more prestigious job later.	1	2	3	4	5
6	I am learning English so that I can have a better salary later.	1	2	3	4	5
PART C						
7	I'm learning English to show how good I am because I know how to speak another language.	1	2	3	4	5
8	I'm learning English because I would be embarrassed if I didn't know how to talk to my friends in their mother tongue.	1	2	3	4	5
9	I am learning English because I would feel guilty if I didn't know how to speak another language.	1	2	3	4	5
PART D						

10	I am learning English because I decided to be a person who knows how to speak more than one language.	1	2	3	4	5
11	I study English because I think it is good for my personal development.	1	2	3	4	5
12	I am learning English because I have decided to learn more languages.	1	2	3	4	5
PART E						
13	I study English because of the pleasure I feel knowing the literature of another language community.	1	2	3	4	5
14	I learn English because of the pleasure I feel in discovering new things.	1	2	3	4	5
15	I learn English because of the pleasure I feel while gaining new knowledge about another language community and their way of life.	1	2	3	4	5
PART F						
16	I learn English for the pleasure I feel when I surpass myself in learning a foreign language.	1	2	3	4	5
17	I study English for the satisfaction I feel when I master a difficult lesson in a foreign language.	1	2	3	4	5
18	I learn English for the pleasure I feel while solving difficult tasks in a foreign language.	1	2	3	4	5
PART G						
19	I learn English because of the excitement I feel while listening to foreign languages.	1	2	3	4	5
20	I learn English because of the joy I feel when I speak a foreign language.	1	2	3	4	5
21	I learn English because of the pleasure I feel while listening to the language of a native speaker.					

Fear of communication

(PRCA-24) (McCroskey, 2005)

I completely disagree = 1; I disagree = 2; Neutral = 3; I agree = 4; I completely agree = 5

- _____ 1. I don't like to participate in group discussions.
- _____ 2. In general, I feel comfortable participating in group discussions.
- _____ 3. I am tense and nervous while participating in group discussions.
- _____ 4. I like to join group discussions.

- _____ 5. Joining a group discussion with new people makes me tense and nervous.
- _____ 6. I am calm and relaxed while participating in group discussions.
- _____ 7. In general, I am nervous when I have to participate in a discussion in a meeting.
- _____ 8. I am usually comfortable when I have to participate in a discussion in a meeting.
- _____ 9. I am very calm and relaxed when called upon to express my opinion in a meeting.
- _____ 10. I'm afraid to speak my mind in meetings.
- _____ 11. Communication in meetings is usually uncomfortable for me.
- _____ 12. I am very relaxed when answering questions in a meeting.
- _____ 13. While participating in a conversation with a new acquaintance, I feel very nervous.
- _____ 14. I'm not afraid to speak up in conversations.
- _____ 15. I am usually very tense and nervous in conversations.
- _____ 16. I am usually very calm and relaxed in conversations.
- _____ 17. While talking to a new acquaintance, I feel very relaxed.
- _____ 18. I'm afraid to speak in conversations.
- _____ 19. I am not afraid when I have to give a speech.
- _____ 20. Certain parts of my body are very tense and stiff when I give a speech.
- _____ 21. I feel relaxed while giving a speech.
- _____ 22. My thoughts become jumbled when I give a speech.
- _____ 23. I think I can give a speech with confidence.
- _____ 24. When giving a speech, I get so nervous that I forget facts that I really know.

Inventory of memory and reasoning competencies (MARCI)

(Stankov & Crawford, 1997)

1	My memory is above average.	1	2	3	4	5	6
2	To solve a problem, I rely on reasoning skills.	1	2	3	4	5	6
3	In comparison with other intellectual abilities ie. attention, and judgment, my memory is good.	1	2	3	4	5	6
4	I enjoy being involved in activities that require some sort of reasoning.	1	2	3	4	5	6
5	I can remember more material than the average person.	1	2	3	4	5	6
6	I feel confident when solving problems that require reasoning skills.	1	2	3	4	5	6

7	I am satisfied with my memory.	1	2	3	4	5	6
8	In the exam situation, I get the answers right mostly by reasoning.	1	2	3	4	5	6
9	I describe myself as a person with above-average reasoning abilities.	1	2	3	4	5	6
10	I rely on my memory to get me through exams.	1	2	3	4	5	6
11	I am satisfied with my reasoning abilities.	1	2	3	4	5	6
12	I enjoy doing activities that require a good memory.	1	2	3	4	5	6
13	I can reason better than the average person.	1	2	3	4	5	6
14	For the purpose of the exam, I remember the teaching material easily.	1	2	3	4	5	6
15	Compared to my other cognitive abilities, my reasoning is sound.	1	2	3	4	5	6
16	I have a good memory.	1	2	3	4	5	6

Moodle platform

Access to the Moodle platform

1. It is easy to access the Moodle platform from the computer classroom. yes no
2. It's easy to access the Moodle platform from home. yes no
3. The Moodle platform is fast and reliable. yes no

Interaction

4. I can easily introduce myself and express myself on the platform. yes no
5. I can easily communicate with the teacher on the platform. yes no
6. I easily communicate with colleagues on the platform. yes no

Layout and structure of the Moodle platform

7. The information is easy to understand. yes no
8. The platform is well planned and structured and easy to use. yes no

Moodle resources

9. It is useful for updating information. yes no
10. It is useful for downloading or reading online written resources for learning a foreign language. yes no
11. It is useful for online quizzes and exercises for learning a foreign language. yes no
12. It is useful for engaging and participating in forum discussions. yes no
13. It is useful for watching or listening to audio and video files. yes no
14. It is useful for participating in online chat. yes no

Student opinion

15. I feel more confident when I use the platform. yes no

16. My learning is enhanced when I use the platform. yes no
17. I have to be very disciplined when using the platform. yes no
18. I need to improve my typing skills when using the Moodle platform. yes no
19. I use the Moodle platform only as part of the requirements for the foreign language course. yes no
20. I want to use the Moodle platform in other courses in the future. yes no

General questions

Please answer the survey questions honestly. The survey is anonymous, and your answers should give an overall picture of the use of the Moodle platform in foreign language teaching.

1. Faculty
2. Gender: a) male b) female
3. Age
4. What is your average grade in your studies so far?
 - a) 6,0 - 7,0
 - b) 7,1 – 8,0
 - c) 8,1 – 9,0
 - d) 9,1 – 10,0

Foreign language

5. What level of foreign language knowledge do you have??
 - a) beginner (A1)
 - b) lower intermediate (A2)
 - c) intermediate (B1)
 - d) upper intermediate (B2)
 - e) advanced (C1-C2)

6. What grade (number of points) did you have in the previous foreign language course?

7. Which of the mentioned information and communication technologies do you use for learning purposes and how often? (5 - every day, 4 - several times a week, 3 - several times a month, 2 - once a month, 1 - never)

Websites	5	4	3	2	1
synchronous communication (chats, video conferences, Skype, virtual worlds, etc.)	5	4	3	2	1
asynchronous communication (emails, SMS, forums, etc.)	5	4	3	2	1

social networks (Facebook, Twitter, Instagram, etc.)	5	4	3	2	1
media services (TV, online TV, online radio)	5	4	3	2	1
digital entertainment media (movies, music)	5	4	3	2	1
digital games	5	4	3	2	1
various office applications (Word, Excel, PowerPoint)	5	4	3	2	1
sharing information on the Internet (Wiki, blog, interest groups, etc.)	5	4	3	2	1

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