

Self-Regulated Learning and Sociodemographic Factors in Students' L1/L2 Writing Proficiency

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Background: Academic writing is a complex and demanding activity in which students have to regulate their (meta)cognitive, motivational, and linguistic processes and self-regulatory writing strategies might serve as a tool to accomplish writing tasks. The research was done as part of a verification of Zimmerman & Risemberg's (1997) model of self-regulation in writing. Previous research on the relationships between students' self-regulated learning (SRL) and writing performance has suggested their positive impact.

Purpose: This paper provides insights into Croatian university students' first/second language (L1/L2) writing performance regarding the SRL strategy use.

Method: Students' written performance in both L1 (Croatian) and L2 (English) was checked, and the contributions of SRL and sociodemographic factors were explored. A total of 104 students from the initial and final years of teacher education study were included in the research. A quantitative research method was used including the following instruments: The learning orientation scale, the Perceived academic control scale, the Croatian version of the values subscale, Writing strategies questionnaire.

Results: Descriptive analyses revealed that students' L1/L2 writing proficiency was on average. There was no difference between L1 and L2 writing proficiency. Furthermore, the study showed that students mostly initiated learning goal orientation, writing tasks were valuable to them and they had more results of academic control over the mentioned tasks. Participants mostly used the most effective writing strategy - checking and correcting the text. The final study year students had better L1 writing proficiency compared to the initial study year students. Such results were expected since students were exposed to the extensive L1 academic experience, which was not the case with the exposure to learning English as a foreign language (EFL learning), resulting in a lower level of L2 essay writing proficiency. Success in L1 writing proficiency was explained more by cognitive and less by sociodemographic and motivational factors. The greater academic control over writing assignments and the lower goal orientation on avoiding effort was shown, the greater success was achieved. Success in L2 writing proficiency was mostly explained by cognitive factors, but also significantly by some sociodemographic and motivational factors. The higher GPA in L2 and the less asking for help and writing by the model strategy was employed, the greater success in writing assignments was achieved. The study indicated the importance of mastering SRL, especially cognitive factors in both L1 and L2 learning.

Implication: The implications of the study were discussed which may benefit L1/L2 teachers to teach their students SRL writing strategies by which students could self-regulate their thoughts, feelings, and behaviours throughout the writing process to achieve academic success.

Keywords: cognitive factors, language competence, motivational factors, self-regulated learning (SRL), sociodemographic factors, writing proficiency

Introduction

Attaining a high level of L1/L2 language proficiency depends on a learner's self-regulatory skills (Oxford, 2001). According to Pintrich, "self-regulated learning is an active, constructive process whereby learners set

goals for their learning and then attempt to monitor, regulate, and control their cognition, motivation, and behaviour, guided and constrained by their goals and the contextual features in the environment" (2000, p.453). Self-regulation processes mediate between personal and environmental characteristics and achievement.

Due to the high complexity of writing skills necessary, students in the Republic of Croatia, as well as in much more developed countries (Graham, 2013; Graham & Rijlaarsdam, 2016; Graham, 2019; Kuhlemeier et al., 2013; Neumann, 2012) display inadequate writing performance. In the State Graduation Examination, which comes at the end of secondary education of students in the Republic of Croatia, organised by the *National Centre for External Evaluation of Education*, students are supposed to write an essay that is scored according to descriptors. After the implementation of the State Graduation Examination at the end of the school years 2017/2018 and 2018/2019, essays written in the mother tongue (Croatian) were judged to have been so poor that there was a public debate about changing and/or abolishing the point threshold as a part of this “maturity” exam. In the end, essay writing have still been retained in this important national exam, as a valuable indicator of students’ knowledge and skills in written expression and reading literacy, and as such a valuable “passport” to enter the academic world, which requires a higher, creative and critical level of thinking with which essay writing is in a reciprocal relationship.

Research Background

Essay writing is (meta)cognitively very demanding: one of the most demanding linguistic activities, which requires combinatorics of knowledge and skills and includes both higher and lower cognitive processes of information. According to Graham et al. (2018), writing is a complex and challenging task requiring considerable instructional time to master. To activate and manipulate the much-needed SRL (meta) cognitive strategies through the processes of writing, it is necessary to motivate the authors of the text to use them, and to shape the context in which they will be used. Many authors have affirmed that motivation for writing declines from lower to higher grades of studying (Graham et al., 2021; Nikčević-Milković, Jerković, & Brala-Mudrovčić, 2015). Graham (2006) observed that some studies found that motivation increases with age, but some other studies found that it declines over the years. Motivation for writing has been largely ignored among researchers (Wilcox et al., 2016).

In the research investigating the process of L1 writing performance there has been empirical evidence for the positive impact of self-regulation in writing to strategy use such as goal setting, planning, evaluating, revising, and avoiding distractions (e.g., Golparvar & Khafi, 2021; Bruning et al., 2013; Pajares et al., 1999; Zimmerman & Risemberg, 1997). In the process of

second/foreign language learning/teaching in Croatia, inefficient educational strategies are found, writing skills are the most difficult to acquire, and many students lack the basic skills needed to write appropriately (Mihaljević Djigunović & Bagarić, 2007). Previous research on L2 strategy use has demonstrated that learners who received SRL instruction significantly outperformed those who received regular writing instructions (Almazloum, 2018). SRL instruction helped them to become autonomous learners who “could select writing topics; construct, perform, and evaluate strategies; and accomplish tasks independently” (Almazloum, 2018, p.253). Due to the status of English as the *lingua franca* of the modern digital world, the need to achieve a higher level of writing proficiency is a priority worldwide.

Gap in Knowledge and Purpose of the Study

Since the process of writing in general, especially L2 writing, requires a lot of effort that includes demanding cognitive activities, at the same time there is a lack of studies that investigate and compares students’ L1 and L2 writing skills according to SRL, in this article we want to provide insights into students’ L1/L2 writing performance at university level in Croatia, with special emphasis on the influence of SRL on writing proficiency. Moreover, since the review of the literature revealed that none of the existing studies employed a model of SRL in both L1 and L2 writing in the Croatian context in specific, we intend to explore and establish differences between L1/L2 essay writing strategy used by Croatian university students as a contribution to the research on the role of SRL to students’ writing proficiency in general. The findings of the study could encourage L1/L2 teachers to teach their students SRL writing strategies by which they could self-regulate their thoughts, feelings, and behaviours throughout the writing process to achieve academic success.

Literature Review

Zimmerman & Risemberg’s (1997) model of self-regulation in writing

Zimmerman & Risemberg’s (1997) model of self-regulation in writing best explains this process, that is, it describes how an individual uses self-directed thoughts, feelings, actions, and context: a) when preparing to write, b) during the writing process and c) immediately after the text has been written, to achieve certain literary goals. These authors propose three general categories of processes used in the control and supervision of writing as well as important

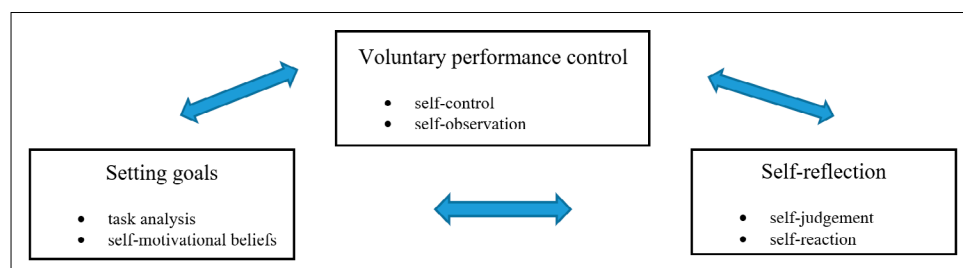
elements of self-regulation of written expression. These processes are the following: 1) environmental (regulation of physical and/or social conditions of writing), 2) behavioural (regulation of motor aspects of writing) and 3) personal (regulation of beliefs, interests and emotions related to writing). They reciprocally influence each other through feedback, including cyclical processes in which the author of a text monitors the success of the use of writing strategies and techniques, and continues, changes, or

avoids what they do by writing, depending on the results of the feedback. The use of these processes is closely related to the assessment of one's competence in writing, the so-called *self-efficacy*. Due to the emphasis on the (meta)cognitive and social aspects of developing and learning written expression, this model is called the socio-cognitive model.

Self-regulation of written expression according to this model takes place in a cycle with three phases:

Figure 1

Zimmerman & Risemberg's (1997) Model of Self-Regulation in Writing



(1) Setting goals, which precedes the text writing process and has two related categories of self-regulatory processes: a) task analysis and b) self-motivational beliefs. Task analysis involves setting the goals that are to be achieved by the written text and developing a strategy for planning the writing of the text. Self-motivational beliefs include a set of personal variables for the individual author: intrinsic interest in writing, self-efficacy or assessment of competence in written expression, the expectation of success in writing, the value of writing and orientation towards the goal. Self-motivational beliefs are closely related to an individual's success in each written performance because an individual will not effectively use cognitive writing processes if they are not motivated to use them. (2) Voluntary performance control includes processes influencing motor effort during the exercise of writing skills. This phase includes self-control and self-observation. Self-control processes include a set of self-regulatory processes such as self-instruction, imagining, focusing, and task strategy. Processes of self-observation refer to the monitoring of specific aspects of one's performance, the conditions that exist around performance and the products of that performance. This is related to monitoring strategies related to awareness of writing tasks during performance and control of the process. (3) Self-reflection involves processes that occur after performance effort and that return the process to the first phase. It involves two self-reflective processes: self-judgement and self-reaction. Self-judgement is the evaluation of

performance according to some value criterion. Self-reaction contains two processes: self-satisfaction/dissatisfaction as the result of task perception and adaptive/defensive conclusions (about whether to change one's approach to self-regulation in the next performance or not).

Self-regulated Learning Processes in Writing

Theorists in the field of writing psychology have established various SRL strategies that authors use in controlling personal, behavioural, and environmental processes in written expression (Graham & Harris, 2000; Zimmerman & Risemberg, 1997). These strategies include the following: goal setting, planning, seeking information, note storage, text organisation, self-evaluation, review of the text, self-verbalisation, self-reward, seeking help, using models, and so on. The use of SRL strategies is an important element in the development of competent writing (Nikčević-Milković, 2018).

When composing a text, students use specific approaches to learning and SRL processes. In-depth information processing is the more powerful process, which results in better writing performance (Magno, 2009). Individuals who have a greater interest in the topic they are writing about are better able to use more effective writing strategies that will then facilitate their writing processes, which are very (meta)cognitively demanding. Conversely, if they worry about whether they have developed writing

skills, they will not revert to using effective writing strategies. On the other hand, superficial information processing only increases routine memorisation strategies. The skill of written expression requires independent thinking and self-discipline, which means that it does not seek much help from others. It does not require much manipulation of the surroundings either, because the authors primarily focus on the task of writing, and much less on their surroundings. SRL processes increase the performance of essay writing in two ways: firstly, self-regulatory mechanisms, such as planning, monitoring, evaluation, and checking, provide building blocks or subprocesses that can function together with other subprocesses (such as text execution procedure, design of programmes for efficient execution of a written task, etc.); secondly, use of these mechanisms can affect some changes in the factors involved, leading to strategic changes in behaviour during writing. Repeated success in using writing strategies leads to thoughts and feelings that increase the self-efficacy of writing, which in turn increases intrinsic motivation as well as the desire to seek better strategic solutions and ultimately results in better achievements in written expression (Zimmerman & Risemberg, 1997; Graham & Harris, 2000). Self-regulatory incentives have been positively related to literacy outcomes in many studies (Camping, Graham, Ng, Aitken, Wilson, & Wdowin, 2020; Graham et al., 2021; Schiefele & Schaffner, 2016; Samanian & Roohani, 2018).

How successful a self-regulated student will be, does not depend exclusively on the skills of written expression and successful use of writing strategies, but also on the assessment of one's self-efficacy, value, interest, and expectations from the task: the motivation to write. Assessment of student self-efficacy determines the choice of writing activities, willingness to put effort into written expression, and persistence in continuing the task to the end. Students whose self-efficacy score is low avoid written expression, which quickly puts them in a vicious circle of academic failure. The reluctance to write leads to less and less effort being made by students and the lack of effort makes it difficult to develop the skill of writing and so they fail to develop this skill. Therefore, motivation is a key factor of SRL for initiating (meta) cognitive writing processes.

Motivational and Cognitive Components of Learning and Writing

Pintrich (2003) highlights the general framework of expectations and value theories as useful for exploring motivational components and distinguishes three

types of these components: (1) expectation components (control beliefs and efficiency beliefs); (2) value components (goal orientation and task value); and (3) affective components (emotional reactions to the task). Among the motivational variables important for initiating (meta)cognitive processes of learning and writing are the target orientations of learning which can be as follows: (1) focused on learning or mastering the task; (2) focused on performance (e. g. showing others that we know something, standing out from the crowd); and (3) aimed at avoiding effort (Rijavec & Brdar, 2002). Constructs of goal orientations and task evaluation belong to value theory, one of the four categories of Eccles & Wigfield's motivation theory (2002). A task value is defined as the quality of a task that contributes to increasing or decreasing the probability that a person will choose that task. The expectation of success in performing a certain task affects the motivation for their choice, and it will also affect to what extent the individual will be engaged in it. The construct of perceived academic control is a student's belief in whether they possess the necessary traits that can contribute to their achievements in the academic environment (Respondek, Seufert, Stupnisky & Nett, 2017). Perceived academic control positively predicts enjoyment and achievement, as well as negatively predicts boredom and anxiety.

Mastering L1/ L2 Writing Competence

In the field of second language acquisition (SLA), researchers have been trying to explain and understand the relationship between L1 and L2 acquisition (for example contrastive analysis, error analysis, interlanguage and crosslinguistic influences). According to Ellis (1994), the degree of influence of the first language (L1) on second language acquisition is a controversial topic in second language research. Mastering L2 communicative language competence (Bachman & Palmer, 1996) is different to mastering L1 communicative language competence since there are numerous factors (for example individual differences, learner's background, classroom instruction) that might influence the L1/L2 learning process. Although there are similarities between L1 and L2 writing, Hyland (2004) pointed out significant L1/L2 differences (issues) that have to be addressed: different learning experience/environment, different language knowledge/proficiency, different attitudes/sensibility towards L1/L2 learning, different preferences for ways of organising text, different writing processes and different understandings of text uses. Besides, Hyland (ibid.) emphasised L2 learners' "cultural schemata", or the cultural differences that can impact L2 writers'

production, as well as effective L2 writing instructions as an important part of L2 learning/teaching. In the process of foreign language learning/teaching, writing was neglected for a long time (Carter & Nunan, 2001). There have been many practical textbooks and books published since the 1980s (e. g. Jolly, 1984; Olshtain, 2000) that emphasise the importance of writing as one of the most challenging aspects of second/foreign language learning (Hyland, 2004). Nowadays, in the global digital world, good writing skills, especially in English, are needed for global network communication, and teaching how to write good and creative texts should be incorporated into writing instruction in English at all levels of EFL learning. L2 teachers should provide tasks to encourage students to create effective texts involving different kinds of knowledge. According to Hyland (2004), L2 writers should be taught to employ five kinds of knowledge to create effective texts: content knowledge (knowledge of ideas and concepts); system knowledge (knowledge of syntax and lexis); process knowledge (knowledge of how to prepare and carry out the writing task); genre knowledge (knowledge about the different genres and their value); context knowledge (knowledge of readers expectations). In other words, a wide range of knowledge is needed to write successfully in English. Assessing student writing (knowledge) is crucially important for both teachers and students. The assessments of texts should include clear criteria for assessing writing performance. The Council of Europe has devised a description of language learning, teaching, and assessment (*Common European Framework of Reference for Languages: Learning, teaching, assessment*, 2001). In our research, we set the criteria for L2 assessment respecting this framework.

Goals and Research Questions

In the light of research on self-regulatory writing processes in the Croatian education system (Nikčević-Milković, 2018) and the relatively small number of studies on students' L1 (Croatian) and L2 (English) writing proficiency at the university level, as well as no previous studies that explore the influence of SRL on students' L1/L2 writing proficiency at other educational levels (primary, secondary) in the Republic of Croatia, the present study was designed to answer the following research questions: 1) Is there a difference between L1 (Croatian) and L2 (English) writing proficiency? 2) Is there a correlation between L1/L2 writing proficiency and SRL (cognitive and motivational factors), and sociodemographic factors? 3) Are there differences in L1/L2 writing proficiency between students in their initial and final study years? 4) Are there any contributions of SRL strategies, and

sociodemographic factors to L1 writing proficiency? 5) Are there any contributions of SRL strategies, and sociodemographic factors to L2 writing proficiency? Based on theoretical knowledge and previous empirical findings (Bećirović, Brdarević-Čeljo & Polz, 2021; Hammann, 2005; Nikčević-Milković, 2007; Nikčević-Milković, 2014; Nikčević-Milković & Brala-Mudrovčić, 2015; Graham et al., 2021), the following hypotheses are put forward: H1 - Students' writing proficiency is better in their L1 (Croatian) than in their L2 (English). H2 - There is a correlation between students' L1/L2 writing proficiency and SRL, and sociodemographic factors. H3 - Final study year students' writing proficiency is higher than initial study year students' writing proficiency. H4 - A greater contribution of cognitive than motivational and sociodemographic factors in writing proficiency is expected in both languages.

Method

Participants

The sample consisted of 104 students, of whom 53 were from the initial study years (1st and 2nd year; average age $M = 20.3$; standard deviation $SD = 0.69$) and 51 were from the final study years (4th and 5th year; $M = 22.2$; $SD = 0.57$). The research was conducted on a non-probabilistic (intentional) appropriate sample of students from a higher educational institution that educates primary teachers. At the university level, students have five hours of Croatian language classes per week over five years of university study and three hours of English language classes per week during the first two years of university study. Researchers respected all ethical rules (participants were introduced to the aim of the research as well as later to the results; we use a code instead of students' names; students participated in research voluntarily and anonymously).

Instruments

Learning orientation scale (Rijavec & Brdar, 2002) – the Croatian version of the *Components of self-regulated learning questionnaire* (CRSL) (Niemi-virta, 1996) was used to examine the target orientations in learning, which includes: (1) learning goal orientation (student's focus on learning and acquisition of new knowledge and skills; statement example: "The most important thing for me in school is to learn as much as possible"); (2) achievement goal orientation (student's thoughts on evaluating their abilities and performance concerning other students; statement example: "I am very satisfied when I am better than others in school"); and (3) the goal orientation of avoiding effort

(the student's endeavours to invest as little effort as possible in learning; statement example: "*I try to learn school material with as little effort as possible*"). The scale has a total of 15 statements, five on each subscale. The answers are given on a five-point Likert scale (1 – strongly disagree; 5 – strongly agree). The total score on the individual subscales represents a simple additive linear combination of responses to all statements divided by the number of items. A higher overall score on a particular scale means a higher degree of student focus on learning, performing, or avoiding effort. The reliability coefficients of the internal consistency type (Cronbach's alpha) determined in this research were: .77 for the first subscale, .77 for the second subscale, .86 for the third subscale, and .78 for the whole scale, respectively.

Beliefs about the cognitive values of achieving success in writing tasks were examined by the *Croatian version of the values subscale* (six statements) of the self-esteem questionnaire, goal orientations, perceived control and values (Niemi-virta, 1999). It can be important for a student to get good grades in a subject or area of writing because these allow him or her to achieve some other goals (enrol in the desired university, get confirmation of their competencies, receive praise from teachers or parents, and so on). Starting from the control-value theory, Burić (2010) constructed six statements that sought to capture the positive evaluation of success and negative evaluation of failure in mathematics tests and Nikčević-Milković (2012) adapted the scale to writing tasks. The answers are given on a five-point Likert scale (from 1 – strongly disagree to 5 – strongly agree). The total score represents a simple additive linear combination of responses to all statements divided by the number of items. Statement number three was inversely scored. Statement examples are: "*Good grades in writing assignments are important for my future*" (positive evaluation of success); "*I would be very affected by failure on a writing task*" (negative evaluation of failure). In Burić's research (2010) satisfyingly high reliability of the scale, $\alpha = .78$ was confirmed, as well as in this research of $\alpha = .71$.

Cognitive assessment of control over achievement in writing tasks was examined through the *Perceived academic control scale* by Perry, Hladkyj, Pekrun, & Pelletier (2001), which was adapted for the field of writing. The research used the Croatian version of the scale (Sorić & Burić, 2010), adapted by the author Nikčević-Milković (2012) for the field of writing, which contains eight statements that are used to examine students' beliefs about the causes of their success and failure in writing tasks, that is, whether students possess certain traits that can affect their

success in writing assignments. Students assess the degree to which they can control their achievement in writing tasks on a five-point Likert scale (from 1 – strongly disagree to 5 – strongly agree). A statement example is: "*I think I am the most responsible for the grades I get for the written texts.*" The total score represents a simple additive linear combination of answers to all items, where the statements 3, 5, 6 and 8 are inversely scored. Perry et al. (2001) state the coefficients of reliability (internal consistency) are greater than $\alpha = .80$, and the reliability coefficient in this research is $\alpha = .70$, respectively.

The use of writing strategies was examined by the *Writing strategies questionnaire* (Nikčević-Milković, 2012). It contains 21 items. The answers are given on a five-point Likert type scale (from 1 – never used to 5 – used very often). The questionnaire has the following three subscales: (1) Writing planning and self-direction; (2) Checking and correcting the text; and (3) Asking for help and writing by the model, which has appropriate reliability (internal consistency) in the range from .77 to .86 (Nikčević-Milković, 2012). In this research, the reliability (internal consistency) was calculated at first for this questionnaire after writing a text in the Croatian language and it is $\alpha = .88$ for the first subscale, $\alpha = .71$ for the second subscale, $\alpha = .87$ for the third subscale, and $\alpha = .87$ for the overall scale. The reliability of this questionnaire after writing the text in the English language is $\alpha = .88$ for the first subscale, $\alpha = .86$ for the second subscale, $\alpha = .86$ for the third subscale, and $\alpha = .90$ for the overall scale, respectively.

Procedure

The research was conducted during the academic year 2019-2020 after the consent of the competent university institution had been obtained. Having read the purpose of the research, the participants participated in it voluntarily. Essays and questionnaires were written and filled in anonymously, but under a code that served only to link what was written. The respondents filled out the following: (1) a basic demographic data questionnaire listing the year of study, general success at the end of high school and average success in Croatian and English in high school for first year students, and for senior students their GPA during their studies and GPA from courses in Croatian and English language; (2) three standardised self-assessment questionnaires for measuring motivational factors – the learning goals orientations scale (Rijavec & Brdar, 2002); success expectancy scale (measured with two items: "*In this task, I expect to be: successful or unsuccessful*"; "*I expect to receive a grade on this task*": (from 1 to 5); and

scale of achievement value (Nikčević-Milković, 2012); and finally (3) two self-assessment questionnaires for measuring cognitive factors – a questionnaire about writing strategies (Nikčević-Milković, 2012) and perceived academic control scale in writing tasks (Nikčević-Milković, 2012).

The application of the questionnaire and the writing of essays in both Croatian and English on the same topic: “*The position of the Croatian or English language in global processes*” was through four meetings during regular classes. The initial and final meetings lasted about 25 minutes, and the second and third meetings lasted about 50 minutes. The lengths of the written texts were 350 words (essays in English) and 600 words (essays in Croatian), corresponding to the length of the texts at the *State Graduation Examination* in Croatia. Before writing the essay test, students read two professional texts entitled as follows: (1) *Of all European nations, Croats learn the mother tongue the least in schools: five in primary school, four hours in secondary school* by Ščitar (2019)¹; (2) *English as a Global Language* by Crystal (2009), which served to encourage students to think about a topic to write about in essays. Between the first and second meetings (a gap of one week) they could think intensively about the topic of the essay, research the topic on the Internet and in the departmental library and ask Croatian and English language teachers at the department about things they wanted to know. They filled out questionnaires during the initial and final meeting; during the former, they also read two professional texts, during the second meeting they wrote an essay in the Croatian language (50 minutes), and during the third meeting they wrote an essay in

the English language (50 minutes).

The evaluators of the quality of the written essays were Croatian and English teachers, who scored the essays according to the criteria of the State Graduation Examination (Centre for External Evaluation of the Republic of Croatia)². Two evaluators for Croatian texts and two evaluators for English texts corrected the texts and the inter-rater reliability was sufficient ($r = .87$). We randomised the texts – some students were writing in Croatian first, while some students were writing in English. Essays in Croatian were corrected according to descriptors that are measures of the quality of a text and bring a specific number of points. The following criteria were evaluated: planning, task completion, coherence and cohesion, vocabulary, and grammar. Points and related grades were as follows: 7 - 14 = 1; 15 - 17 = 2; 18 - 20 = 3; 21 - 22 = 4; 23 - 24 = 5. The State Graduation Examination in English is in line with the CEFR (*The Common European Framework of Reference for Language*) grading scale, and the points gained in the exam, according to the scale, were converted into grades ranging from 1 (not satisfactory) to 5 (excellent). The collected data were processed using the software system Statistica 13.2.

Results and Discussion

Descriptive Statistics

To answer the first research question, basic descriptive data for sociodemographic, motivational, and cognitive factors were calculated.

Table 1

Descriptive statistics for the sociodemographic factors

| | Mean | Std. Deviation | Skewness | Kurtosis | Minimum | Maximum |
|-------------------------|------|----------------|----------|----------|---------|---------|
| Study year | 2.94 | 1.711 | .04 | -1.78 | 1 | 5 |
| Task grade - Croatian | 2.68 | .938 | -.04 | -.63 | 1 | 5 |
| Task grade - English | 2.64 | 1.165 | .32 | -.62 | 1 | 5 |
| GPA – Croatian language | 3.51 | .718 | -.17 | -.36 | 2 | 5 |
| GPA - English language | 3.16 | .969 | .24 | -1.13 | 2 | 5 |
| GPA | 3.62 | .602 | -.71 | .61 | 2 | 5 |

The results of basic descriptive data for the sociodemographic factors showed that respondents in the Croatian language task (L1) achieved an average

score ($M = 2.68$, $SD = .938$), and their grades ranged over the full grade range (from 1 to 5). In the English language task (L2), they also achieved an average result ($M = 2.64$, $SD = 1.165$), and their grades for this task also ranged across the full grade range. The

¹ Ščitar, B. (2019). Od svih europskih naroda materinski jezik u školama najmanje uče Hrvati: u osnovnoj pet, u srednjoj četiri sata [Of all European nations, Croats learn the Mother Tongue the least in Schools: Five hours in primary school and four hours in secondary school], Večernji list (June 29th 2019.), Zagreb, Croatia.

² <http://sikavica.joler.eu/drzavna-matura/eseji/upute-za-pisanje-eseja>

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average grade in the Croatian language at the university for students of higher study years or from high school for students of lower study years was $M = 3.51$ ($SD = .718$) and ranged from 2 to 5. The grade point average in the English language at the university (or high school) was slightly lower ($M = 3.16$, $SD = .969$) and, also ranged from 2 to 5. The general average was higher ($M = 3.62$, $SD = .602$) and ranged from 2 to 5. The researcher observed from the second paper (along with that of the written essay), that half of the

respondents wrote a draft before writing the assignment in the Croatian language (46%), while slightly fewer wrote a draft before writing the assignment in the English language (38%). The obtained indices of asymmetry and flatness in the frames are acceptable for the implementation of parametric analyses. According to Kline (2005), the asymmetry and flatness parameters should range from asymmetry < 1 , to flatness < 3 .

Table 2

Descriptive statistics for the motivational factors

| | % | | Mean | Std. Deviation | Skewness | Kurtosis | Minimum | Maximum | |
|-------------------------------|----------------|----|------|----------------|----------|----------|---------|---------|---|
| | Yes | No | | | | | | | |
| MOTIVATIONAL VARIABLES | Croatian draft | 46 | 54 | | | | | | |
| | English draft | 38 | 62 | | | | | | |
| | LGO | | | 4.20 | .514 | -.49 | -.39 | 3 | 5 |
| | AGO | | | 3.09 | .787 | .25 | -.05 | 1 | 5 |
| | GOAE | | | 3.31 | .806 | .24 | .27 | 1 | 5 |
| | ES | 86 | 14 | | | | | | |
| | GE | | | 3.11 | .728 | -.03 | .14 | 1 | 5 |
| | VALUE | | | 3.31 | .806 | .24 | .27 | 1 | 5 |

Note: LGO – Learning goal orientation, AGO - Achievement goal orientation, GOAE - Goal orientations on avoiding effort, ES - Expectancy of success, GE - Grade Expectancy: from 1 to 5, VALUE - Value of the writing task

The results of the basic descriptive data for motivational factors showed that the highest average result was in using adaptive motivational learning strategies of learning goal orientations ($M = 4.20$, $SD = .514$); the result of using adaptive strategies of achievement goal orientations was slightly lower ($M = 3.09$, $SD = .787$), as well as the use of maladaptive strategies of goal orientations focused on avoiding

effort ($M = 3.31$, $SD = 0.806$). The majority of respondents (86%) expected success in written assignments. Regarding the expected grade, the average was $M = 3.11$ ($SD = .728$). The average score value of the writing tasks was $M = 3.31$ ($SD = .806$). The obtained indices of asymmetry and flatness in the frames are acceptable for the implementation of parametric analyses.

Table 3

Descriptive statistics for the cognitive factors

| | % | | Mean | Std. Deviation | Skewness | Kurtosis | Minimum | Maximum | |
|----------------------------|-----|----|------|----------------|----------|----------|---------|---------|---|
| | Yes | No | | | | | | | |
| COGNITIVE VARIABLES | AC | | | 3.75 | .476 | .33 | -.08 | 3 | 5 |
| | PSS | | | 3.16 | .731 | .45 | -.01 | 2 | 5 |
| | CCS | | | 3.81 | .824 | -.56 | .21 | 1 | 5 |
| | AH | | | 1.85 | .636 | .59 | -.28 | 1 | 4 |
| | SAC | 82 | 18 | | | | | | |
| | SAE | 73 | 27 | | | | | | |

Note: AC - Academic control, PSS - Planning and self-direction strategies, CCS - Checking and correction strategies, AH - Asking for help and writing by the model strategies, SAC - Satisfaction with the accomplished – Croatian, SAE - Satisfaction with the accomplished - English

The results of the basic descriptive data for cognitive factors showed a higher result on academic control ($M = 3.75$, $SD = .476$), and the results ranged from 3 to 5. Regarding the cognitive writing strategies, respondents mostly used adaptive checking and correction of the text strategies ($M = 3.81$, $SD = .824$), followed by adaptive planning and self-direction strategies ($M = 3.16$, $SD = .731$), and the least used was adaptive asking for help and writing by the model strategies ($M = 1.85$, $SD = .636$). Satisfaction with the results obtained in the Croatian language test was shown by 82% of the respondents, while satisfaction with the results achieved in the L2 test was slightly lower, but still high at 73%. The obtained indices of asymmetry and flatness in the frames are acceptable for the implementation of parametric analyses.

Correlation Analyses

Correlation analyses were performed to answer the second research question.

Table 4 shows that low positive statistically significant correlations were found between L2 writing proficiency, the GPA in Croatian and the GPA in

Table 4

Correlation Coefficients Between L1/L2 Writing Proficiency with the Sociodemographic Factors

| | <i>Study year</i> | <i>GPA in Croatian</i> | <i>GPA in English</i> | <i>GPA</i> |
|------------------------|-------------------|------------------------|-----------------------|------------|
| L1 writing proficiency | -.04 | .18 | .09 | .09 |
| L2 writing proficiency | .06 | .22* | .32* | .10 |

* $p < .05$

Table 5

Coefficients of Correlations Between L1/L2 Writing Proficiency and Motivational Factors

| | <i>Learning goal orientation</i> | <i>Achievement goal orientation</i> | <i>Goal orientations on avoiding effort</i> | <i>Writing value</i> | <i>Expectancy of success</i> |
|------------------------|----------------------------------|-------------------------------------|---|----------------------|------------------------------|
| L1 writing proficiency | -.07 | -.07 | -.21* | -.60 | .04 |
| L2 writing proficiency | .00 | .07 | .05 | .22* | .17 |

Note: * $p < .05$

Table 6

Coefficients of Correlations Between L1/L2 writing Proficiency and Cognitive Factors

| | <i>Academic control</i> | <i>Planning and self-direction strategies</i> | <i>Checking and correcting the text strategies</i> | <i>Asking for help and writing by the model strategies</i> |
|------------------------|-------------------------|---|--|--|
| L1 writing proficiency | .27* | .03 | .22* | -.31* |
| L2 writing proficiency | .41* | .27* | .22* | -.19 |

Note: * $p < .05$

English.

Table 5 shows that a low negative statistically significant correlation was found between L1 writing proficiency with goal orientations on avoiding effort, and a low positive statistically significant correlation between L2 writing proficiency with writing value.

Table 6 shows that low positive statistically significant correlations were found between the L1 writing proficiency with academic control and the checking and correcting of the text strategies and a low negative correlation with asking for help and writing by the model strategies. Also, the results showed that a moderate positive statistically significant correlation was found between L2 writing proficiency and academic control and low positive statistically significant correlations of this success with adaptive planning and self-direction strategies and checking and correction of the text strategies.

Difference between groups

To answer the third research question, a t-test was made (t-test for independent samples).

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Table 7 shows the difference between students in the initial study years (1st group) and those in the final study years (2nd group) in L1 writing proficiency is statistically significant ($t = -2.44, p < .05$). Final year students (2nd group) had better L1 writing proficiency ($M = 3.10, SD = .862$) compared to first year students (1st group) ($M = 2.29, SD = .825$).

Multivariate Hierarchical Regression Analysis (HRA)

Since the bivariate analyses were significant, an HRA was performed in three steps (Table 8) between different sociodemographic factors (study year, GPA

in Croatian language, GPA), motivational factors (learning-focused goal orientations, achievement-focused goal orientations, goal-focused orientations on avoiding effort, writing task value, expectancy of success) and cognitive factors (academic control, planning and self-direction strategies, checking and correction of the text strategies, asking for help and writing by the model strategies) with L1 writing proficiency as a criterion. In the first step sociodemographic data were included, and it was shown that these predictors explain 2% of the variance of the criteria. In the second step, by introducing motivational variables, the stated predictors were able to explain an additional 3% of the variance of the

Table 7

Checking the difference in L1/L2 Writing Proficiency Between Two Groups of Students: Initial Study Years (1st group) and Final Study years (2nd group)

| | | | <i>Mean</i> | <i>Std. Deviation</i> | <i>t-test</i> | <i>P</i> | <i>F-ratio</i> | <i>P</i> |
|----------------|---------|-----------------------|-------------|-----------------------|---------------|----------|----------------|----------|
| L1 proficiency | writing | 1 st group | .29 | .825 | -2.44* | .022 | 1.09* | .874 |
| | | 2 nd group | 3.10 | .862 | | | | |
| L2 proficiency | writing | 1 st group | 2.71 | .825 | .732 | .470 | 1.37 | .577 |
| | | 2 nd group | 2.46 | .967 | | | | |

* $p < .05$

Table 8

Results of Hierarchical Regression Analysis for L1 Writing Proficiency Tasks as a Criterion

| <i>Predictors</i> | β | <i>Multiple R</i> | R^2 | ΔR^2 | <i>F</i> |
|-------------------------------------|---------|-------------------|-------|--------------|----------|
| Step 1 | | .21 | .45 | .02 | 1.55 |
| Study year | -.08 | | | | |
| GPA in Croatian | .16 | | | | |
| GPA | .12 | | | | |
| Step 2 | | .35 | .12 | .05 | 1.61 |
| Study year | -.14 | | | | |
| GPA in Croatian | .20 | | | | |
| GPA | .16 | | | | |
| LGO | -.05 | | | | |
| AGO | -.05 | | | | |
| GOAE | -.21* | | | | |
| WTV | -.11 | | | | |
| ES | .03 | | | | |
| Step 3 | | .50 | .25 | .15 | 2.49 |
| Study year | -.14 | | | | |
| GPA in Croatian | .03 | | | | |
| GPA | .20 | | | | |
| LGO | -.05 | | | | |
| AGO | .11 | | | | |
| GOAE | -.25* | | | | |
| WTV | -.10 | | | | |
| ES | -.07 | | | | |
| AC | .29* | | | | |
| Planning and Self-Direction | -.15 | | | | |
| Checking and Correction of the Text | .19 | | | | |
| Asking for Help Strategies | -.16 | | | | |

Note: * $p < .05$ Legend: LGO - Learning Goal Orientation, AGO - Achievement Goal Orientation, GOAE - Goal Orientation on Avoiding Effort, WTV - Writing Task Value, ES- Expectancy of Success

criteria, and the only significant negative predictors are goal-focused orientations on avoiding effort ($\beta = -.21$; $p < .05$). In the third step, by introducing cognitive variables, these predictors were able to explain an additional 10% of the variance of the criteria, and a significant negative predictor remains goal-focused orientations on avoiding effort ($\beta = -.25$; $p < .05$), and a significant positive predictor is academic control ($\beta = .29$; $p < .05$).

In the first step for the criterion L2 writing proficiency, sociodemographic predictors were able to explain 9% of the variance of the criteria, and the only significant positive predictor was the GPA in the English language ($\beta = 0.34$; $p < .05$). In the second step, by adding motivational variables, the predictors were able to explain an additional 2% of the variance of the criteria, and the significant positive predictor once again is the GPA in the English language ($\beta = .31$; $p < .01$). In the third step, by adding cognitive variables, the predictors were able to explain an additional 15% of the variance of this criteria, and a significant positive predictor remains the GPA in the English language ($\beta = .27$; $p < .01$), and a significant negative predictor is asking for help and writing by the model strategies ($\beta = -.21$; $p < .01$).

Results

The examined group of students achieved average results in L1/L2 writing proficiency. In previous research by Nikčević-Milković & Brala-Mudrovčić (2015), the assessment of the quality of written essays (L1) of the students (future teachers in the Croatian education system) was positively asymmetrically distributed, which means that most respondents had lower assessments of the quality of essay tasks. There was the same result in research from Graham et al. (2021) in other countries (the USA and Australia) where 51% of students' scores indicated minimal mastery of writing at grade level, with another 45.7% of scores representing partial mastery of writing at grade level. According to Applebee & Langer (2011); Graham, Cappizi, Harris, Hebert, & Morphy (2014), the reason for minimal or partial mastery of writing lies in writing activities across the different educational disciplines involved writing without composing (note-taking, filling in blanks on a worksheet, one-sentence responses, etc.) which did not develop essay writing. On the contrary, Brooks (2013) stated that instructors should focus not only on the sentence level but also on the use of rhetorical and discourse skills if they wish to enhance their

Table 9

Results of Hierarchical Regression Analysis for L2 Writing Proficiency Tasks as a Criterion

| Predictors | β | Multiple R | R^2 | ΔR^2 | F |
|-------------------------------------|---------|------------|-------|--------------|------|
| Step 1 | | .35 | .12 | .09 | 4.55 |
| Study year | .06 | | | | |
| GPA in Croatian | .34* | | | | |
| GPA | .10 | | | | |
| Step 2 | | .42 | .18 | .11 | 2.52 |
| Study year | .12 | | | | |
| GPA in Croatian | .31** | | | | |
| GPA | .07 | | | | |
| LGO | -.04 | | | | |
| AGO | .02 | | | | |
| GOAE | .04 | | | | |
| WTV | .20 | | | | |
| ES | .09 | | | | |
| Step 3 | | .59 | .35 | .26 | 4.08 |
| Study year | .19 | | | | |
| GPA in Croatian | .27** | | | | |
| GPA | .06 | | | | |
| LGO | -.07 | | | | |
| AGO | .09 | | | | |
| GOAE | -.07 | | | | |
| WTV | .16 | | | | |
| ES | .05 | | | | |
| AC | .21 | | | | |
| Planning and Self-Direction | .21 | | | | |
| Checking and Correction of the Text | .07 | | | | |
| Asking for Help Strategies | -.21** | | | | |

Note: * $p < .05$; ** $p < .01$ Legend: LGO - Learning Goal Orientation, AGO - Achievement Goal Orientation, GOAE - Goal Orientation on Avoiding Effort, WTV - Writing Task Value, ES- Expectancy of Success

students' writing skills. In previous research by Golparvar & Khafi (2021, p1) authors mentioned that second language writing is "complicated and time-consuming and demands considerable concentration, effort, and perseverance. The cognitive process theory of writing (Hayes, 2000) mentioned that both cognitive and affective factors contribute to L1/L2 writing. Self-efficacy and self-regulation strategies are assumed to play an important role in the writing process." Golparvar & Khafi (2021) in their research demonstrated the positive impact of self-efficacy beliefs on the students' L2 summary writing performance which concurred with other research findings on the role of self-efficacy in L1/L2 writing (e.g., Bruning et al., 2013; Sun & Wung, 2020). Such findings were explained by the assumption that students with a high level of confidence in their writing tend to dedicate more effort, attention, and time to their writing performance (Golparvar & Khafi, 2021).

The examined group of students in our research have an average GPA in Croatian and English at the university level. The overall success during the studies (GPA) is slightly higher than the GPA from the two language courses. Half of our respondents before writing essay tasks in the Croatian language (L1) wrote a plan or draft, while significantly fewer wrote a plan before writing essay tasks in the English language (L2). The reason for such result might be in a lack of teaching students how to plan and revise texts (Dockrell, Marshall, & Wyse, 2016; Rietdijk, van Weijen, Janssen, van den Bergh, H., & Rijlaarsdam, 2018). Eysenck & Keane (2010) have also shown that text outline planning gives good writing results as opposed to producing detailed rough drafts. Moreover, Vandermeulen, Maeyer, Steendam, & Lesterhuis (2020) confirmed that text planning and revision behaviour extended through regular schooling.

The findings of our study also demonstrated that the respondents mostly used adaptive motivational strategies of learning-focused goal orientations³, while they used less adaptive achievement-focused goal orientations⁴ and maladaptive strategies of goal-focused orientations on avoiding effort⁵. Such results were expected and were in line with previous research that affirmed that learning-focused goal orientation

was associated with many positive cognitive, affective, and behavioural outcomes, while achievement-focused goal orientation was associated with less adaptive outcomes (Pintrich, 2000). Most of the respondents in our research expected success in writing performances; however, the grade they expected was mostly average, which, it seems, was a realistic estimate. The value of writing achievement⁶ was also average. According to the results of previous research, expectations and values directly affect the choice of achievement as well as perseverance, effort, and performance in the chosen activity (Wigfield & Eccles, 2000; Graham et al., 2021).

Furthermore, in terms of cognitive variables, respondents in our study showed a higher score in academic control⁷. In a similar vein, Sorić (2014), Nikčević-Milković & Lončarić (2019) found that cognitive control has a significant positive effect on writing achievement as well as on academic achievements in general. Our respondents mostly used adaptive cognitive writing strategy checking and correction of the text, followed by adaptive strategy planning and self-direction, and they used the least by far the adaptive asking for help and writing by the model strategy. This outcome partially confirms previous research findings on adaptive writing strategy use (Nikčević-Milković & Lončarić 2019) in which an increase in the adaptive writing strategies of planning and self-direction and asking for help and writing by the model was found after the second attempt of essay writing, and what improved students' writing proficiency. Previous studies have demonstrated that asking for help was more likely from classroom peers than from their teachers (Williams & Takaku, 2011). In Nikčević-Milković's (2007) previous research, students also used planning and revising strategies but not in the most useful way for the best quality of the text. In other words, the author stated that exposure to academic writing in most courses at the university level increased planning and revising strategies use. Most of our respondents showed satisfaction with the results achieved in essay writing, more so with the result of writing an essay in the mother tongue compared to the result of an essay in a foreign language, which was to be expected.

Research results also showed that success in the L1 writing proficiency was negatively associated with

³ Learning-focused goal orientations are the target orientations of learning focused on learning or mastering the task (Rijavec & Brdar, 2002).

⁴ Achievement-focused goal orientations are the target orientations of learning focused on performance (e.g. show others that we know something, stand out) (Rijavec & Brdar, 2002).

⁵ Goal-focused orientations on avoiding effort are the target orientations focused on avoiding effort (Rijavec & Brdar, 2002).

⁶ The value of writing achievement defined as the quality of a task that contributes to increasing or decreasing the probability that a person will choose that task (Nikčević-Milković, 2012).

⁷ Perceived academic control is a student's belief in whether they possess the necessary traits that can contribute to their achievements in school (Respondek, Seufert, Stupnisky, & Nett, 2017).

maladaptive goal orientations of avoiding effort, which was to be expected, and with the use of asking for help and writing by the model strategies, and positively associated with academic control and the use of adaptive checking and correcting the text strategies. In Nikčević-Milković's (2007) previous research, students also thought that asking for help and writing by the model strategies were maladaptive writing strategies. Williams & Takaku (2011) indicated that cultural background could influence help-seeking behaviour. For example, Asian students from collectivistic societies preferred to work in small groups (so-called *collaborative learning*) while European students from individualistic societies preferred to work alone.

The results of the correlation of the examined variables showed positive correlations between the success of the L2 writing proficiency with the GPA in both L1 (Croatian) and L2 (English). So, there was a positive transfer of mother tongue learning to foreign language learning. Success in L2 writing proficiency was positively related to the motivational variable writing value and cognitive variables academic control and use of adaptive planning and self-direction strategies, and the checking and correction of the text strategies, which was to be expected. Nikčević-Milković (2015) in a previous study found that students used checking and correction of the text strategies less, although these strategies are the most important activities to achieve the quality of written texts (Alamargot & Chanquoy, 2001; MacArthur, Graham, & Harris, 2004; Nikčević-Milković, 2018). Tompkins (2008) emphasised that the strategy of correcting the text is so important because the author must use critical thinking skills to evaluate the text according to pre-set goals. Nikčević-Milković (2018) affirmed that while earlier studies considered text writing planning to be the main writing strategy, research from the 1990s continued to prove the importance of a text correction strategy as a key strategy for the overall quality of written texts.

Final study year students in our research had better L1 writing proficiency compared to first study year students, which was to be expected. However, such a direction of difference was not obtained for L2 writing proficiency. Nikčević-Milković's (2007) earlier research has also confirmed that final study year students (future teachers in the Croatian education system) write better texts in their L1 compared to the first study year students. Graham et al. (2021) confirmed such results in another country (the USA). The explanation for these results lies in the more intensive engagement of students through various writing tasks during their studies and more oral

language skills, but only in their mother tongue. As students acquire competence in a new language, their L2 writing proficiency is on a lower level than their L1 writing performance.

Success in L1 writing proficiency can be explained by sociodemographic predictors with only a 2% variance. By introducing motivational variables, the percentage of explained variance was an additional 3%. With less use of maladaptive goal orientations focused on avoiding effort the success in these tasks was greater, which was to be expected. By introducing cognitive variables, the percentage of explained variance was an additional 10%. Goal orientation focused on avoiding effort was still a negative predictor, and a positive predictor in this set of variables was academic control, which means that less avoidance of effort in learning to write and greater academic control over writing tasks means greater success in L1 writing proficiency.

Sociodemographic predictors were able to explain 9% of the variance of the success criteria in L2 writing proficiency. The higher the GPA in the English language, the greater the success in this written assignment, which was to be expected. By adding motivational variables, the percentage increased slightly to an additional 2%, and the GPA in the English language remained a significant positive predictor. By adding cognitive variables, the percentage of explanation of variance increased significantly to an additional 15%, and the GPA in the English language remained a significant positive predictor, while a significant negative predictor proved to be the use of asking for help and writing by the model strategy. So, less usage of this strategy increased success in L2 writing proficiency. Bećirović et al. (2021) in their research also indicated that cognitive strategies are significant positive predictors of students' achievement in foreign language learning. In the Croatian education system, there is still room for the development of writing proficiency in general.

Limitations and Implications

The limitation of this research is primarily in the small number of participants and in the self-assessment measures by which the data were mostly obtained, as well as in the correlation nature of the research. Students had to fill in six questionnaires with multiple items and write two texts, which was a lot to attend even though it was divided between four sessions. Participants' fatigue is one more limitation of the study as it may have affected the results. Further research may incorporate students who study at different university majors. Nevertheless, the research has theoretical and practical significance for

the development of literacy of students for whom reading and writing skills are fundamental competencies of the profession focusing on the determinants of literacy that have been shown to be significant (primarily cognitive) by the research. Giving more attention to teaching SRL (cognitive first, and then motivational factors) in writing will certainly increase the written competencies of students. The quality of L2 writing proficiency is better in the initial study years compared to the final study years. Such a result implies that when students are exposed to English language classes and practice writing, they are better at writing tasks; however, in line with the curriculum in the Republic of Croatia, in later years of the study programme, they do not have English classes at the university level. To improve writing skills in English, it would be useful for students to have English language classes during all study years. To gain better insight into students' L1/L2 writing proficiency based on SRL, an interesting follow-up study would be to conduct more extensive research in this field.

Conclusion

The study investigated differences in students' L1 (Croatian) and L2 (English) writing proficiency and the employment of SRL strategies used by Croatian university students. The findings of the study showed that there was no difference between students' L1 and L2 writing proficiency. The research results also showed that students mostly used adaptive checking and correcting the text writing strategies which are, according to many authors, the most important strategies of essay writing. The following strategies used were adaptive planning and self-direction strategies, and (by far the least) an adaptive asking for help and writing by the model strategies, which students perceived as maladaptive. The findings of the study highlighted the positive relationship between students' writing proficiency and SRL strategy use as well as the importance of cognitive factors in both the L1 and L2 teaching/writing process. The study also showed that success in writing proficiency depends on the GPA in both courses (L1 and L2) but with differences in writing strategy use. Success in L1 writing proficiency is positively related to academic control and the use of checking and correcting the text writing strategies, while success in L2 writing proficiency is positively related to the writing task value, academic control, use of adaptive planning and the self-direction writing strategies and checking and correcting the text writing strategies. Furthermore, the study showed that final study year students had better L1 writing proficiency compared

to the initial study year students, which was not the case for L2 writing proficiency. The result indicates that more L2 practice is needed to increase the quality of writing proficiency. For this reason, it is necessary to introduce more L2 classes at the university level in the Croatian education system. The research has theoretical and practical significance for the students' development of literacy focusing on SRL, showing that cognitive factors are crucial for writing proficiency. Therefore, L1/L2 teachers should encourage their students on SRL writing strategy use to become self-regulated writers. To gain better insights into the SRL strategy used in students' essay writing, an interesting follow-up study would be to use different methods of data collection procedures such as focus group interviews or to carry out a longitudinal study to examine changes in the students' writing proficiency and strategy use after receiving SRL in writing practice.

Declaration of Competing Interest

None declared.

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