Identifying the Executive Function Strategies in Learning Tenses and in the Verb Gap-Fill Task Performance of an EFL Student with Dyslexia

ABSTRACT

Teaching of executive function strategies in learning and task performance to EFL students with specific learning difficulties plays an important role in inclusive education. The present case study presents an investigation of the strategies supporting executive functioning in the frames of learning self-regulation, which are applied in learning tenses and the verb gap-fill task performance of a grammar school student with dyslexia. A triangulation research approach included a semi-structured interview with the participant, a qualitative assessment of her written work, a questionnaire with the parents and EFL teacher, and a study of the evaluation report. The results highlight the participant’s difficulties in tense acquisition and frequent task performance errors, weak tense knowledge and low application of strategies supporting executive functioning. The results might help teachers create an inclusive environment in EFL classes.

Keywords: dyslexia, learning self-regulation, English tenses, English as a foreign language, executive function strategies, verb gap-fill tasks

Strategije izvršilnega funkcioniranja pri učenju angleških časov in izkazovanju znanja v nalogah tipa vstavljanje ustreznega glagolskega časa pri dijakinji z disleksijo

IZVLEČEK

Poučevanje strategij izvršilnega funkcioniranja in izkazovanja znanja učencev s specifičnimi učnimi težavami so nepogrešljivi del pouka angleščine kot tujega jezika v inkluzivnem razredu. Študija primera predstavlja raziskavo strategij v podporo šibkejšemu izvršilnemu funkcioniranju v okviru procesa učne samoregulacije, ki jih pri učenju angleških časov in izkazovanju znanja pri izbiri ustreznega glagolskega časa uporablja 16-letna gimnazijka z disleksijo. Uporabili smo metodološko triangulacijo s poglavljenim polstrukturnim intervijiranjem s preiskovanko, kvalitativnim ovrednotenjem njenih pisnih izdelkov, anketo z njenimi starši in z učiteljico angleščine, ter preučitvijo strokovnega mnenja. Rezultati, poleg težav pri usvajanju in napak pri uporabi časov, izpostavljajo učenkino šibko poznavanje in šibko uporabo strategij v podporo izvršilnemu funkcioniranju pri učenju in izkazovanju znanja angleških časov. Pridobljeni rezultati so lahko v pomoč učiteljem pri ustvarjanju inkluzivnega okolja v TJA razredu.

Ključne besede: disleksija, učna samoregulacija, angleški časi, angleščina kot tuj jezik, strategije izvršilnega funkcioniranja, naloge z izbiro ustreznega glagolskega časa
1 Introduction

1.1 English Tenses, Dyslexia and Executive Functioning in the Frames of Learning Self-Regulation

A good command of English tenses is one of the basic skills in communicative language competence in English as a foreign language (EFL) (CEFR 2001; Council of Europe 2007), and presents a significant part of language teaching and testing materials in many schooling systems (Bardovi-Harling 2000), and international as well as national examination papers (IELTS, ETS, Cambridge English tests, Slovene Matura exam; Ilc et al. 2016). Tenses are still frequently practised and assessed by using explicit exercises/test tasks that require students to modify a stem verb (verb gap-fill). Usually, such exercises consist of lists of isolated sentences, each testing a different tense form. In spite of their disadvantages – such as providing a very limited practice in certain grammatical forms, no context beyond the single sentence, the possibility of students’ doing the tasks mechanically without understanding why certain forms are used, forcing students to focus more on form rather than meaning, and so on – verb gap-fill tasks may also have some advantages. For example, students may compare their answers with the original version of a sentence which can help them notice where they are having difficulties and what the appropriate forms are. When students fill in the gaps, they should be encouraged to pay attention to patterns in the language presented or differences between their own meaning making practices and those they find in the original sentence (Jones and Lock 2011).

English tenses are among the most complex grammatical concepts for learning and teaching EFL due to cross-cultural and crosslinguistic differences in the conceptions of time between the learners’ L1 and English. However, this aspect of teaching remains relatively under-researched (Matsumoto and Mueller Dobs 2017).

In addition, acquiring English tenses presents EFL learners with considerable challenges in many ways: firstly, this might be due to verb form similarities in the sound or the spelling (e.g., the past simple and past participle: she taught history / she was taught dancing; or present simple and bare infinitive: I play tennis / I can play tennis; or participles inflected by -ed or -ing that may look like verbs: running is healthy / exaggerated claims). Secondly, it may be due to an unusual relationship between tense and time in which the present simple tense can be used for documented past time. Thirdly, mother tongue (L1) transfer might as well pose troubles, especially where the grammar structures of L1 and foreign language (L2) are too distinct (Svalberg 2016). Moreover, the natural tendency of students to focus on meaning rather than on the form (VanPatten 1990), and inconsistency in following the regularities of language (Svalberg 2016), may also influence the proper L2 use of tense. Teaching is yet another factor, since teachers may use the term tense as an umbrella term for both tense and aspect. This is why it is of key importance that in the learning process L2 students are able to acquire knowledge of the basic tense architecture and canonical use of tenses, become aware of aspect and modality interfaces, as well as time adverbials, and are acquainted with the metaphorical use of English tenses (Svalberg 2016).
In addition to these general challenges, **EFL students with dyslexia**, one of the most frequent specific learning difficulties (IDA), usually face another two difficulties of considerable importance. Firstly, a **specific language-based literacy difficulty** due to weak phonological awareness, poor rapid automatic naming and a lack of fluent reading, which contribute to a distinctive neuro-linguistic brain pattern (Shaywitz 2005; Habib 2000; BDA; EDA) typical for individuals with dyslexia. As a result, students with dyslexia frequently experience similar obstacles in acquiring L2 (Ganschow, Sparks, and Javorsky 1999) as they do in their mother tongue (Schwarz 2003), or even more severe (Pižorn 2009), due to deep orthography of the English language (Sarkadi 2008; Roach 2001). In general, their difficulties manifest in misspelling and mispronouncing the words, omitting letters, blending the onsets or letters of the words with the previous/following ones, confusing similar words, having trouble understanding abstract words and quite often illegible handwriting. They might also struggle with reading comprehension, following instructions and organizing their writing (BDA; EDA). Secondly, students with dyslexia often show **deficiencies in self-regulated learning (SRL) skills** (Meltzer 2010; Graham and Berman 2012; Bagnato and Meltzer 2010; Morken and Helland 2013; Schneider and Ganschow 2000), a crucial factor in academic achievements helping students to develop better learning habits and reinforce knowledge (Zimmerman 2002; Meltzer 2010). Effective self-regulated learners actively set goals, decide on the learning strategies to use, organize their time, materials and information, choose learning strategies, self-monitor and regulate their learning, adapt the learning strategies if necessary, evaluate the acquired goals and make adjustments for future learning (Meltzer 2010; Zimmerman 2002; Winne 1995). Such students control their cognition, motivation, behaviour and emotions to achieve their goals with the use of personal strategies (Zimmerman 2002). Research shows that students with Specific Learning Difficulties (SpLDs) face difficulties with organizing, planning and self-monitoring (Meltzer 2010) their learning procedures, as well as evaluating these procedures, with the final outcomes of their task performance being dependant on impaired executive functioning (Schneider and Ganschow 2000; Morken and Helland 2013). Further, tasks such as independent learning, homework tasks and long-term projects, as well as test-taking, which all demand students’ ability to plan and execute specific responses on demand, are challenges for many students with SpLDs (Meltzer and Montague 2001; Scruggs and Mastropieri 2000), since they are highly dependent on executive functioning processes and require students to plan ahead, predict outcomes and set long-term goals.

In the last two decades, attention has been increasingly drawn to **executive function abilities** (Meltzer 2010; Dawson and Guare 2012; Effeney, Carroll, and Bahr 2013; Helland and Asbjørnsen 2000; Juffs and Harrington 2011; Diamond 2013, Lezak et al. 2012), as these significantly support students with regard to SRL and as such have important effects on their academic performance in terms of goal setting, planning, prioritizing, choosing strategies, memorizing, assessing working memory, shifting flexibly, self-monitoring and evaluating (Meltzer and Krishnan 2007; Meltzer 2010, Dawson and Guare 2012; Diamond 2013, Lezak et al. 2012), and are crucially connected with three main executive functions: working memory (enables holding information in mind and manipulating it), inhibitory control (suppresses goal irrelevant stimuli and behavioural responses) and cognitive flexibility (a switch in thinking, simultaneous considering of multiple aspects, cognitive and task shifting) (Diamond 2013).
Substantial evidence confirms that students with SpLDs often show difficulties in executive functioning impeding their academic success (Schneider and Ganschow 2000; Helland and Asbjørnsen 2000; Juffs and Harrington 2011; Goldfus 2012; Morken and Helland 2013; Varvara et al. 2014; Furnes and Norman 2015; Kormos 2017; Barbosa et al. 2019). In their research, Helland and Asbjørnsen (2000) observed that all students with dyslexia participating in the research had difficulties with inhibitory control and attention shifting. In assessing executive functioning in a group of children with dyslexia and in a group of children with typical reading abilities, Varvara et al. (2014) also found deficits in working memory and in inhibitory control. Regarding the foreign language acquisition of students with SpLD, Kormos (2017) argues that executive functioning difficulties are not only related to basic processing difficulties and difficulties with implicit learning, but also to significant difficulties in working memory and attention control.

1.2 The Importance of Executive Function Strategies

Executive function strategies in learning and task performance may thus represent a powerful tool enabling students with dyslexia to better manage their learning processes (Harris and Graham 2003; Meltzer 2010; Dawson and Guare 2012). Knowledge and application of strategies play a significant role in the SRL process, in student’s ability to better organize the learning environment (time, place, material), to better plan their learning activities, set goals, decide on appropriate strategies to achieve these, self-monitor the learning process, and self-evaluate the learning outcome and make appropriate adjustments (Meltzer 2010; Dawson and Guare 2012). Strategies may also support executive functioning to better manage the cognitive load, concentrate on one topic at a time and remain goal-oriented (Meltzer and Basho 2010; Akbasli, Sahin, and Gürel 2017). One of the crucial aspects in the use of strategies is reducing demands on working memory, since students with dyslexia often struggle with their working memory being overloaded, and thus having insufficient processing space for new information (Martinussen and Major 2011). Students who use strategies to support executive functioning processes effectively recognize their weaknesses and strengths (Meltzer 2010; Dawson and Guare 2012), and can directly influence their own academic performance (Vassallo 2013; Meltzer 2010).

Applying strategies is a conscious decision, demanding time and mental effort. Evidence suggests that the most effective students possess and use a large repertoire of strategies (Pressley and Woloshyn 1995) and that students with SpLDs use fewer strategies, and less often than students without SpLDs, while also using ineffective strategies or that of learning by heart (Swanson 1999; Stone and Conca 1993; Kunaver 2008; Meltzer 2010; Bagnato and Meltzer 2010; Morken and Helland 2013). Students with SpLDs may also tend not to discover strategies on their own (Meltzer, 2010), or may also not realize that they face certain problems during studying or performing a task. Moreover, even if they do, they tend not to use effective methods to overcome these issues (Harris, Graham, and Pressley 1992; Swanson 1993).

In the field of EFL, there is a lot of research into classroom techniques in learning as well as the task performance strategies taught to and used by students with dyslexia to better cope with their learning deficiencies (Scruggs and Mastropieri 2000; Shaywitz 2005; Raduly-
In general, researchers emphasize that it is also of great importance for students with dyslexia to be offered explicit explanations not only with regard to (1) conceptual understanding of the subject topic as a whole and with its relevant details (Meltzer 2010), but also with regard to (2) the executive functioning strategies so that they are better able to control their learning environment in the frames of SRL (Dawson and Guare 2012; Meltzer 2010; Zimmerman 2002) in terms of acquiring and showing their knowledge (Altemeier et al. 2006; Swanson and Deshler 2003).

Teaching English language is based on communicative approach of communication, pragmatic language skills and practical assignments, paying attention to functional as well as structural aspects of language (Richards and Rodgers 1986). Assignments of doing verb gap-fill tasks present a complex process demanding knowledge about grammar rules, considering the information drawn from the gap-fill sentence and applying of the rules according to the information, all together demanding SRL and executive function skills, which may present a difficulty to students with SpLDs due to their specific learning difficulties and weak executive functioning (Meltzer 2010, Nijakowska et al. 2015, Kormos 2017). Executive function strategies present an important support in complex assignments (Meltzer 2010, Dawson and Guare 2017), and as such play an important part in inclusive classes. According to Meltzer (2010, p.XII.), teaching the potential of executive function strategies in learning and task performance is important to “help close the gap that currently separates students’ skills and strategies from the demands of school” (Meltzer (2010) p. XII.). Meltzer and Basho (2010) also argue that strategies can be learned by students with SpLDs, and should be systematically and consistently integrated into regular learning processes in the classroom. However, little research has been done into what specific strategies students with dyslexia use or need to use to learn and acquire English tenses, and particularly how they do verb gap-fill tasks. Moreover, despite well-constructed instructions for EFL teachers that have proven to be effective in practice, research findings show language teachers still need to improve their understanding of dyslexia and apply effective tools to support dyslexic students’ learning and task performance strategies (Košak-Babuder, Metljak, and Pižorn 2016; Lemperou, Chostelidou, and Griva 2011; Švajger Savič 2015).

With that objective in mind, teaching and learning the executive function strategies of both how to acquire English tenses and how to do mixed tenses gap-fill tasks may be invaluable to students with dyslexia, as well as to those without dyslexia who might already be using some of the executive function strategies but may not be completely aware of them or have to expand their range and/or deepen their understanding.

2 The Study

The objective of this case study was an in-depth, up-close and detailed examination of the executive function strategies a grammar school EFL student with dyslexia applied in learning tenses and doing verb gap-fill tasks. Acquiring English language tenses in a foreign language inclusive classroom is a complex process involving SRL mechanisms. Therefore, it is essential for language teachers to understand executive function strategic learning as well as the task
The goals of the study were:

1. to identify the difficulties an EFL student with dyslexia faces in learning tenses;
2. to identify the difficulties an EFL student with dyslexia faces in performing verb gap-fill tasks;
3. to identify the strategies to support executive function processes an EFL student with dyslexia uses in learning tenses;
4. to identify the strategies to support executive function processes an EFL student with dyslexia uses in performing verb gap-fill tasks.

2.1 Research Methods

The research was conducted in the school year 2019/20 as a qualitative case study. Qualitative research focuses on and tries to understand the process of a research phenomenon (Vogrinc 2008) and allows an in-depth insight into the participant’s perspectives (Richards 2003). In the present work, case study research enabled the applying of a broad range of methodological instruments to pursue the answers to questions of how and why within the real-life context (Grauer 2012). It can help researchers to understand similar cases and add yet another perspective to generalization (Cohen 2011), rather than generalize the analytical outcome (Robson 2002).

The research participant was a 16-year old female student, enrolled in Grade 1 of a Slovene grammar school, and in this study is referred to as Maya. She was chosen based on the selection criteria of officially recognized dyslexia and poor academic achievements in EFL.

The study was conducted as a triangulation of different research techniques and sources to be able to map out and explain the research phenomenon and gain a thorough perspective on the related issues (Cohen 2011).

For the purposes of gaining the data needed for the research and the publishing thereof, all necessary informed consents were sought and obtained prior to commencing the study.

2.2 Instruments Used and Documents Studied

2.2.1 First the following documents were studied to acquire the data on the student’s dyslexia background and her performance in verb gap-fill tasks in English tenses:

a) The evaluation report on the student’s dyslexia and executive functioning issued by a psychologist, paediatrician and special education teacher on the basis of a battery of tests and procedures to determine specific learning difficulties. Additionally, Maya’s annual Individualized Education Plan designed for the current year by her teachers, mother, Maya herself and the school’s special education teacher was studied.
b) The student’s EFL written work samples (Year 1 current schoolwork, textbook tasks, homework, hand-outs, a notebook, regular school tests) to obtain an insight into the student’s learning material, performance in verb gap-fill tasks, weak and strong areas in the use of English tenses and her conceptual knowledge of English tenses.

2.2.2 On the basis of the student’s dyslexia background and information from her written work, the following instruments were designed by the researcher to gain comprehensive information about her learning and verb gap-fill performance strategies:

a) A semi-structured interview with an analytical approach and open-ended questions enabling the participant to give a thorough explanation about the difficulties she faces and strategies she uses in studying English tenses and doing verb gap-fill tasks. The set of open-ended questions took into consideration the difficulties students with dyslexia usually face (BDA; EDA), and the principles about the strategies supporting executive functioning proposed by Meltzer (2010) in goal setting, planning, organizing/prioritizing, assessing working memory, self-monitoring, self-checking and initiating behaviour, but adopted to more specific inquiries related to L2 language learning.

b) A verb gap-fill task with 46 isolated examples to be filled in by the participant to gain a direct insight into her difficulties in task performance, and therefore immediately followed by a semi-structured interview to discuss the related strategies.

c) A questionnaire for the participant’s parents, designed by the researcher on the basis of the documents studied and data obtained during the interview with the student, in order to obtain information on the participant’s dyslexia background and its manifestation.

d) A questionnaire for the participant’s EFL teacher designed by the researcher to obtain an objective perspective on her learning behaviour and manifestation of dyslexia during the English language lessons.

2.3 The Research Procedure

First the participant’s EFL written work in the current year of study (2019/20) was analysed with a focus on completed verb gap-fill tasks, observing the student’s strengths and weaknesses in her knowledge of English tenses, i.e., her tense choice, aspect, use of auxiliary verbs, manipulation of irregular verbs, stative verbs and spelling. Attention was also paid to personal any other comments or notifications (underlining, highlighting, etc.) made by the student. Consequently, a list of Maya’s difficulties in verb gap-fill tasks was created by the researcher. The researcher also observed the ideas about English tenses copied by Maya into her notebook, paying attention to the detailed elaboration of each individual tense, i.e., its grammatical form (verbal moods included), use, exceptions and linked time adverbials. The list of collected information enabled an insight into Maya’s written work and both strengths and weaknesses in the field of verb gap-fill performance, and pointed to her learning and task performance strategies with regard to English tenses.
The data about Maya’s dyslexia background obtained from the evaluation report and Individualized Education Plan were analysed focusing on her difficulties, strengths and weakness with regard to specific learning difficulties. After this, the questionnaires completed by the participant’s parents and EFL teacher were analysed with the same aim. In the next step, the researcher designed a verb gap-fill task with 46 isolated examples (in present tenses, past tenses, and tenses expressing future) to be filled in by the participant. The verb gap-fill examples enabled an in-depth examination of a particular tense knowledge and thus facilitated the semi-structured interview conducted immediately after the test interrogating about the executive function and task performing strategies. The completed gap-fill tasks were later assessed by the researcher according to tense choice, tense architecture, aspect or spelling.

3 Results

3.1 About the Research Participant and Her Dyslexia Background

At the time of the study Maya was a 16-year old student at a Slovenian grammar school, in Year 1, and had been learning English as a foreign language for seven years. At the age of eight she was diagnosed with developmental dyslexia and weak executive functioning, which was impeding her learning and academic performance throughout her schooling. She confused letters, showed difficulties with focusing on details, reading and copying from the board, and understanding written instructions. In addition, she showed weak attention in relation to letters and numbers, and poorly developed skills in processing and manipulating sequencing and procedures. On the basis of evaluation report and annual Individualized Education Plans, Maya was assigned learning environment and assessment accommodations, and additional help in individual school subjects throughout primary school, however, she was assigned no additional help in English language. She struggled with English by herself and sometimes asked her parents or schoolmates for help, with learning strategies in particular, but she found their strategies unsuitable for her. Her attitude to English language learning was positive as she wanted to speak the language fluently and improve her knowledge of tenses, where she herself saw her greatest weakness.

Maya was recognized as an intelligent (High Average on the Wechsler Intelligence Scale), diligent and reliable student, with many interests, such as playing the flute and practising aikido.

In EFL classes Maya described herself as a quiet student, trying to focus on the subject matter, following the teacher’s explanations and instructions, doing her schoolwork and homework tasks regularly if she did not forget the instructions. The teacher, on the other hand, saw her as a student who “doesn’t participate actively in classes, has no questions, but tries hard to follow.” She described Maya’s weaknesses as her limited range of vocabulary, knowledge gaps in irregular verbs and time adverbials. Concerning Maya’s learning qualities, the teacher explained she could not say much because “...it is the first year I have been teaching Maya and I haven’t had a chance to learn about her difficulties in detail.” She made some assumptions though, and stated that Maya could have been learning grammar theory only by doing the tasks in the handouts, in the workbook and the student’s book, and assumed that “she might face difficulties with independent studying at home, and with seeking information for completing her homework...
She also found Maya's notes in her notebook quite disorganized. The teacher expressed her wish to be better equipped with expertise about dyslexia and special teaching skills which would help her to assist dyslexic students more effectively.

According to the Slovenian grading system, Maya's average grade in English half-way through the academic year was a pass, and thus between 50% and 64%.

3.2 Difficulties in Learning Tenses and the Use of Executive Function Strategies

Concerning setting goals, Maya explained she did not set any learning goals when learning the tense rules. Her main learning strategy was re-reading the explanation in her notebook a few times and without any particular focus. Moreover, as she put it, she “never knew how much she had memorized.” In her notebook the tenses were presented by an indicative mood of a particular tense and an explanation in English how the tense is formed, e.g.: Present tense perfect is formed by ‘has/have + past participle’. When asked by the researcher how the past participle of irregular verbs was formed, Maya was not sure if it was “the ‘second’ or the ‘third’ column on the list of irregular verbs.” In order to understand and internalize the grammatical rules of tenses, Maya chose the strategy of re-doing the verb gap-fill exercises she had already done as schoolwork, and doing the homework tasks assigned by the teacher. However, the final result of her knowledge remained the same: “I still do not know which time adverbial goes with which tense form” (Table 2).

Maya could also not memorize which time adverbial was frequently related to a particular tense form and/or aspect. She saw the problem in the incomprehensible (for her) number of time adverbials, their similarities and their relation to tenses/aspects that she needed to memorize: “…to remember all those facts about English tenses .. because there are too many and too much to think of.. and to remember all those time adverbials is too confusing”, “I have difficulties to tell between ‘always’ and ‘already’.....and between ‘after’ and ‘before’” (see Table 1). She said she had no strategy to memorize the rules better.

In general, Maya did not pay much attention to the spelling rules of the verbs in different tenses, or the aspect and conjugation form (see Table 1). Instead she used the strategy of learning from verb gap-fill tasks, and tried to memorize the appearances and not the letters of verbs. When reproducing a verb she used a strategy of ‘trial and error’ until the verb looked familiar to her.

With regard to the memorizing strategies used when learning irregular verbs, Maya explained she found it difficult to memorize the past and past participle forms of the irregular verbs, spelling included, because: “…there are just too many, too many to remember.” She did not learn the irregulars systematically, but instead chose a more random approach: “…I just try to remember those irregular verb forms I come across accidentally in the exercises” (see Table 1). Unfortunately, a study of Maya’s written work showed that she had also difficulties with those irregular verbs that she came across in various texts many times, such as the past form of the verb ‘sit’ was in her work sometimes ‘sitted’ and others ‘sited’ (see Table 2).
Table 1. Participant’s learning strategies in learning English tenses.

<table>
<thead>
<tr>
<th>Learning Strategies</th>
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<tbody>
<tr>
<td>1. “I learn the tense concepts from my notebook only.”</td>
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<tr>
<td>2. “I re-read the tense concepts a few times.”</td>
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<tr>
<td>3. “When learning new verbs, I learn the meaning only.”</td>
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<td>4. “I try to memorize the appearance of the verb. I don’t learn the spelling of the verb.”</td>
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<tr>
<td>5. “In spelling the verb, I use ‘trial and error’ as long as it doesn’t look familiar to me.”</td>
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<td>6. “If I see I make a lot of mistakes, I do more exercises.”</td>
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<td>7. “I re-do the exercises we have already done in school.”</td>
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<td>8. “I do my homework (if I don’t forget what’s for homework.)”</td>
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<td>9. “I try to memorize the irregular verbs I come across within the exercises, I don’t learn them systematically from the list of irregulars.”</td>
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<td>“I also learn the irregulars by the way they sound. I do not learn the spelling.”</td>
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<td>10. “I really study a lot.”</td>
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<td>11. “I do not learn from my mistakes.”</td>
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<td>12. “I do not monitor how successful I have been in learning tense concepts, spelling, irregular verbs or stative verbs.”</td>
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<tr>
<td>“It’s always the same that when I get my test back … I am surprised ‘What did I do here?!’”</td>
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<tr>
<td>13. “I do not evaluate the learning results. I simply hope I know the topic well enough.”</td>
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<tr>
<td>14. “I have no strategies to overcome the difficulties (e.g., I don’t know the differences between ‘before’ and ‘after’, or ‘already’ and ‘always’, or I cannot learn the spelling). I have asked my parents for help, but they couldn’t help me…and schoolmates each have their own system of learning and I got even more confused. I have never asked my English teacher for help.”</td>
</tr>
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</table>

Concerning the strategy of seeking help from her schoolmates and/or her EFL teacher in order to get to learn about other possible learning strategies, Maya said she had asked her parents for help, but “they could not help me because they did not know how”, and her schoolmates “each had their own system of learning”, which made her even more confused. She had never asked for help from her teacher at the time of our research (see Table 1).

Maya said she did not monitor how successful she was in learning tenses, which tense still gave her difficulties or what in particular was difficult, and with which verb forms her spelling was inaccurate. She left such assessments to her teacher: “It is only when I get the test back, when I see what I should have written…until then, I have just hoped to show my understanding of the subject matter well….It’s always the same that when I get my test back that I am surprised ‘What did I do here?!’” She also said she did not learn from her mistakes either (see Table 1). Concerning the strategies applied, Maya monitored them in so far that she was aware she had no effective strategy to cope with verb spelling, tense concepts and grammatical application rules (see Table 1), and saw the solution to her difficulties by doing even more exercises: “…I really study a lot. I studied a lot in my primary school, but now I really, really study.” Moreover, Maya judged her achievements in relation to her schoolmates and was satisfied with a pass, since this was “…still more than some of my schoolmates.”
Maya was a hard-working student and never avoided homework. The difficulty was, as she put it, whether "I remember what we have for homework", and she sought no strategy to solve the problem. Her teacher also mentioned that "Maya sometimes forgets her homework."

3.3 Difficulties in Verb Gap-Fill Task Performance

The examination of the verb gap-fill tasks set by the school and the test designed by the researcher revealed that Maya experienced difficulties in verb spelling, grammar concepts and tense choice, as shown in Table 2. In the research verb gap-fill tasks she achieved 57.5% correct answers.

Difficulties with verb spelling appeared in the conjugated forms in the present tense (he watches, she catches), and continuous (she is lying), or past tense (stop-stoped, rob-robed), and also in irregular verbs, in both their past or past participle forms (teach-thought, break-braken).

The examination of Maya's knowledge of grammar concepts showed that she had difficulties with subject-verb agreement (Sharon have seen), and with omitting an auxiliary verb be or have in compound tenses (She smoking now, they gone). In forming questions, she did not change a conjugated verb or a verb with tense inflection into its infinitive form (Does she goes?, Did they worked?). Maya also had difficulties with the auxiliary verb have, particularly in its present perfect and past perfect forms (she had instead of she has had, they had instead of they had had). Maya also showed lack of knowledge in both stative verbs (I am hearing you) and irregular verbs (set-seted, catch-cached). In a verb gap-fill task with an explicit instruction to insert the past perfect, Maya showed difficulties with this tense concept (She saw a bird before she has gone to the village), as shown in Table 2.

In deciding on the right tense/aspect Maya experienced challenges in when to use the present perfect tense (I miss my glasses. Did you see them?), and what tense/aspect to use with the time adverbials since (I know him since), before and after (After she shot the man, she had run away), now (Pst. She was talking now.), by this time tomorrow, and at this time tomorrow (At this time tomorrow she will watch TV. By the time I am back they will finish dinner.). She faced similar difficulties with confusing the key adverbs while and when, and consequently chose the wrong aspect of the verb (When she was driving...). Concerning the choice of tenses expressing future time, Maya confused the use of the modal verb will and going to (Weather forecast: It is going to rain next week.). In a verb gap-fill task with an explicit instruction to use the past perfect tense, Maya's difficulties with the concept were obvious (She saw a bird before she has gone to the village.) (see Table 2).

3.4 Verb Gap-Fill Task Performance Strategies

As to whether Maya used any strategies when solving verb gap-fill tasks, she said her strategy was to "to picture the situation in [her] head and then [she tries] to fill in the right verb form..." (see Table 3). Regarding the self-monitoring of this strategy, Maya said that she did this: “Yes, I go back and check if I have pictured the situation correctly” (see Table 3).

Another strategy Maya used to check her choice of the verb tense/aspect and conjugation form was checking if it sounded right in relation to the whole sentence: “...I also choose the
Table 2. List of verb gap-fill task difficulties in the participant’s written samples (homework, schoolwork, hand-outs, notebook, regular school tests and verb gap-filling tasks designed by the researcher), as documented by the researcher.

<table>
<thead>
<tr>
<th>Difficulties / Category</th>
<th>Difficulties / Description</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>spelling</td>
<td>1. conjugations of verbs in -y</td>
<td>she lies, she is lieing</td>
</tr>
<tr>
<td></td>
<td>2. 3rd person conjugation with –s or -es</td>
<td>he watches</td>
</tr>
<tr>
<td></td>
<td>3. when to double the letter/consonant</td>
<td>stop-stoped, travel-traveled</td>
</tr>
<tr>
<td></td>
<td>4. spelling of irregular verbs</td>
<td>she thought</td>
</tr>
<tr>
<td>grammar rules</td>
<td>1. subject-verb agreement</td>
<td>Sharon have seen.</td>
</tr>
<tr>
<td></td>
<td>2. omitting auxiliary verbs ‘be’ and ‘have’</td>
<td>She smoking now.</td>
</tr>
<tr>
<td></td>
<td>3. forming questions / transformation of a conjugated verb into an infinitive</td>
<td>Does she goes? Did they worked?</td>
</tr>
<tr>
<td></td>
<td>4. question forms of ‘have got’</td>
<td>Do they have got?</td>
</tr>
<tr>
<td></td>
<td>5. differentiating the present perfect from past perfect of the full verb ‘have’</td>
<td>she had instead of she has had</td>
</tr>
<tr>
<td></td>
<td>6. knowledge gap in stative verbs not used in the progressive form</td>
<td>I am hearing you</td>
</tr>
<tr>
<td></td>
<td>7. knowledge gap in forming irregular verbs</td>
<td>set-seted, catch-catched, sit-sited or sited</td>
</tr>
<tr>
<td></td>
<td>8. knowledge gap in the use of the past perfect</td>
<td>She saw a bird before she has gone to the village.</td>
</tr>
<tr>
<td>tense usage</td>
<td>1. ‘before / after’ confusion</td>
<td>After she shot the man, she had run away.</td>
</tr>
<tr>
<td></td>
<td>2. ‘when / while’ confusion</td>
<td>While she drove...</td>
</tr>
<tr>
<td></td>
<td>3. confusion with ‘now’</td>
<td>Psst. She was talking now.</td>
</tr>
<tr>
<td></td>
<td>4. what tense to use with ‘since’</td>
<td>I know him since...</td>
</tr>
<tr>
<td></td>
<td>5. Confusion with ‘will / going to’</td>
<td>Weather forecast: It is going to rain next week.</td>
</tr>
<tr>
<td></td>
<td>6. knowledge gap in when to use the present perfect</td>
<td>I miss my glasses. Did you see them?</td>
</tr>
<tr>
<td></td>
<td>7. differentiating ‘by this time tomorrow’ from ‘at this time tomorrow’</td>
<td>At this time tomorrow she will watch TV. By the time I am back they will finish dinner.</td>
</tr>
</tbody>
</table>

tense on the basis of the sound, if the form of the verb sounds ok...“If not, I go and I correct it as long as it sounds logical.”

When the researcher asked Maya why she did not use an auxiliary verb, especially ‘had’ in the past perfect tense, or ‘is, are, am’ in the present continuous, Maya explained that she was
not well acquainted with the tense rules and also often forgot to use auxiliary verbs, and after completing the gap-fill task she never checked if she used an auxiliary or not.

With regard to her spelling difficulties, Maya had no other strategy than to write down the verb in the tense form she believed was correct and then see if it “looks acceptable or would it be better if [I], for example, double a letter or insert an —e....” Maya knew spelling was one of her weak areas and relied on her visual memory strategy: “I don’t know how the verb is correctly spelled in various tense forms. I don’t know the spelling rules.” Her only strategy concerning the spelling was as follows” “if the verb looks weird the way I have written it, I go and change the spelling with a trial-and-error strategy until it looks approximately acceptable to me” (see Table 3). Once Maya had written the verb form of her choice in the gap, she did not self-monitor the spelling.

When reviewing schoolwork or homework verb gap-fill exercises in EFL classes, Maya corrected the inappropriate spelling or tense choice, but did not consult the spelling and tense rules references and did not actually know why her choice of the verb form or its spelling was wrong, or why the correct one was correct.

Table 3. Participant’s report on the verb gap-fill task performance strategies she applied in the verb gap-fill tasks.

<table>
<thead>
<tr>
<th>Verb Gap-Fill Task Performance Strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The student tries to picture the situation in her head based on the meaning of the sentence.</td>
</tr>
<tr>
<td>2. The student completes individual gap-fill sentences according to the sound, and thus if the sentence with her tense choice sounds right.</td>
</tr>
<tr>
<td>3. The student spells the verb according to its appearance and uses ‘a trial and error approach until the verb form looks acceptable to her.</td>
</tr>
<tr>
<td>4. The student checks if she has pictured the situation ‘accurately’ according to the meaning of the sentence.</td>
</tr>
<tr>
<td>5. The student re-reads the sentence and checks if the sentence sounds right to her and if not corrects it until it does.</td>
</tr>
</tbody>
</table>

4 Discussion

The study results correspond to the findings about the manifestation of dyslexia in both (1) relation to literacy difficulties (BDA; EDA) such as inaccurate spelling, confusion with similar words, omitting words (in our case auxiliaries in compound tenses), and (2) relation to difficulties in the use of tenses that non-dyslexic EFL students face in general (Svalberg 2016), as this study investigated the executive function and task performance processes that might lead to such difficulties. Moreover, both the case study principle and triangulation of the research methods enabled in-depth insights into the persistent difficulties the focal grammar school student with dyslexia faced in learning grammar rules for English tenses and in doing related verb gap-fill tasks, and at the same time pointed to her weak use of strategies to support executive function processes.
4.1 Difficulties in Learning Tenses and the Use of Executive Function Strategies

Regarding the use of executive function strategies to grasp the tense grammar rules, the participant relied on her notebook notes, and used the strategy of re-reading the notes a few times during which she did not focus on anything in particular. The participant proved to have difficulties in terms of executive functioning processes with regard to setting goals and following them through the learning procedure, which relates to Bagnato and Meltzer's (2010) argument that students with dyslexia might show difficulties with setting learning goals, which is important for successful SRL (Zimmerman 2002). Moreover, closer inspection of the notes in the participant’s notebook also revealed insufficiently constructed tense concepts, which did not offer a thorough enough insight into the tense and aspect architecture (with all key mood forms, lists of most frequent time adverbials, exceptions, etc) obviously contrary to Meltzer’s (2010), Juffs and Harrington’s (2011) and Kormos (2017) suggestions that students with dyslexia learn better if offered a detailed and explicit explanation of theoretical concepts and learning goals, because they cannot draw clues by implicit learning. Consequently, the research participant faced two obstacles: she could not understand the general concept of a particular tense, and did not know what to learn with tenses and thus had no effective strategy in learning them, since she did not know what to focus on in the first place. Correspondingly, she did not monitor if and what she memorized from what she had just read about the tense concepts, as noted by Bagnato and Meltzer (2010) and Harris, Graham, and Pressley (1992) with regard to the self-evaluating difficulties of students with weak executive functioning skills. The participant’s difficulties with English tenses might thus be rooted in her incomplete notes of the grammar rules in her notebook, the only resource the participant learned the rules from, which suggests that her difficulties were in part based on poor preparation of the learning materials (Dawson and Guare 2012, Meltzer 2010).

As the participant did not spend much time studying theory, she depended on re-doing verb gap-fill exercises that she had already worked through in her English classes or as part of her homework. Moreover, as she was doing this she did not consult the theoretical rules in her notes or textbooks to check the accuracy of her understanding.

Poor knowledge of tense concepts and their canonical use (Svalberg 2016) might explain Maya’s difficulties with subject-verb agreement (Sharon have seen), lack of knowledge with regard to using stative verbs (I am hearing you), and in using the past perfect tense (She saw a bird before she has gone to the village).

In relation to the spelling of the verbs, the participant used the strategy of relying on her visual skills to memorize the appearance of an inclined verb and used trial and error until it looked right to her. According to the interview, Maya’s difficulties with spelling, such as with watches (watches), stopped (stopped), and lying (lying) might suggest an inconsistent insight into the spelling rules of verb inclinations, a common challenge in learning tenses identified by Svalberg (2016), due to deficient executive functioning ability to support the setting of appropriate learning goals (Dawson and Guare, 2012), since she prioritized the meaning of the verb over the spelling the inclinations (Svalberg, 2016). Further, Maya did not self-
monitor her spelling choices, which might again be explained by Meltzer’s (2010) argument that there is a need for (1) an explicit insight into theoretical concepts, along with (2) an explicit explanation of various strategies and (3) evaluation criteria (Dawson and Guare, 2012), which, based on the participant’s notes and the interview, was not the case in the Maya’s EFL classes.

Another issue with the tense concepts surfaced in the process of memorizing the irregular verb forms, and the concepts of typical time adverbials linked to a particular tense and aspect. The participant explained this was all too much to keep in mind at the same time, as well as too confusing because the irregular forms were too similar. When there is too much information that needs to be managed at the same time then this might cause cognitive overload (Martinussen and Major 2011). Since the participant knew of no strategies to better manage her working memory, she decided not to learn from the theoretical concepts, but rather from doing the exercises. Thus she got familiar only with the verbs and tense examples she came across in the exercises. This choice of a strategy with rigid limits indicates the unsuitable adaptation of strategies, as noted by Kunaver (2008), Meltzer (2010), Bagnato and Meltzer (2010) and Morken and Helland (2013). Maya also found it impossible to memorize the meaning of key time adverbials, such as ‘always’ and ‘already’, ‘while’ and ‘when’, or ‘by this time tomorrow’ and ‘at this time tomorrow’ because they were too similar in their spelling, a common difficulty linked to basic literacy problems (Shaywitz 2005, Habib 2000), and was also unable to differentiate between forms with similar surface aspects such as the present perfect and past perfect, which is in line with the difficulties EFL students face in general when learning tenses and aspects (Svalberg 2016).

4.2 Difficulties in Verb Gap-Fill Task Performance and the Use of Executive Function Strategies

The study findings in the semi-structured interview revealed that the participant mainly used the strategy of picturing in her mind the situation described in the sentence. Then she inserted the verb in the tense form that sounded best to her. While she could decide on the verb aspect, she had no other strategy to figure out the time and tense of the situation described in the sentence except for guessing by the sound of the sentence if she said it in her head. Afterwards the participant self-monitored the strategy of aspect choice by checking again if she had pictured the duration of the situation, as she put it, ‘correctly’.

Similarly, in denoting the aspect of an action, Maya was aware she should have used an auxiliary verb, but often forgot to do so. She also had no strategy to check and question herself if she had considered the compound form, i.e.: “Have I used ‘had’ because it is the past perfect aspect?”, which again suggests weak executive functioning in self-monitoring (Bagnato and Melzer 2010). Both having no strategies in deciding on the time and tense of the action, but easily figuring out the aspect, point to weak differentiation skills between aspect and tense, as noted by Svalberg (2016).

Throughout the research, the participant’s self-monitoring in the verb gap-filling tasks showed that while she did actually do this, she was unfortunately self-monitoring the
ineffective strategies that she had used, and then continued to rely on them because she did not know any better way, which usually led to unsatisfactory results. Maya’s performance might again be explained by the fact that students with poor executive functioning skills have difficulties with the choice of strategies to achieve their goals, and with choosing new strategies to replace ineffective ones (Meltzer 2010; Bagnato and Meltzer 2010; Morken and Helland 2013; and Kunaver 2008).

The results of the semi-structured interview clearly point to the difficulties Maya experiences in solving verb gap-fill tasks due to reduced executive functioning, and problems dealing with cognitive load (Martinussen and Major 2011). In the processes required for success in this context, a student should show conceptual knowledge of English tenses (tense form, use, exemptions, time adverbials, etc.), have the skills required to retrieve the parts of these concepts needed from long-term memory, hold the information in the working memory and simultaneously understand and follow the input information expressed by the sentence (subject of an action, time adverbials, meaning of the sentence). The student then needs to manipulate all this to decide on the proper tense choice, aspect and mood, and then additionally also pay attention to the spelling. Mistakes such as omitting an auxiliary verb in compound tenses (*she smoking now*), or neglecting subject-verb agreement (*Sharon have seen*) might thus be explained by Maya not having any effective strategy to manage the cognitive load of the working memory, since she complained it was too much to think about at the same time.

Interestingly, despite her uncertainty in the accuracy of her performance results, the participant sought no strategies to help evaluate the results by herself, and in this way work to aid her weak executive functioning in terms of self-evaluation (Bagnato and Meltzer 2010; Morken and Helland 2013; Schneider and Ganschow 2000), but instead put the evaluation wholly into the hands of her teacher.

Nevertheless, Maya was aware of her difficulties and wanted to improve her knowledge of English tenses, but knew no effective strategy to cope with the problems she faced. In the past the participant had sought advice from her parents, who unfortunately were not able to help, and from her schoolmates whose ways of understanding and learning the tenses were incomprehensible to her, and thus she decided not to seek further help or strategies. These problems are in line with the findings of Meltzer (2010), Bagnato and Meltzer (2010), Morken and Helland (2013), and Kunaver (2008), who reported that students with learning difficulties often have no learning or task performance strategies, but instead choose ineffective strategies even though they prove to be unproductive, and do not then change these for more effective ones, nor evaluate their own performance.

5 Conclusion

The findings of this study shed some light on just some of the many individual difficulties students with dyslexia might face in learning English tenses. They point to lack of knowledge in the choice and inefficient use of learning and task performance strategies to help tackle weak executive function skills. Further studies should focus on more extensive but still in-depth research into the executive function strategies students with dyslexia use in learning English tenses and in completing verb gap-fill tasks, and further on at a development of an
intervention model to equip such students with more effective strategies to support executive function processes in learning and task performance.

However, the results gained by the present study might offer a more comprehensive perspective into the learning and performance behaviour of dyslexic EFL students, and thus might aid EFL teachers and other professionals involved in teaching students with dyslexia in understanding the strengths and weaknesses in the use of executive function strategies, and thus assist teachers in creating a more inclusive environment in EFL classes – not only in teaching the form and use of English tenses, but also in scaffolding strategies with regard to how to learn and internalize the forms and uses of English tense system.

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