Using Portfolios to Enhance Self–Regulated Learning

Summary. Nowadays, in the age of information technology, when social media in education has become a buzz phrase, teachers tend to look only at the progress tests and final examination results of their students while ignoring the process of learning and competence-based approaches leading to the self–regulated development of certain skills. Portfolios, as a widely-used tool in pre-service teacher training, reveal a clear picture of the student growth and development. It also shows the achievement of learning outcomes foreseen in the study programme. The paper presents the results of the research based on the implementation of language learning portfolios in and out of the classroom. The article describes students’ attitude shift in self–tracking progress and the development of self–regulated learning (SRL). The model of self-regulated learning while using learning portfolios is designed. Three basic phases: preparatory, performance and appraisal of the model are identified. The techniques that enhance self-regulated learning are revealed and discussed on a comparative basis. The results of the study indicate that keeping record of one’s academic achievement in language learning portfolios leads to the enhancement of self-regulated learning. Distribution frequencies analysis is used to measure the students’ attitude shift and the perception of self-regulated learning in the appraisal phase.

Keywords: self-regulated learning, portfolio, reflection pages, academic achievement.

Introduction

Recently, self-regulated learning (SRL) has shifted from a focus on a teacher-centred approach to self-studying and academic achievement. Researchers have been trying to reveal the correlation between language learning motivation and learning outcomes from the point of view of the ability of learners to self-regulate studies. Zimmerman and Schunk (2011) define self–regulated learning as:

The way in which learners control their thoughts, feelings and actions in order to achieve academically, and, in a climate of rapid change in human context with a particular emphasis on technological advancement, they consider self-regulated learning to have become an essential requirement for individuals, particularly with regard to maintaining the capacity for employment and lifelong learning” (as cited in Cassidy, 2011, p. 2).

Research on self-regulated learning can provide us with the answers to a few questions: What are the means and techniques of self-regulation in the learning
process? How do students perceive regulatory mechanisms, and how does self-regulated learning lead to academic achievement?

Self-regulated learning involves a student’s effort to manage learning processes systematically oriented to achieve goals (Zimmerman & Schunk, 2011). There could be many practices and methods to develop self-regulation in teaching/learning process: project-based learning/teaching, case study, problem-based learning/teaching, portfolio-based learning/teaching etc. Language learning portfolios have been chosen as the focus of the study because they have been used in teacher training for more than a decade at the university as well as training of philologists to become autonomous multilingual specialists. A number of references witness the advantages of this learning method: in the field of pre-service teacher training, a template of a pre-service teacher portfolio is provided, pedagogical implications are analysed in practical recommendations guiding both a student and a mentor (Andziuliene & Budreikiene, 2013, Genc & Tinmaz, 2010; Woodward & Nanlohy, 2010); in the field of increasing multilingualism, language learning portfolios as a facilitating tool for learning foreign languages is investigated (Apple & Shimo, 2004; Baturay & Daloğlu, 2010; Burkšaitienė, 2006; Ozturk, & Cecen 2007; Šliogerienė, 2012). The usage of learning portfolios helps to self-evaluate the personal and academic growth as well as regulate the study process. Self-regulated learning begins with the establishment of learners’ needs and awareness of the course unit outcomes foreseen by the teacher. A preservice teacher portfolio represents a formative assessment approach. The main goal of such a tool is to register pre-service teachers’ progress in the long term and show the development of students’ competence. Learning portfolios as a documented evidence-based instrument to measure academic achievement has been used in self-regulated learning. In order to develop skills in self-regulation, students should be guided how to track the progress on their own and make self-projecting steps in the academic achievement process. It has been found that learners, who actively self-regulate, achieve higher grades and are more confident than their peers (Pintrich, 1995; Zimmerman & Schunk, 2001).
Understanding Self-Regulated Learning

Self-regulated learning has been widely discussed and researched from the point of view of students’ perspective to develop self-monitoring skills, increase motivation, register their own progress and from the point of view of a teacher to change the role in the assessment moving from summative to formative, to provide frequent continuous feedback in order to help learners to self-regulate their academic achievement process. Self-regulated learning is a complex dimension in which multiple conceptualizations, definitions, and models coexist. SRL includes several processes such as planning, monitoring, regulation, and control of cognition, and motivation and involves the dynamic interaction of cognitive, metacognitive, and motivational components of learning (Boekarts & Cascallar, 2006; Pintrich, 2004; Zimmerman & Schunk, 2008). SRL is also considered to be a key to success in a career (Boekaerts, 1999). Having gained self-regulated skills at the university employees can deal with problematic issues on their own in the labour market. These professionals are the type of specialists that many organizations seek because of their ability to adapt to a changing environment.

What are the constituent parts of self-regulated learning which should be developed to achieve academic progress and make a shift in students’ attitudes? There have been a few approaches to constructs underlying student self-regulated learning. Three common criteria are highlighted by Zimmerman (as cited in Cassidy, 2011), which he considers to apply across most self-regulated learning theoretical perspectives: (1) purposive use of specific processes, strategies or responses by students to improve their academic achievement; (2) the use of a self-oriented feedback cycle, involving students monitoring the effectiveness of their learning strategies and responding to feedback with changes in self-perceptions or learning strategies; (3) a motivational dimension – involving self-efficacy beliefs – which determines choice of particular self-regulatory processes, strategies or responses. According to Zimmerman, learning style, academic control beliefs and student self-evaluation are the main constructs in the development of self-regulated learning. Boekaerts’ conceptual model of self-regulated learning focuses on the relevance of learning style, perceived academic personal control and peer and self-assessment constructs. The author emphasizes
the synergy of learning styles, theories of the self and metacognition giving importance to the three schools of thoughts (Cassidy, 2011). Cassidy analyses three phases of self-regulated learning based on Zimmerman (2002). As cited in Cassidy (2011, p. 4) those phases of SRL are: *foreshort thought*, involving task analysis (goal setting, strategic planning) and self-motivation beliefs (self-efficacy, outcome expectancies, intrinsic interest/value, learning goal orientation); *performance*, involving self-control (imagery, self-instruction, attention focusing, task strategies) and self-observation (self-recording, self-experimentation, self-reflection phase); and *self-reflection*, involving self-judgment (self-evaluation, causal attribution) and self-reaction (self-satisfaction/affect, adaptive/defensive). Any judgment or activity that occurs in these phases of SRL is functioning in a closed circle. A thought provokes an action to be performed, the outcome which inspires self-reflection leading to self-evaluation in order to self-project one’s learning. Self-evaluation and causal attribution prompts new ideas, thoughts.

Puustinen & Pulkkinen (2001) overview quite several authors analyzing self-regulated learning. They generalize different authors’ models of SRL process in three phases: preparatory phase, performance phase and appraisal phase. The models are compared based on four criteria: the background theories of the authors, the definitions of SRL, the components included in the models and the empirical research conducted by the authors. Puustinen & Pulkkinen state that various underlying theories were applied by the most prominent authors analyzing SRL process: ‘meta’ theorists such as Flavell (1977) was widely discussed in Borkowski’s model, Bandura’s (1986) social cognitive theory was analysed in Zimmerman’s model, social cognitive approach was applied in Pintrich’s model, Kuhl’s (1985) Action Control Theory made an impact on Lazarus & Folkman’s (1984) Transactional Stress Theory. Winne’s model (1996) compiled a few theories and grounded his model on various authors, including Bandura and Zimmerman (Puustinen & Pulkkinen, 2001, p. 13). It is interesting to note that taking a number of definitions of SRL into account, Puustinen & Pulkkinen (2001) make a conclusion that two basic definitions emerged: goal-oriented definition and a metacognitively weighted definition. Some authors emphasize the constructive nature of SRL, focusing on constituent parts of the concept: self-monitoring, self-controlling, self-projecting while others give a weight to
metacognitive awareness, motivation, attitude etc. On the other hand, the authors conclude that “...even if the terminology varies from one model to another, all the authors assume SRL to proceed from a preparatory or preliminary phase, through the actual performance or task completion phase, to an appraisal or adaptation phase” (Puustinen & Pulkkinen, 2001, p. 13). Table 1 sums up the components corresponding to these phases for each of the models.

<table>
<thead>
<tr>
<th>SRL process</th>
<th>Author</th>
<th>Preparatory phase</th>
<th>Performance phase</th>
<th>Appraisal phase</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Boekaerts (1999)</td>
<td>Identification, interpretation, primary and secondary appraisal, goal setting</td>
<td>Goal striving</td>
<td>Performance feedback</td>
</tr>
<tr>
<td></td>
<td>Borkowski (1977)</td>
<td>Task analysis, strategy selection</td>
<td>Strategy use, strategy revision, strategy monitoring</td>
<td>Performance feedback</td>
</tr>
<tr>
<td></td>
<td>Pintrich (1995)</td>
<td>Forethought, planning, activation</td>
<td>Monitoring, control</td>
<td>Reaction and reflection</td>
</tr>
<tr>
<td></td>
<td>Winne (1996)</td>
<td>Task definition, goal setting and planning</td>
<td>Applying tactics and strategy</td>
<td>Adapting metacognition</td>
</tr>
</tbody>
</table>

Self-regulated learning has also been found to be strongly related to motivation (Ning & Downing, 2015; Zusho & Edwards, 2011), learning experience and course satisfaction (Ning & Downing, 2011). These factors make an influence on students’ attitude shift in self-tracking progress. Ning and Downing (2015) adopted a person-centered perspective and analysed self-regulated learner profiles, giving much attention to academic achievement and learning experience. The authors used Latent profile analysis (LPA) which helped to identify four distinct types of students with differential self-regulated learning strategy orientations: competent self-regulated learners, cognitive-oriented self-regulated learners, behavioural-oriented self-regulated learners, and minimal self-regulated learners. Students, in the competent SRL profile, demonstrated the highest levels of academic self-concept, motivation, attitude, and the lowest level of test anxiety.
and best academic performance. Ning and Downing also concluded that there is a significant association between students’ perception of their learning experience and their self-regulated learning strategy orientation.

**Portfolios in self-regulated learning**

Since the mid-1980s, portfolios have been used to document students’ progress, facilitate self-study, foster creativity, reflective skills and so on. Nowadays, there has been a clear distinction between the types of portfolio, forms of assessment and functions as well as activities a teacher and a student should focus on. Portfolios are an effective method in the process of transforming the traditional paradigm of teaching and creating a new paradigm of learning and is spread in all levels of education abroad, tertiary level including. It has a multifunctional nature as it may be used as a method of learning and as a method of assessment (Burkšaitienė, 2006). Having reviewed numerous references, we can conclude that a portfolio is a practical alternative to standardized testing (Hiebert & Calfee, 1989; Moya & O’Malley, 1994), which focuses on factual content rather than real-life application, problem-solving, and creativity (Reckase, 1997, as cited in Baturay & Daloglu, 2010). The authors claim that portfolio assessment supports the use of multiple measures and better reveals the clear picture of the students’ growth and development (Moya & O’Malley, 1994). It also provides the students with a chance to reflect on their learning gains from the course. It exhibits a learner’s development of problem-solving and critical thinking skills (Baturay & Daloglu, 2010). Depending on the purpose and the functions, portfolios can be structured, unstructured or semi-structured. Apple and Shimo (2004) define three types of portfolios:

1. **Documentation (collection) portfolio:** includes all the works of a student through one course.
2. **Assessment portfolio:** students systematically select works for assessment according to criteria given by the instructor.
3. **Showcase portfolios:** students select only their best work for inclusion in their portfolios.

There is also a clear distinction between teaching and learning portfolio, the latter being the main object of our research.
Self-regulated learning in formative assessment

Learning portfolios are analysed in terms of formative assessment with a focus on students’ personal growth and academic achievement. Most research on formative portfolios focuses on strengthening reflective practice through question prompts and faculty feedback (Avraamidou & Zembal-Saul, 2003; Borko, Timmons, & Siddle, 1997; Fox, Kidd, White, & Painter, 2005).

From summative we moved to formative assessment with the aim to teach our students self-regulatory skills and help them to become autonomous learners. Writing reflection, doing the assignments, following teacher’s feedback and analysing it in detail helps to self-track the progress a student has been making. The aim of writing learning portfolios is very distinct - formative assessment. Previous researches show the advantages of formative assessment as opposed to summative one. The biggest pro of formative assessment is a shift in students’ attitudes and the development of self-regulatory skills. Usually reflective journaling or reflection pages in a portfolio are used for the improvement of learning which is often considered a formative assessment (Peery 2005, p. 101). In some cases, portfolios are used for a summative assessment to assess students’ progress. Learning portfolios could be a register of the subject knowledge as a file compiled by an individual for the particular subject, but it could have the form of registering the experience, knowledge and assessment of all subjects, if this form is acknowledged at an institution. The focus of formative assessment is to identify the areas that should be improved. This type of assessment is not graded; it acts more than an instrument of determining teaching/learning effectiveness as well as students’ learning progress. On the contrary, summative assessment takes place after the learning has been completed and provides information and feedback that sums up the teaching and learning process. The theory of formative assessment is found to be a unifying theory of instruction, which guides practice and improves the learning process by developing SRL strategies among learners (Clark, 2012). Formative assessment refers to assessment that is specifically intended to generate feedback on performance to improve and accelerate learning (Sadler, 1998). Researchers agree that formative assessment and feedback should be used to empower students as self-regulated learners. The main element of self-regulation refers to
the degree to which students can regulate aspects of their thinking, motivation and behaviour during learning (Pintrich & Zusho, 2002). In higher education, formative assessment and feedback are still largely controlled by and seen as the responsibility of teachers; and feedback is often understood as a communication process. It should be remembered that if formative assessment is under teachers’ control, then it is difficult to see how students can become empowered and develop the self-regulation skills needed to prepare them for learning outside university and throughout life (Boud, 2000).

Formative assessment portfolios are most often structured; the constructs are defined by the teacher. Figure 1 demonstrates the researcher’s model of self-regulated learning through use of learning portfolios in language teaching. As it could be seen from the figure, there are three basic phases: preparatory, performance and appraisal divided into elements, activities ascribed to each stage and skills which are developed in self-regulated learning. There are two levels distinguished in the appraisal phase. At the lower level of self-appraisal phase, self-assessment and self-determining skills are developed while formal counselling occurs only after students determine their weaknesses, needs and prospective targets or goals. Having had formal assessment, learners project their further learning which gradually becomes self-regulated.

Fig. 1. A model of fostering self–regulated learning in formative assessment portfolios
Methodology

A pilot study was carried out in the Institute of Humanities, Mykolas Romeris University in 2015. The results of the Students feedback questionnaire as well as students’ portfolios were analysed in a course on Modern English. The questionnaire consisted of three parts: the first - demographical variables, the second part contained questions to measure students’ attitudes, and the third part presented the questions on the usefulness of language learning portfolios. In order to ensure students’ anonymity, feedback questionnaires were anonymous, reflection pages of learning portfolios were photocopied without any names on them. Students were informed that their answers would be analysed in the article and the results would be publicly available. The samples from students’ language learning portfolios are used in this section to discuss the reasons for the usefulness of the tool. The tool was divided into sections: SWOT analysis, language in use terms and definitions, phrasal verbs and idioms, written assignments, a section of syntax theory and seminars material, tests and their corrections, the last pages – reflection pages and a page of “recycling stickers”. The research limitation lies in a small number of respondents as the subgroups for foreign language learning are rather small. The research is not intended to compare the relationship between self-regulated skills and personal qualities that might influence self-regulated learning and the attitude shift. The object of the research is students’ evaluation of self-direction in portfolio-based learning. Having chosen this object, the aim of the research was to analyse students’ evaluation of the self-regulated learning in a course on Modern English. The methods of the research include the analysis of methodological references, a qualitative data interpretation and a quantitative research, statistical data analysis (SPSS statistical package for social sciences). The paper explores the problem of the students’ attitude shift in self-tracking progress and the development of self-regulated learning. Therefore, the main hypotheses of this article are: 1) students find it useful to keep record of their academic achievement in language learning portfolios; 2) a learning portfolio is an effective technique to enhance self-regulated learning.
Results

One of the main focuses in this article was the analysis of the usefulness of keeping record of one’s academic achievement in language learning portfolios and the effectiveness of a learning portfolio to enhance self-regulated learning. Distribution frequencies analysis was used to measure the students’ attitude shift and the perception of self-regulated learning in the appraisal phase. The variable of the usefulness of language learning portfolios was measured at the beginning of the semester as soon as students started writing their portfolios; and again, at the end, when they were asked to evaluate this technique of self-tracking their academic achievement progress (Figure 2).

Fig. 2. The usefulness of tracking one’s academic achievement progress in learning portfolios

At the initial stage, 42% of the respondents stated that they didn’t find the language portfolio useful, only 24% of the questioned marked this technique as being very useful in fostering their self-regulated learning. At the end of the semester there has been a shift in the evaluation of learning portfolios; 58% of
students acknowledged the usefulness of writing their learning portfolios, while only 17% of the respondents still couldn’t find this technique of self-tracking academic achievement progress beneficial and constructive. The students were also asked to provide the reasons for their evaluation. The findings showed (Figure 3) that 39% of those respondents who found the learning portfolio not useful, presented the main reason – time consuming, even 25% of dissatisfied students said that they needed more support while doing the assignments, structuring the learning portfolio, identifying their strengths and weaknesses. 23% of the respondents admitted that there was too much writing in the reflection pages, let alone the written assignments they were asked to have there.

Fig. 3. The reasons why learning portfolios are not useful

These findings are in line with the results of other researchers. Ning and Downing (2015) revealed that the more the teachers are perceived as encouraging and supportive, the more the students are aware of what was expected of them from the programme. The authors also stated that “...the more the students perceived the assessment methods as intellectually stimulating and encouraging of genuine understanding of course contents, and the less the students felt overwhelmed by
the workload demands, the more likely it was for the students to adopt adaptive self-regulated learning patterns” (Ning & Downing, 2015, p. 1341).

The research results also revealed that the students’ attitude towards writing entries into their learning portfolios gradually changed in the course. Though learners were mostly extrinsically motivated at the beginning of the course, they expressed a more positive attitude in the last reflection pages indicating that “now I make entries almost every day without being reminded by my teacher”, “... if I don’t write anything in my portfolio during a week, I think I haven’t revised what I have learnt”, “My teacher directs me whenever I need that, I like her sound feedback and the icons she puts at the end of the paper”.

The techniques of fostering self–regulated learning were measured using correlational statistics. Pearson coefficient revealed a statistically significant relation between variables “Assess my learning” and “Experience more student–teacher involvement” (r = 0.619 **, p = 0.000). ANOVA revealed that there was a statistically significant difference between “Work on my individual skills more” and “Experience more student-teacher involvement” F (5, 1247) = 2.841; p < 0.001.

### Table 2.

**Correlational subordination of usefulness and efficiency of portfolio-based learning**

<table>
<thead>
<tr>
<th></th>
<th>Articulate my learning needs more</th>
<th>Work on my individual skills more</th>
<th>Assess my learning</th>
<th>Experience more student-teacher involvement</th>
<th>Reflect on my learning more</th>
<th>Work at my own pace</th>
<th>Set goals for next week easier</th>
</tr>
</thead>
<tbody>
<tr>
<td>Articulate my learning needs more</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Work on my individual skills more</td>
<td>.458**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assess my learning</td>
<td>.515**</td>
<td>.422**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experience more student-teacher involvement</td>
<td>.398**</td>
<td>.732**</td>
<td>.610**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reflect on my learning more</td>
<td>.535**</td>
<td>0.116</td>
<td>.375**</td>
<td>.488**</td>
<td>1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
A significant correlation was found between the variables “Reflect on my learning more” and “Articulate my learning needs” (r = 0.535 **, p = 0.000) as well as “Reflect on my learning more” and “Set goals for the next week easier” (r = 0.744 **, p = 0.000) “Assess my learning” and “Set goals for the next week easier” (r = 0.656 **, p = 0.000). The significant correlation established between these variables leads to the assumption that reflection on one’s learning and the skills to set goals for the nearest future studies as well as the ability to address one’s learning needs help to foster self-regulated learning at a higher level of self-appraisal phase.

The findings that students were able to self-assess their learning, articulate their learning needs and set goals for further studies are in line with other authors’ research results. The assessment portfolio as defined by Apple and Shimo (2004) is especially suitable for the purpose of promoting self-assessment, because students were encouraged to review their productions and analyze their language development critically in the process of reflecting their best performance. As for the effect of studying EFL writing through portfolios, Ozturk and Cecen (2007) found that most students believed in the improvement of their writing skills while making entries in the learning portfolio. In this study, students appreciated formative feedback from their instructors which helped them to see their academic progress and stated that they liked working collaboratively with their instructor.
Discussion

Having analysed students’ portfolios and the results of the questionnaire the following conclusions can be drawn: 1) students find it useful to keep record of their academic achievement in language learning portfolios; 2) a learning portfolio is an effective technique to enhance self-regulated learning; 3) reflection on one’s learning and the skills to set goals for the nearest future studies as well as the ability to address one’s learning needs help to foster self–regulated learning at a higher level of self–appraisal phase. The results of the study indicated that keeping record of one’s academic achievement in language learning portfolios led to the enhancement of self-regulated learning. Distribution frequencies analysis was used to measure the students’ attitude shift and the perception of self-regulated learning in the appraisal phase. The techniques of fostering self-regulated learning were measured using correlational statistics. The significant correlation established between these variables led to the assumption that through reflection on one’s learning and the skill to set goals for the nearest future studies as well as the ability to address one’s learning needs help to foster self–regulated learning at a higher level of self–appraisal phase. The shift in students’ attitude was also discovered. From extrinsically motivated learning they moved to a more positive intrinsically-driven learning process.

The novelty of this study lies in the design of the model of self-regulated learning while using language learning portfolios. Three basic phases of the model were identified: preparatory, performance and appraisal divided into elements, activities ascribed to each stage and skills which are developed in self-regulated learning. There were two levels distinguished in the appraisal phase. The value of the study in terms of new findings is measured in students’ attitude shift towards language learning portfolios.

Practical implications for teaching

At the lower level of self–appraisal phase, self–assessing and self–determining skills should be developed while formal counselling should occur only after students determine their weaknesses, needs and prospective targets or goals.
Having had formal assessment, learners would be able to project their further learning which gradually becomes self-regulated.

Writing reflection pages in a portfolio stimulates critical thinking and helps students clarify ideas through discussion and debate. Entries in a portfolio should be made on a regular basis and the length of an entry doesn’t mean the significance or quality. There could be various questions that help you to develop a portfolio and reflect on your learning process or the progress that has been made. The act of reflecting on one’s learning, looking back on it and describing it to another person, embeds it more deeply in memory. Filling in the learning portfolio helps students to gather all the information, the course material, the written assignments, tests corrected by the teacher in one place and see whether they are making any progress, self-evaluate and project their future studies (Šliogerienė, 2012).

In order to assure the usefulness and quality of language learning portfolios, self-regulated learning should be fostered and developed gradually. A structured portfolio proved to be of the greatest value compared to semi-structured or unstructured learning tools. Formative assessment is appreciated by students more than grading; it helps students to see their academic progress and leads to self-regulated learning. A number of study programmes in the field of philology or language studies promote multilingual learning/teaching where language learning portfolios are widespread to register one’s progress not only of the first foreign language learning but also of the second or even the third one. It is highly recommended to promote this self-regulated learning tool in teacher training as well. Formative assessment should be practiced as assessment that is specifically intended to generate feedback on performance to improve and accelerate learning.

References


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APLANKO NAUDOJIMAS SKATINANT SAVIREGULACINĮ MOKYMĄSI


Pagrindinės sąvokos: saviregulacinis mokymasis, aplankas, refleksijos puslapiai, mokymosi pasiekimai.