Supporting Students to Learn How to Learn Through Self-Regulated and Self-Directed Learning

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Biography

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Abstract

Students often struggle with metacognition. Based on existing research, self-regulated and self-directed learning approaches help students learn how to learn and reach higher learning achievements, including academic, emotional and motivational aspects. Students need to learn 21st century skills, such as initiation, self-management and efficient communication to be able to work in jobs, many of which do not even exist today. For this change to happen, teachers need to support students in learning about themselves as learners and how to use this knowledge to reach their educational goals.

Keywords: self-regulated learning, self-directed learning, learning skills, internal motivation, communication

Supporting Students to Learn How to Learn

Students often lack motivation and do not see the purpose of learning new skills. They have difficulties planning their learning, starting their work, finding usable resources, analyzing information and expressing their ideas collaboratively. To be successful, independently or collaboratively, students need to be taught how to be self-regulated and self-directed learners (Worapun, et al., 2017; Özcan, 2015). Teachers need support to assist students in learning these processes. The purpose of this inquiry is to explore ways that teachers can use to support developing students' learning skills.

Literature Review

Self-Regulated Learning (SRL) and Self-Directed Learning (SDL)

Often students do not know how to analyze their learning process, and they have difficulties in answering questions such as

1. What do I know about a given topic?

2. What am I supposed to learn based on what I know already?

3. Where do I find help or information to get through difficult topics?

4. How do I know I have learned or how well have I learned?

The skills students need to be able to answer these questions can be found under concepts of self-regulated learning (SRL) and self-directed learning (SDL).

Self-regulated learning and self-directed learning are well defined concepts and have been explained in many ways in different studies. The self-regulated learner has "self-generated thoughts, feelings, and actions that are planned and cyclically adapted to the attainment of personal goals" (Zimmerman, 2000, p. 14). Learning is seen as a cyclic process, in which the results of assessment will influence the next learning experience and where learner's skills as well as emotions and beliefs are taken into consideration.

From another perspective, self-regulated learners "have control over their own learning and (…) they can direct cognition and motivation to achieve a specific learning goal" (Loyens, Magda & Rikers, 2008, p. 416). Motivated learners take responsibility for their learning by planning, monitoring and evaluating their work simultaneously.

Self-regulation consists of different phases. Sagasser et al. (2014) defined these as "goal setting, planning learning activities, regulating self-motivation, performing the task, monitoring the performance and self-assessing goal-attainment" (p. 728). Pulkkinen and Puustinen (2001) explained the process in three steps:

1. Preparatory phase – defining tasks, setting goals, choosing strategies, planning time and commitment

2. Performance phase – using strategies, monitoring work

3. Assessment phase – reflecting on performance, outcomes and strategies used

Self-regulated and self-directed learning include similar skills. The self-directed learner is more independent than the self-regulated learner. Students who have life-long learning skills can be called self-directed learners. According to Knowles (1975):

Self-directed learning describes a process in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes (p. 18).

When students possess these skills, they can learn to be successful in any area.

The mindset of a self-directed learner is very developed. They are "responsible for their own studying" and they can "control their learning behavior as well as search for their own knowledge" (Worapun, Nuangchalerm & Marasri, 2017, p. 99). These students can independently determine what they want to learn and how they learn, and evaluate their own learning process, as well as work with teachers and peers, when needed.

The self-directed skills that benefit students in the future are "competency in working with others, careful decision making, initiation, problem solving abilities with difficult problems, self-management, efficient communication, learning and innovation skills" (Worapun et al., 2017, p. 99).

Similarities and Differences Between SRL and SDL

Self-regulated learning and self-directed learning have similarities and are often thought as synonyms, which they are not. Saks and Leijen (2014) stated that "a self-directed learner is supposed to self-regulate, but a self-regulated learner may not self-direct" (p. 192). According to these researchers self-regulated learners still need support from teachers to define topics to learn, provide tasks to do, and help them to find suitable strategies. Furthermore, self-regulated learning is usually seen within children and youth in schools whereas self-directed learning is associated with adult learners or university students.

In both concepts, students are active learners who are goal-oriented and influenced by peers and teachers, use metacognition and have good motivation. Students go through the same activities while they plan their work, set goals, use strategies and monitor and reflect themselves and their work. Both internal (personality, motivation, emotions, metacognition) and external (processes, tasks, interaction) aspects are considered. (Saks & Leijen, 2014)

SRL and SDL consist of similar kinds of skills, and it is sometimes hard to separate them from each other. However, this is not often necessary. From the perspective of learning, the most important thing is to focus on the skills students need to be successful. Examples of pertinent skills are presented in Table 1. Teachers need to consider developing students' skills including organization, elaboration, metacognition, perseverance, self-discipline, eagerness, responsibility, independence, self-confidence and self-evaluation (Ayyildiz & Tarhan, 2015; Mega, Ronconi & De Beni, 2014).

Table 1. Different skills associated with self-regulated learning (SRL) and self-directed learning (SDL).

Skill	SRL	SDL
Being active	x	x
Defining learning resources	x	x
Defining what to learn	Given by teacher	x
Determining goals	x	x
Distinguishing what is important and what is not	x	x
Eagerness	x	x
Efficiency of study habits	To some extent	x
Elaboration	x	x
Engaging challenging problems	x	x
Forming a whole from different resources	x	x
Independence	To some extent	x
Learning from peers and teachers	x	To some extent
Metacognition	x	x
Monitoring	x	x
Organization	x	x
Perseverance	x	x
Responsibility for learning	x	x
Self-confidence	x	x
Self-discipline	x	x
Self-evaluation	x	x
Selecting learning strategies	Given by teacher	x
Time management	x	x
Willingness for learning	x	x

Impact of SRL and SDL on Learning

Many researchers have studied SRL and SDL, and have identified a connection between the two concepts and learning achievements. Kontturi (2016) studied self-regulated (SRL) learning in 4th and 5th grade classrooms and explored how teachers can support students in becoming self-regulated. Özcan's (2015) research with secondary school students focused on two aspects of self-regulated learning: motivation and metacognition. He found a positive impact on problem-solving skills. Self-regulated learning also had a positive impact on undergraduate students' learning achievements (Mega et al. 2014). In addition, Worapun et al. (2017) reported higher results in learning achievements and problem-solving skills due to SDL with high school students while Sumantri and Satriani (2016) found a positive effect of SDL on mathematics outcomes with elementary students.

Effects of Emotions and Motivation on Learning

Mega et al. (2014) examined how positive and negative emotions students had about themselves and their achievements had an impact on learning. Their study showed that positive emotions have a greater effect on self-regulated learning than negative emotions. The same result was found with emotions and motivation. Motivation was studied regarding self-efficacy and students' confidence in their intelligence. Both self-regulated learning and motivation had positive effects on learning outcomes. Positive emotions alone did not have a great impact on learning.

Other researchers have studied the connection between motivation and learning. According to Özcan (2015), motivation consists of "wishes, desires, needs, impulses, and interests" and it drives our behavior (p. 410). Internal motivation has a greater impact on self-regulated learning than external motivation. External factors, such as teachers, parents or grades, only give short-term assistance, while internal aspects (curiosity, hunger for knowledge and desire to develop) can develop learning for a longer period of time (Özcan, 2015).

Discussion

Learning about yourself

Think of something that is very hard for you. Something that you probably want to learn but you think you cannot. Perhaps it is something you do not even want to try learning, because you know it will be so difficult. Maybe it is so hard, you do not even know where to start. Ask yourself, have you tried learning it? If you did, how did you start? After a while, has it gotten easier for you? While reflecting on these questions you have already started your own learning journey. You are acknowledging what you do not know yet and how hard it might be for you to learn. You might think that if you have a lot of time and the right people to teach and guide you, maybe you can learn it.

We have many students who are not where you are, or at least not yet. Learning is not a simple system and the skills of learning how to learn are a big part of the process. The skills needed for

learning have been described in different ways: metacognitive skills, life-long learning skills or study skills. Currently, we can also use the terms self-regulated learning or self-directed learning. There have been many studies (Kontturi, 2016; Mega et al., 2014; Sumantri & Satriani, 2016; Worapun et al., 2017; Özcan, 2015) in the last few decades that focus on the effects of both of these on learning achievements. Along with specific content knowledge, students also need to be taught how to be self-regulated and later self-directed learners.

When students do not have the skills to plan, monitor or evaluate their learning process, teachers need to help them to learn how to self-regulate. Overtime, students can take more responsibility for their own learning with the support of teachers. When students can execute the process independently, they become self-directed learners. The process is long and takes a lot of time, support and persistence.

Reasons for change

Working for a decade as a mathematics teacher in a Finnish vocational high school, I have noticed most students can learn, but there are several factors stopping them, such as lack of motivation and self-esteem, and a feeling that they are not talented in mathematics. Many of my students do not know how to continue when they get stuck with a problem. They give up. Some students lack the skills to start learning something new or how to build on something they already know. These are skills related to self-regulated learning.

I want to help students to find their strengths as well as how to get rid of "the giving-up-attitude" and help them realize everything they learn is useful to them. I want to show them the skills they learn about learning when gaining skills in mathematics or playing football can benefit them later in life. To be able to self-regulate can be as important, or even more important, than a specific skill or content knowledge they are learning. For example, when students are learning mathematics, it is important that they recognize how they feel about learning mathematics, what are the hard parts for them and what kind of support they might need. The purpose of this inquiry is to learn how to find

out which self-regulation skills (Table 1) students already have or do not have, and how to teach and support students who struggle with these skills. When students know how to be self-regulated, teachers can support them to become self-directed learners.

Teacher's or Student's Goals?

Students seem to think that the purpose of learning is to get a grade or pass a course. They often ask "Is this enough? Can I pass the course now?" I would like to teach them to think about themselves by asking "What do I need? What do I want? Where might I need this information?" This can be hard for students, because they might have never been asked to think this way. Students often do not stop to think why they are learning. To be able to answer these questions, students need to be able to self-regulate.

Furthermore, for students to be able to self-regulate, they need to be motivated. As Özcan (2015) noted, external motivation (e.g., grades, parents) is not enough, and students need to have reasons for studying. In other words, they need to have internal motivation (e.g., curiosity, hunger for knowledge). When teachers control what to learn, how to learn, when to learn and when students have learned enough, opportunities for internal motivation decrease. Teachers need to give more responsibility to students on their own learning and support students who need help in finding reasons to learn for themselves.

Hard Work Versus Results

When facing difficult problems, students often say "This is too hard for me" or "I need to think so hard it hurts." As a teacher, when I hear this latter phrase, I feel excited, because this is where the students should be. This is part of self-regulated and self-directed learning. A teacher's job is to support students to get to this point and help them overcome the obstacles, so that later in life they can do it by themselves and be successful. In the future, students will be required to learn and master things we are not even aware of today. Therefore, developing self-regulation and self-direction will be crucial skills.

Being talented is often seen as a big influencer in learning. I hear my students reflect and say "I am not good at mathematics, because I am not talented." On the other hand, we say "Practice makes perfect." A Finnish brain researcher Minna Huotilainen has said "Practice makes a master and a master is always practicing." When students come to understand this concept, that they can learn by working hard and getting suitable support, the process becomes easier. I want the students as well as the teachers to understand the meaning of working hard and being perseverant. These are also skills that can be developed.

However, other perspectives need to be considered. Students who are hard-working, perseverant and have strong work ethics, are seen as good learners. Other aspects of personality, such as being curious, enjoying learning and believing in one's self should be considered as well (Malanchini et al., 2018).

Concerns about SRL and SDL

While there are many benefits related to SRL and SDL, there are also concerns and reservations. Aspects that have been criticized include efficiency, normalizing thinking and learning, and a lack of social interaction (Vassallo, n.d.). Learning should not be entirely focused on efficiency and speed. Especially in mathematics, many students think the faster you are, the better. Teachers should raise discussion among students to clarify that this statement is not true. Even though self-regulated and self-directed learning are focused on "self," this does not mean everything is done individually. In fact, sharing thoughts and seeking feedback from peers and teachers is encouraged.

The concepts of SRL and SDL are not about normalizing learning but center on finding individual ways to learn. It is important to remember that learning does not have to be controlled all the time. Students can try and fail, and then learn from their errors. Teachers should support students but should also give space for students' own thinking and action. Teachers need to build strong relationships, where both teacher and student can trust each other and through this, students can be

given more responsibility. Our job as teachers is to help students to become what they want to be and to help them find their own way.

Conclusion

Before students start their work, teachers need to understand the cyclical process of SRL and SDL (Figure 1). The first step is for students to plan their work, set goals and select suitable strategies. Step two involves students using learning strategies while monitoring their performance. After reaching their goals, the final step is where students reflect on their performance and the learning process. After reflection, students set new goals and start the process again. Throughout the process, students continue to reflect on their work many times before reaching their original goals.

Figure 1. The cyclic nature of self-regulated and self-directed learning.

In the beginning, teachers help students to set good goals (those that are explicit, practical and realistic). They assist students with monitoring their progress and evaluating how they are achieving their goals. A class might start with setting shared goals. Teachers play an important role in making choices, include a focus on time management as well as making different choices in topics and strategies. Later, the responsibility of setting goals and monitoring their work shifts towards students. Teachers still have an important role to support setting goals that are challenging enough, guide monitoring, ask metacognitive questions and help in the self-evaluation process. Students' goals

guide their choices of learning strategies, places to study, ways to find information and when to process information with a group. Teachers encourage students to share their own thoughts and ideas.

Especially in the beginning, teachers need to serve as models for students. If students do not know how to think about their learning, they do not know where to begin. In this situation, teachers can use questions to help students get started (Table 2, Appendix A) and provide examples from their own life and learning experiences. In the beginning, students should ask themselves "What do I want to be able to do?" and "What do I know about the topic?" While working they can think of questions like "Can I use examples to explain a concept? or "Are my feelings effecting my studying?" When evaluating their work, students can ask "Have I reached my goal?" or "Could I ask feedback from peers?" The questions shown in Table 2 include aspects of academic, social and metacognitive learning.

Both self-regulated and self-directed learning are focused on the concept of "self." As a result, every learner is different. Teachers should take into consideration where each student is with his/her learning process to be able to support every student in the right way. To find out the skills students already have, the emotions that affect their learning, and whether they have enough internal motivation, teachers can use the Study Skills Questionnaire, the Emotions Questionnaire and the Motivation Questionnaire (Appendix B).

The Study Skills Questionnaire has six questions in each of the six different categories: time management, concentration and memory, test strategies and test anxiety, processing information, motivation and attitude, and reading and writing skills. This questionnaire is meant for both teachers and students. It gives the students the possibility to think about their own thinking and gives them feedback on their skills at that moment and which aspects they should consider developing. The teachers get valuable information on what skills they should teach to their students.

With the help of the Emotions Questionnaire, teachers can find out how various emotions may affect students' learning and what might be behind these emotions. Students are asked what

Table 2. Steps of learning with questions to ask

1. PLAN	2. WORK	3. REFLECT
Set goals	**Use deep approach style**	**Evaluate**
What do I want to learn? What am I going to learn? What do I want to be able to do? What will I have to know in order to achieve my goal? What do I know about the topic? Is my goal explicit, practical and realistic?	Am I learning to understand? Can I apply knowledge to new situations? Can I use examples to explain a concept? Am I learning more than is required for course completion?	How do I know I have learned? How do I know I have learned enough? Do I have confidence in explaining material? Have I reached my goal?
Plan activities	**Avoid surface approach**	**Seek feedback regularly**
What will I learn? How do I learn? Why do I learn this way? What activities need to come first? What kind of support I need? What is the possible outcome?	Am I just trying to cope with course requirements? Am I learning only what is required to complete a course? Am I regurgitating examples or explanations?	When is it time for self-reflection? Could I ask feedback from peers? When is it time to ask feedback from teacher?
Manage time	**Avoid strategic approach**	**Revise**
When am I going to learn? How much time do I need?	Am I trying to achieve the highest possible grades? Am I only learning what is required to pass exams? Am I memorizing facts?	How do I manage when it gets hard?
Find resources	**Consider emotions**	**Manage time**
Which resources should I use (people, places, community, media, library)? What resources have I used before? Which ones can I use now? Do I need help with finding more resources?	How am I feeling? Are my feelings effecting on my studying? Should I try to change some of my emotions?	Am I in a good position with time? Do I need more time to reach my goal?
Consider emotions		*Student is switching between working and reflecting.*
What are my beliefs, attitudes, skills, values, and support structure, both in life and as a student?		

emotions they have felt lately and what kinds of situations raise positive or negative emotions. Students are asked whether they share their emotions with family or friends. The questionnaire is also a tool for the students to stop and think about their emotions and how these might affect their learning.

The Motivation Questionnaire has 24 questions in five different categories: internal motivation, external motivation, task value, self-efficacy and test anxiety. This questionnaire can help students and teachers identify whether internal (curiosity, need for knowledge and development) or external (parents, teachers and grades) motivation guides students' learning more, how students feel about the importance of learning and whether they are confident in their ability to learn new things and perform well in a test situation.

Students who are advanced when it comes to learning self-regulation skills and are already moving towards self-direction, can take the Self-Regulation Questionnaire (Appendix B) to see their progress. Teachers can use this questionnaire to find out their own thoughts towards learning and different aspects of self-regulation, and they can share these thoughts with their students.

Teachers can use lesson plans (Appendix C) to start teaching the skills students need to be able to self-regulate. In these lessons students think about different ways to learn, what they want to learn, how to set good goals, what are their emotions towards learning, how different emotions affect their learning and ponder questions related to motivation and self-regulation. The Emotions Questionnaire and the Motivation Questionnaire are included in these lessons. The Study Skills Questionnaire can be used as a pre-test before these lessons and as a post-test to see how students' thoughts toward their own learning have changed.

It is very important for teachers to create an environment where all students feel safe and able to share their own ideas, thoughts and beliefs. Teachers should guide students to have good conversations with other students, how to comment on other students' thoughts and how to benefit from each other's experience. Whether it is about sharing emotions, ways to think about their own learning, or how to learn certain topics, students benefit from hearing examples from other students. Teachers should share their own thoughts in different learning experiences, both positive and negative ones. These ideas are included in the lesson plans.

We all feel differently on different days. Teachers should remember that students have bad days because they might be tired or might have had an argument at home or with a friend. This is one of the reasons students should be offered choices in the classroom. Another reason is that every student has their own background knowledge and own emotions related to learning. Teachers should take these into consideration when planning their lessons. Some students get very anxious or have a feeling of failing in situations they do not feel comfortable in.

To take these things into consideration, teachers can use guidelines (Appendix D) to start teaching self-regulation. Students should be provided the change to choose from given topics, learn in their own pace, at their own level and towards their own goals. They should be given enough time to deeply understand the things they are learning and to be able to choose where to learn (choosing different places in the classroom and inside or outside the school) and with who to learn (choosing independent or group work). Assessment is seen as flipped assessment (Appendix E, item 10), where students take more responsibility on evaluating their own work and taking part in the grading process.

Appendix E includes online resources to learn more about self-regulated and self-directed learning and how to have a successful conversation with the students. There are links to two blogs of Finnish educators who talk about deep learning ("Is Cramming for a Test a Form of Cheating?") and how to shift the responsibility of assessment to students ("Flipped Assessment in Finland").

For future research, it is recommended to study students' thoughts about their own learning and how students find out what are the best ways to learn for them. It is important to find out how students use ideas or feedback from peers, how they feel about the opportunity to make choices about topics and strategies, and how conversations with class about different beliefs about learning change students' thinking about their own learning.

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Appendix A

Table 2. Steps of learning with questions to ask

1. PLAN	2. WORK	3. REFLECT
Set goals	**Use deep approach style**	**Evaluate**
What do I want to learn? What am I going to learn? What do I want to be able to do? What will I have to know in order to achieve my goal? What do I know about the topic? Is my goal explicit, practical and realistic?	Am I learning to understand? Can I apply knowledge to new situations? Can I use examples to explain a concept? Am I learning more than is required for course completion?	How do I know I have learned? How do I know I have learned enough? Do I have confidence in explaining material? Have I reached my goal?
Plan activities	**Avoid surface approach**	**Seek feedback regularly**
What will I learn? How do I learn? Why do I learn this way? What activities need to come first? What kind of support I need? What is the possible outcome?	Am I just trying to cope with course requirements? Am I learning only what is required to complete a course? Am I regurgitating examples or explanations?	When is it time for self-reflection? Could I ask feedback from peers? When is it time to ask feedback from teacher?
Manage time	**Avoid strategic approach**	**Revise**
When am I going to learn? How much time do I need?	Am I trying to achieve the highest possible grades? Am I only learning what is required to pass exams? Am I memorizing facts?	How do I manage when it gets hard?
Find resources	**Consider emotions**	**Manage time**
Which resources should I use (people, places, community, media, library)? What resources have I used before? Which ones can I use now? Do I need help with finding more resources?	How am I feeling? Are my feelings effecting on my studying? Should I try to change some of my emotions?	Am I in a good position with time? Do I need more time to reach my goal?
Consider emotions		*Student is switching between working and reflecting.*
What are my beliefs, attitudes, skills, values, and support structure, both in life and as a student?		

Adapted from https://uwaterloo.ca/centre-for-teaching-excellence/teaching-resources/teaching-tips/tips-students/self-directed-learning/self-directed-learning-four-step-process

Appendix B: Questionnaires

STUDY SKILLS QUESTIONNAIRE

Name: _____   Date: _____

The purpose of this questionnaire is to find out how you feel about different aspects of learning.
Your answers will help you to better understand yourself and your teacher to support your learning.

Instruction: CIRCLE the NUMBER that best describes your behavior. Please, be honest.

Time Management	Never	Sometimes	Usually	Always
I arrive at classes and other meetings on time.	1	2	3	4
I schedule definite times and outline specific goals for my study time.	1	2	3	4
I avoid activities which tend to interfere with my studying.	1	2	3	4
I use the time on classes to learn.	1	2	3	4
At the beginning of a course I find out all the work that is required.	1	2	3	4
I begin major course assignments well in advance.	1	2	3	4
Consentration and Memory	**Never**	**Sometimes**	**Usually**	**Always**
I have the "study-place habit," that is, merely being at a certain place at a certain time means time to study.	1	2	3	4
I learn with the intention of remembering.	1	2	3	4
I find that I am able to concentrate-that is, give undivided attention to the task for at least 20 minutes.	1	2	3	4
I am confident with the level of concentration I am able to maintain.	1	2	3	4
I make sure that I understand what I am learning.	1	2	3	4
I recall readily those things which I have studied.	1	2	3	4
Test Strategies and Test Anxiety	**Never**	**Sometimes**	**Usually**	**Always**
I try to find out what the test will cover and how it will be graded.	1	2	3	4
I feel confident that I am prepared for the test.	1	2	3	4
I try to imagine possible test questions when I prepare for a test.	1	2	3	4
I take time to understand the test questions before starting to answer.	1	2	3	4
I follow directions carefully when taking a test.	1	2	3	4
I usually get a good night's rest prior to a scheduled test.	1	2	3	4
Processing Information	**Never**	**Sometimes**	**Usually**	**Always**
When reading, I can find important and unimportant points.	1	2	3	4
I break assignments into manageable parts.	1	2	3	4
I maintain a critical attitude during my study - thinking before accepting or rejecting.	1	2	3	4
I relate material learned in one course to materials of other courses.	1	2	3	4
I use questions to better organize and understand the material I am studying.	1	2	3	4
I solve a problem by focusing on its main point.	1	2	3	4
I try to organize facts in a systematic way.				
Motivation and Attitude	**Never**	**Sometimes**	**Usually**	**Always**
I am alert in classes.	1	2	3	4
I ask the teacher questions when clarification is needed.	1	2	3	4
I participate in meaningful class discussions.	1	2	3	4
I attend class regularly.	1	2	3	4
I take the initiative in group activities.	1	2	3	4
I learn for myself and to understand, not for passing a course.	1	2	3	4
Reading and Writing Skills	**Never**	**Sometimes**	**Usually**	**Always**
I look up parts I don't understand.	1	2	3	4
I focus on the main point while reading.	1	2	3	4
I find that I am able to express my thoughts well in writing.	1	2	3	4
I review my writing for grammatical errors.	1	2	3	4
I am comfortable using library and online resources for research.	1	2	3	4
I have someone else read my written work and consider their suggestions for improved writing.	1	2	3	4

STUDY SKILLS QUESTIONNAIRE - Analyzing results

Name: _____   Date: _____

Instruction:

1) Calculate your total points in each category.

2) Define for each category whether you are beginner, competent or proficient.

Category	Total Points	BEGINNER	COMPETENT	PROFICIENT
Time Management				
Consentration and Memory				
Test Strategies and Test Anxiety				
Processing Information				
Motivation and Attitude				
Reading and Writing Skills				

BEGINNER: Total points 15 or less

You will benefit from increasing your awareness of your learning and of strategies that different learning tasks require. Let's find out the best ways for you together!

COMPETENT: Total points 16 - 21

You are on the right path, but you may not be using the best strategies for you. Let's improve your skills together!

PROFICIENT: Total points 22 or more

Your skills reflect a good use of strategies. You might want to share your ideas with others to help them learn.

CONCLUSIONS

Write into the box below, what skills you might want to develop and what skills are already in a good standing.

Adapted from https://www.uhcl.edu/counseling-services/resources/documents/handouts/study-skills-assessment-questionnaire.pdf

EMOTIONS QUESTIONNAIRE

Link to questionnaire: http://bot.fi/2yuf

Adapted from

https://scienceofbehaviorchange.org/measures/emotion-regulation-questionnaire/

https://www.surveymonkey.com/r/Z6YDJHV 03/24

MOTIVATION QUESTIONNAIRE

Name: _____   Date: _____

This questionnaire asks you about your study habits, your learning skills, and your motivation for learning.
THERE ARE NO RIGHT OR WRONG ANSWERS. THIS IS NOT A TEST.
You should respond to the questionnaire as accurately as possible, reflecting your own attitudes and behaviors.

		Never	Sometimes	Usually	Always
1.	I prefer course material that really challenges me to learn new things.	1	2	3	4
2.	When I take a test I think about how poorly I am doing compared with other students.	1	2	3	4
3.	I think I will be able to use what I learn in my later studies.	1	2	3	4
4.	I believe I will receive excellent grades.	1	2	3	4
5.	I am certain I can understand the most difficult material presented to me.	1	2	3	4
6.	Getting a good grade is the most satisfying thing for me right now.	1	2	3	4
7.	When I take a test I think about items on the test I can't answer.	1	2	3	4
8.	It is important for me to learn as much as possible on a course.	1	2	3	4
9.	The most important thing for me right now is improving my overall grade point average, so my main concern is getting a good grade.	1	2	3	4
10.	I'm confident I can learn the basic concepts taught in any course.	1	2	3	4
11.	If I can, I want to get better grades than most of the other students.	1	2	3	4
12.	When I take tests I think of the consequences of failing.	1	2	3	4
13.	I prefer course material that arouses my curiosity, even if it is difficult to learn.	1	2	3	4
14.	I am very interested in the content areas of my recent studies.	1	2	3	4
15.	I have an uneasy, upset feeling when I take a test.	1	2	3	4
16.	I expect to do well in my recent studies.	1	2	3	4
17.	The most satisfying thing for me is trying to understand the content I am learning as thoroughly as possible.	1	2	3	4
18.	I try to think how I can use what I have learned.	1	2	3	4
19.	When I have the opportunity, I choose course assignments that I can learn from even if they don't guarantee a good grade.	1	2	3	4
20.	I like to learn new things.	1	2	3	4
21.	Understanding what I am learning is very important to me.	1	2	3	4
22.	I feel my heart beating fast when I take an exam.	1	2	3	4
23.	I want to do well in my studies because it is important to show my ability to my family, friends, employer, or others.	1	2	3	4
24.	Considering the difficulty of my studies and my skills, I think I will do well.	1	2	3	4

Adapted from Pintrich, P. R., Smith, A. F., Garcia, T. & McKeachie, W. J. (1991). A Manual for the Use of the Motivated Strategies for Learning Questionnaire (MSLQ). The Regents of The University of Michigan.

MOTIVATION QUESTIONNAIRE - Analyzing results

Instruction:
1) Calculate your total points in each category.
2) Calculate the average in each category.

INTERNAL MOTIVATION

Question	Points
1	
13	
17	
19	
TOTAL	
Average	

$\left(\dfrac{TOTAL}{4}\right)$

EXTERNAL MOTIVATION

Question	Points
6	
9	
11	
23	
TOTAL	
Average	

$\left(\dfrac{TOTAL}{4}\right)$

TASK VALUE

Question	Points
3	
8	
14	
18	
20	
21	
TOTAL	
Average	

$\left(\dfrac{TOTAL}{6}\right)$

SELF-EFFICACY

Question	Points
4	
5	
10	
16	
24	
TOTAL	
Average	

$\left(\dfrac{TOTAL}{5}\right)$

TEST ANXIETY

Question	Points
2	
7	
12	
15	
22	
TOTAL	
Average	

$\left(\dfrac{TOTAL}{5}\right)$

Internal Motivation, Task Value & Self-efficacy	**External Motivation & Test Anxiety**

Average greater than 3,5   **Average below 1,5**
Your skills reflect a good use of strategies. You might want to share your ideas with others to help them learn.

Average between 2,5 - 3,5   **Average between 1,5 - 3,0**
You are on the right path. Let's improve your skills together!

Average below 2,5   **Average greater than 3,0**
You will benefit from increasing your awareness of your learning. Let's find out the best ways for you together!

CONCLUSIONS
Write into the box below, what aspects of motivation you need to develop and what skills are already in a good standing.

SELF-REGULATION QUESTIONNAIRE

Name: _____   Date: _____

Please answer the following questions by circling the response that best describes you. There are no right or wrong answers. Work quickly and do not think too long about your answers.

	Strongly Disagree	Disagree	Uncertain Or Unsure	Agree	Strongly Agree
1. I usually keep track of my progress toward my goals.	1	2	3	4	5
2. My behavior is not that different from other people's.	1	2	3	4	5
3. Others tell me that I keep on with things too long.	1	2	3	4	5
4. I doubt I could change even if I wanted to.	1	2	3	4	5
5. I have trouble making up my mind about things.	1	2	3	4	5
6. I get easily distracted from my plans.	1	2	3	4	5
7. I reward myself for progress toward my goals.	1	2	3	4	5
8. I don't notice the effects of my actions until it's too late.	1	2	3	4	5
9. My behavior is similar to that of my friends.	1	2	3	4	5
10. It's hard for me to see anything helpful about changing my ways.	1	2	3	4	5
11. I am able to accomplish goals I set for myself.	1	2	3	4	5
12. I put off making decisions.	1	2	3	4	5
13. I have so many plans that it's hard for me to focus on any one of them.	1	2	3	4	5
14. I change the way I do things when I see a problem with how things are going.	1	2	3	4	5
15. It's hard for me to notice when I've "had enough" (alcohol, food, sweets).	1	2	3	4	5
16. I think a lot about what other people think of me.	1	2	3	4	5
17. I am willing to consider other ways of doing things.	1	2	3	4	5
18. If I wanted to change, I am confident that I could do it.	1	2	3	4	5
19. When it comes to deciding about a change, I feel overwhelmed by the choices.	1	2	3	4	5
20. I have trouble following through with things once I've made up my mind to do something.	1	2	3	4	5

21. I don't seem to learn from my mistakes.	1	2	3	4	5
22. I'm usually careful not to overdo it when working, eating, drinking.	1	2	3	4	5
23. I tend to compare myself with other people.	1	2	3	4	5
24. I enjoy a routine, and like things to stay the same.	1	2	3	4	5
25. I have sought out advice or information about changing.	1	2	3	4	5
26. I can come up with lots of ways to change, but it's hard for me to decide which one to use.	1	2	3	4	5
27. I can stick to a plan that's working well.	1	2	3	4	5
28. I usually only have to make a mistake one time in order to learn from it.	1	2	3	4	5
29. I don't learn well from punishment.	1	2	3	4	5
30. I have personal standards, and try to live up to them.	1	2	3	4	5
31. I am set in my ways.	1	2	3	4	5
32. As soon as I see a problem or challenge, I start looking for possible solutions.	1	2	3	4	5
33. I have a hard time setting goals for myself.	1	2	3	4	5
34. I have a lot of willpower.	1	2	3	4	5
35. When I'm trying to change something, I pay a lot of attention to how I'm doing.	1	2	3	4	5
36. I usually judge what I'm doing by the consequences of my actions.	1	2	3	4	5
37. I don't care if I'm different from most people.	1	2	3	4	5
38. As soon as I see things aren't going right I want to do something about it.	1	2	3	4	5
39. There is usually more than one way to accomplish something.	1	2	3	4	5
40. I have trouble making plans to help me reach my goals.	1	2	3	4	5
41. I am able to resist temptation.	1	2	3	4	5
42. I set goals for myself and keep track of my progress.	1	2	3	4	5
43. Most of the time I don't pay attention to what I'm doing.	1	2	3	4	5
44. I try to be like people around me.	1	2	3	4	5

	Strongly Disagree	Disagree	Uncertain Or Unsure	Agree	Strongly Agree
45. I tend to keep doing the same thing, even when it doesn't work.	1	2	3	4	5
46. I can usually find several different possibilities when I want to change something.	1	2	3	4	5
47. Once I have a goal, I can usually plan how to reach it.	1	2	3	4	5
48. I have rules that I stick by no matter what.	1	2	3	4	5
49. If I make a resolution to change something, I pay a lot of attention to how I'm doing.	1	2	3	4	5
50. Often I don't notice what I'm doing until someone calls it to my attention.	1	2	3	4	5
51. I think a lot about how I'm doing.	1	2	3	4	5
52. Usually I see the need to change before others do.	1	2	3	4	5
53. I'm good at finding different ways to get what I want.	1	2	3	4	5
54. I usually think before I act.	1	2	3	4	5
55. Little problems or distractions throw me off course.	1	2	3	4	5
56. I feel bad when I don't meet my goals.	1	2	3	4	5
57. I learn from my mistakes.	1	2	3	4	5
58. I know how I want to be.	1	2	3	4	5
59. It bothers me when things aren't the way I want them.	1	2	3	4	5
60. I call in others for help when I need it.	1	2	3	4	5
61. Before making a decision, I consider what is likely to happen if I do one thing or another.	1	2	3	4	5
62. I give up quickly.	1	2	3	4	5
63. I usually decide to change and hope for the best.	1	2	3	4	5
	Strongly Disagree	Disagree	Uncertain Or Unsure	Agree	Strongly Agree

Retrieved from Brown, J. M., Miller, W. R., & Lawendowski, L. A. (1999). The Self-Regulation Questionnaire. In Vandecreek, L. & Jackson, T. L. (Eds.), *Innovations in clinical practice: A source book.* (Vol. 17., pp. 281–293). Sarasota. FL: Professional Resources Press.

SELF-REGULATION QUESTIONNAIRE – Analyzing results

Name: _____   Date: _____

Instruction:

1) Calculate your total points in each category.

2) For some questions, the points need to be reversed. Reverse-scaled: 1=5, 2=4, 3=3, 4=2, and 5=1.

1. MONITORING

Question	My points
1	
22	
36	
57	
Reversed:	1=5, 2=4, 3=3, 4=2, and 5=1.
8	
15	
29	
43	
50	
TOTAL	

2. EVALUATING

Question	My points
9	
16	
23	
30	
44	
51	
58	
Reversed:	1=5, 2=4, 3=3, 4=2, and 5=1.
2	
37	
TOTAL	

3. ADAPTING

Question	My points
17	
38	
52	
59	
Reversed:	1=5, 2=4, 3=3, 4=2, and 5=1.
3	
10	
24	
31	
45	
TOTAL	

4. SEARCHING

Question	My points
11	
18	
25	
32	
39	
46	
53	
60	
Reversed:	1=5, 2=4, 3=3, 4=2, and 5=1.
4	
TOTAL	

5. PLANNING

Question	My points
47	
54	
61	
Reversed:	1=5, 2=4, 3=3, 4=2, and 5=1.
5	
12	
19	
26	
33	
40	
TOTAL	

6. FOCUSING

Question	My points
27	
34	
41	
48	
Reversed:	1=5, 2=4, 3=3, 4=2, and 5=1.
6	
13	
20	
55	
62	
TOTAL	

3) Find out whether you are beginner, competent or proficient in different categorys of self-regulation.

BEGINNER: Total points 27 or less

    You will benefit from increasing your awareness of your learning and of strategies that different learning tasks require.

    Let's find out the best ways for you together!

COMPETENT: Total points 28 - 40

    You are on the right path, but you may not be using the best strategies for you. Let's improve your skills together!

PROFICIENT: Total points 41 or more

    Your skills reflect a good use of strategies. You might want to share your ideas with others to help them learn.

Appendix C: Lesson Plans

Lesson plans for teaching self-regulation can be found at Tes Teaching Resources:

https://www.tes.com/teaching-resource/teaching-self-regulation-12109129

MINILESSONS:

MINILESSON 1A: LEARNING SOMETHING NEW – My skills

MINILESSON 1B: LEARNING SOMETHING NEW – Others' skills

MINILESSON 2: GOALS

MINILESSON 3: MOTIVATION

MINILESSON 4: EMOTIONS

MINILESSON 5: SELF-REGULATION

Minilessons can be held at any point of the class. You might prefer to start with these before working or use those last 10 – 15 minutes of the class, when students might be already finishing their work. Although, make sure students have enough time to concentrate and finish their work properly.

Students can take the Study-Skills Questionnaire as a pre-test before learning more about self-regulation through minilessons 1 – 5. Students can take the same questionnaire as a post-test. Teachers and students get valuable information of learning self-regulation skills. You can also use the questionnaire, for example, as a four-week, six-month or one-year follow-up.

Appendix D: Guidelines

Here are some guidelines on how to use self-regulated and self-directed learning in a class room.

Aspect	Students…	Teachers…
LEVELS & MATERIAL (e.g. material with 3 different levels of difficulty)	- have their own skills and knowledge and the learning should be based on these. - can study at their own level. - can choose from different topics.	provide material with options and tasks with different levels of difficulty.
GOALS (for one lesson, a week, a course, a semester etc.)	have the opportunity to set their own goals.	- remember that all students are not able to make long-range goals. - make sure the goals are aligned with the curricula. - support students to monitor whether they are reaching their goals.
PACE	use enough time for deep understanding.	give students enough time to learn.
TIME AND PLACE	have a say to where to study and in which order to study.	- give options in where to study (class, hall way, library, yard, etc.). - give options of what to study first (when it is possible).
GROUPS	can choose whether to work individually or in a group	encourage to work both individually and in groups.
ASSESSMENT	- monitor and evaluate their working process (during and after). - evaluate if they have learned their goals.	- focus on competence-based assessment. - make sure learning is in line with the curricula. - use flipped assessment (see Appendix E).

Appendix E: Resources

Here are some resources related to self-regulated and self-directed learning to explore.

1. Improving Learning Through Questioning (Handout 3)

   https://www.map.mathshell.org/pd/modules/4_Questioning/pdf/4_Questioning_Handouts.pdf

2. Depth of Knowledge

   http://inservice.ascd.org/what-exactly-is-depth-of-knowledge-hint-its-not-a-wheel/

3. Teaching Self-regulated Learning Skills

   https://www.teachermagazine.com.au/articles/teaching-self-regulated-learning-skills

4. How Can We Help Kids with Self-Regulation?

   https://childmind.org/article/can-help-kids-self-regulation/

5. Self-Directed Learning – A Four-Step Process

   https://uwaterloo.ca/centre-for-teaching-excellence/teaching-resources/teaching-tips/tips-students/self-directed-learning/self-directed-learning-four-step-process

6. 7 habits of the best self-directed learners

   https://bigthink.com/personal-growth/self-directed-learning

7. Self-Directed Learning: Definition & Strategies

   https://study.com/academy/lesson/self-direct-learning-definition-strategies.html

8. Student Teaming: 3 Strategies for Turning Students into Teachers

   https://blog.learningsciences.com/2018/08/13/3-techniques-for-helping-students-solve-their-own-conflicts-in-academic-teams/

9. Is Cramming for a Test a Form of Cheating?

   https://bigpictureeducation.wordpress.com/2016/03/30/is-cramming-for-a-test-a-form-of-cheating/#more-1529

10. Flipped Assessment in Finland

   http://www.flippedlearning.fi/p/flipped-assessment.html