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"Learning How to Learn" – Which Learning Techniques Really Foster Contemporary Academic Learning?

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Abstract

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Learning is an essential competency that can be developed over an entire lifetime. Taking up a course of academic study is a situation of radical change and requires transforming the way a person learns. Training in learning how to learn seems to play an important role within universities. At the University of Witten/Herdecke, "Learning to Learn," a longitudinal seminar, was developed and carried out that addresses physiological, psychological and spiritual known to contribute to both the improvement of learning and to the development of learning techniques. Which learning techniques were perceived to be the most efficient? This study aimed to evaluate students' attitudes towards different learning techniques and explore how these techniques are integrated into the process of contemporary academic learning. After finishing the seminar, the students completed a mixed-methods questionnaire for evaluation. A few months later, some students reflected in writing on their learning habits. Which learning techniques are perceived to be the most effective? This study aims to evaluate students' attitudes towards different learning techniques and explore how these techniques are integrated into the process of contemporary academic learning. The qualitative and quantitative data were analyzed by means of Atlas-Ti and SPSS. "Organization and structure," "taking a day off" and "self-reflection" were identified as the most important strategies for the students. The preparation of a weekly schedule was considered to be the most efficient of all learning techniques and also remained in use for months after the seminar was completed.One of the keys to facilitating contemporary academic learning seems to lie in helping students structure their learning, encouraging them to take a day off once in a while, and in motivating them to be introspective.

Keywords: Learning techniques; day-off; self-regulation, Learn to learn; evaluation.

1. Introduction

Learning is an essential competency, one that is capable of life-long development. Taking up a course of academic study is a radical change in a young person's life and requires transforming the way

he or she learns. Self-regulation, which appears to be one of the key components in contemporary academic learning, can be stimulated by self-reflection (Mazmanian & Feldmann 2014). Both cognitive aspects and metacognitive aspects, such as knowledge, assessment and evaluation of one's own individual learning style, seem to be an important catalyst in such a transformation (Greene & Hutchison 2012). Zimmerman (2002) depicts a model of self-regulated learning (SRL) that uses an ongoing series of feedback cycles consisting of three phases: planning, practice, and evaluation. Feedback is used in all three phases to improve students' performance. In the planning phase, the main task at hand is to learn how to assess one's individual learning style and to choose the proper strategies to address it. Both short-term and long-term goals need to be determined and set. Once strategies have been planned, students face the challenge of the practice phase, in which the strategies are implemented, practiced, and – where necessary – adjusted. Self-reflection and monitoring must accompany the entire process of the practice phase. The final phase consists of students: (a) evaluating their experience regarding the effectiveness of the strategies they have chosen; and (b) deciding how to proceed. The SRL cycle to follow this one begins with feedback (Zimmerman, 2009; Panandero, & Alonso-Tapia, 2014).

In an effort to meet the emerging need for metacognition about learning strategies, the University of Witten/Herdecke developed a longitudinal seminar, accessible for students of all disciplines, on learning to learn. The concept of this seminar is based on SRL and holistic anthropological models. The training seeks to offer insights into physiological, psychological and spiritual fields known to contribute to both improved learning and to the development of learning techniques by addressing competencies such as self-reflection, self-regulation and self-organization (Tauschel, 2015). A research project accompanied the process of developing and conducting the seminar. The main focus of this project was to determine how enduring and lasting academic learning can be, and how it can be fostered from the students' perspective. Key concepts of the seminar are the individual exploration of and insight into one's own learning style and the personal freedom to choose one's own methods.

2. Research question

Which learning techniques are considered to be the most effective? This study aims to evaluate how useful different learning techniques are to various students and how readily these techniques can be integrated into the process of contemporary academic learning.

3. Methods and sample

To answer the research question, we collected students' accounts of their personal experiences. All evaluation forms were filled out anonymously, in compliance with the standard guidelines for ethical scientific procedure. The ethical review committee of the University of Witten/Herdecke confirmed that all of the steps in the scientific process were followed according to protocol. Upon completion of the seminar, the students filled out a mixed-methods questionnaire to evaluate the content of the seminar, its content, its learning techniques, and its overall impact. The questionnaire required written

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responses to open-ended questions and included semi-quantitative questions with a rating scale. N=79 completed the questionnaire. Moreover, after a couple of months, some of the students (N=22) wrote detailed reflections elaborating on their personal learning habits in order to illustrate how much the chosen learning techniques still seemed useful for them. Furthermore, they reflected upon how far they had integrated the learning techniques into their general academic learning process. Qualitative and quantitative data were analyzed by the means of Atlas-Ti and SPSS. Free text responses were analyzed following the process of qualitative content analyses as described by Mayring (2010). Generated code families were statistically analyzed, taking demographics into account.

4. Results

First and foremost, it is important to mention that the responses and results from the questionnaires and the detailed reflections proved to correspond strongly with each other.

The questionnaires showed that students considered "organization and structure" to be the most important aspect. More than 150 statements depicted meta-organizational competencies, such as self-management and structuring the learning process, as the most effective ones. Students felt that the most helpful learning strategy was the preparation of a weekly schedule (N=33). This strategy involves the competencies of adapting and planning the rhythm and duration of one's sleep, of taking a day off from learning and working each week, and of consciously determining and balancing one's individual study time with the time one spends in seminars at the university. The same trend can be found in the detailed reflections: "Organization and structure" is the factor most frequently described (N=159) as the most effective topic covered in the "Learning to learn" seminar. Students also felt that preparing a weekly schedule was helpful in planning recreational activities outside of their academic obligations, such as sports and social appointments. One positive side effect that was reported was that planning recreational activities led the students to engage in them without feeling guilty for missing out on learning opportunities.

The metacognitive component of "self-reflection" (N=30) depicts another code family that seems to be very important to students. During the seminar, participants learned how to reflect on their own behaviors and study habits in different ways. According to the survey, a "learning coach" was considered to be very effective in helping students reflect on and evaluate their own learning behaviors. For example, a learning coach helped students to understand the importance of ascertaining how to best optimize the duration and rhythm of their sleep so that they can be alert and able to concentrate. In the detailed reflections, this same finding was described as a long-term benefit (N=85) even more frequently. Students reported a long-term increase in learning success when they applied the learning strategies from the "Learning to Learn" seminar in their own respective personal lives. References to "self-reflection" nearly tripled, which indicates how this value becomes even more important over time.

The third important code family demonstrated the components "confidence" (N=18), "autonomy" and "free from emotional strain" (N=22). The participants reflected on how their general feeling of confidence had an important influence on their learning behavior, and that the absence of crises in their lives helped them to concentrate on their studies.

"Taking breaks" and "resilience" appeared to be rated as important factors in contemporary academic learning. N=49 participants designated this code family as crucial for their learning. The "day off" learning technique – one of the components of the weekly schedule – was found to be effective in the questionnaires completed immediately after finishing the seminar. Students were asked to reserve one day per week exclusively for activities not related to their studies and/or for recreational activities, and to integrate this "day off" into their schedule. The detailed reflections show that the "day-off" method was used most frequently and was most clearly perceived to be beneficial to academic learning (N=18).

On the whole, students tended to name the positive aspects of the seminar much more often than the negative ones. The diagram below shows the frequencies of the preferred learning methods:

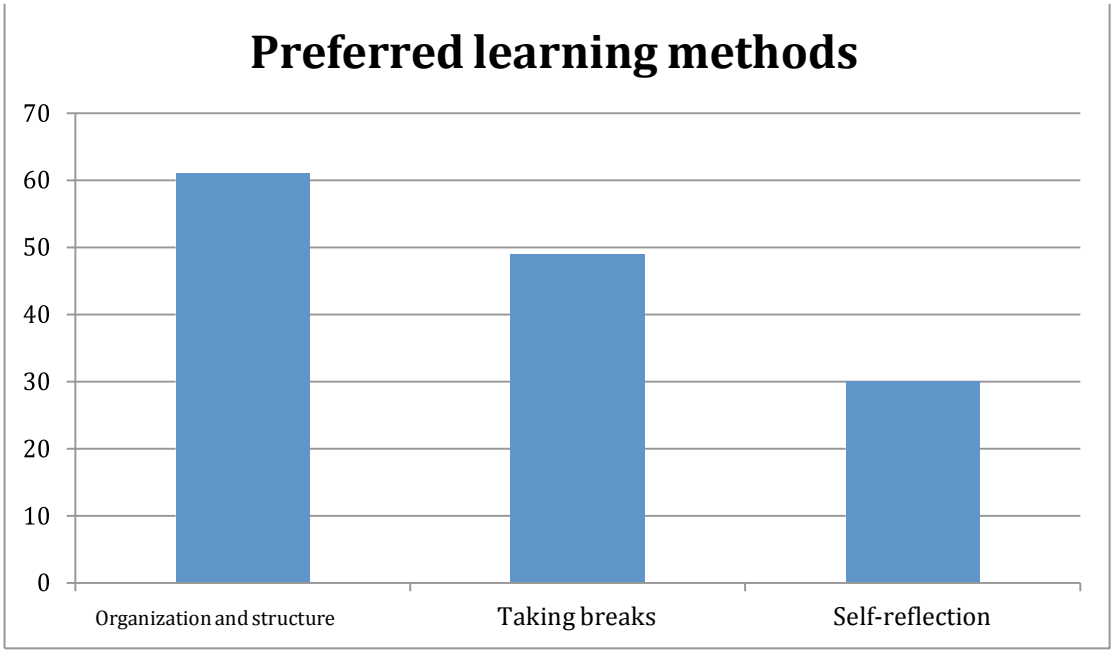

Diagram1. Graphic representation of the preferred learning methods as stated by the participants

5. Discussion

Students felt that the most important topics were "organization" and "structure." The corresponding learning technique "weekly schedule" was evaluated as very supportive and was used for months after the seminar was completed. This appears to be in line with the findings which state that "organization" is the key component of successful learning (Dyrhauge, 2014, Zimmermann, 1986 & 2000), although past studies focused on the use of the "mind map" learning technique, which was not included in our study. Preparing schedules on a weekly basis seemed to help students develop and establish a healthy balance between learning, sleeping, and recreation. It was presumed that self- reflection would be crucial to academic learning (Boekaerts 1999); this presumption is supported by the results of the study at hand. "Taking breaks" and the associated "day off" learning technique – the third important supportive factor for contemporary academic learning – correspond to current findings regarding the benefits of a healthy sleep rhythm for motivation, concentration, and self-regulation (Thye et al. 2014), as established using the model of adaptive normalization drawn from physiological findings

(Heckmann, & Gutenbrunner 2013). Balancing individual study time and time spent in seminars at the university, as coded in the family "organization and structure," is known to impact academic achievement (Gijselaers, 1995).

It is important to note that the above findings are all based on the benefits from the perspective of the student. Other objectives, such as examination performance, were not taken into account and could be the focus of further research in this area.

The results indicate how enduring, healthy, and sustainable learning can be supported by a seminar on learning to learn. This conclusion could and should be taken into account for the future development of academic didactics. Students clearly expressed that they not only prefer a well-structured learning environment, but also the opportunity to explore and reflect upon their personal learning style so that they may develop their own unique set of learning techniques.

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