



***Strategic Learning Techniques.
Measures Enhancing the Visibility
of the Cognitive Process of Learning***

ABSTRACT

RESEARCH OBJECTIVE: The aim of the contribution is to provide insights on how strategic learning techniques could constitute measures enhancing the visibility of the cognitive process of learning.

THE RESEARCH PROBLEM AND METHODS: The competence of learning as such and its application in practice in educational institutions is a mainly cognitive experience. Copying the learning behavior as such is therefore more difficult compared to the learning through imitation during childhood, as the cognitive part of learning is not immediately visible for the outstanding person wishing to improve his or her learning competence. Alongside three examples from practice, the contribution examines those strategic learning techniques, which can enhance the visibility of the cognitive process of learning.

THE PROCESS OF ARGUMENTATION: The pressure of ensuring success at school can lead to the participation of learners in private lessons and revision courses. As participation in these courses mainly focusses on the revision of discipline knowledge that is tested in exams, one may argue that these courses only heal the symptoms of disappointing examination results.

RESEARCH RESULTS: The present contribution argues that an investment into the learning competences as such does entail long-term benefits compared to the transferal of discipline knowledge in private lesson and revision courses.

CONCLUSIONS, INNOVATIONS AND RECOMMENDATIONS: The drafters of curricula should reassess whether the major focus on discipline knowledge based subjects that occupy the majority of curricular obligations is a welcoming development. This development should critically be reflected and perhaps even changed by introducing compulsory strategic learning courses throughout the educational training of learners.

→ **KEYWORDS: STRATEGIC LEARNING, GRADE-POINT-AVERAGE, SLOW-MOTION-LEARNING**

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1. Preliminary remarks

Children are learning every single day of their life. Starting their life in ideally safe family surroundings, children are given the time to discover, learn and practice through play the core competences necessary for a self-governing future (Whitebread, Coltman, Jameson, & Langer, 2009, p. 40; Hamilton & McFarlane, 2005, p. 11). A future, which requests to be able to come up for one's own life and surviving. It is therefore probably the first and for many children the only time in life in which learning is not evaluated in light of specifically determined attainment levels. Instead, learning mainly takes place by trial and error and imitating another person's behavior (Packer Isenberg & Quisenberry, 2002, p. 34). When children enter school life, the educational path of the young human being is determined by specific attainment levels. While levels of achievement might also be determined during pre-school education, the entering into school-life brings the importance of these pre-determined goals far more into the focus of learners, parents, caretakers and examiners involved. In Germany, as in most countries, different types of schooling are available, as for instance, comprehensive, junior high, secondary modern or secondary school (Statistisches Bundesamt, 2017). After having completed school, this distinction among differing educational attainment levels continues to exist in relation to vocational training, college of higher education or university studies. This distinction of varying educational attainment levels implies that participating in higher educational schooling systems is mainly tied to the condition that the learners succeed in meeting specific grade-point-averages that are requested for admission and finally for their successful graduation (Cohen, 1984, p. 281).

Bearing in mind the aforementioned one may pose the question whether the ability to apply strategic learning techniques could help learners to succeed in reaching better grade-point-averages (Lynch, 2006, p. 423). Today, it is widely recognized, that indeed varying skills, including the application of learning strategies, are important when it comes to success at an educational institution (Diseth, 2011, p. 194). Research underlines that the relative ranking of the learner's IQ does not automatically provide a guarantee for high grade-point-averages (Duckworth & Seligman, 2005, p. 939).

This contribution argues that indeed, grade-point-averages of learners can improve when learners train to apply particular strategic learning techniques or competences. It will be established alongside three case studies that average-learners who do benefit from training in strategic learning techniques aimed at successfully managing educational

examinations, benefit in terms of higher exam results. *Vice versa*, the author argues that one potential reason for exam-failure or low and disappointing grades despite study-efforts might also be found in the lack of sufficiently trained strategic learning techniques.

Techniques of strategic learning are understood to refer to concrete learning measures that can be provided to learners. These techniques predominantly aim to empower the learner by providing a training in the skills learning as such. It is thus not the transferal of discipline knowledge which is in the center of attention when techniques of strategic learning are taught, but the knowledge about training and application of skills which should receive the greatest attention. Thereby, strategic learning techniques aim at making the cognitive experience of learning visible and haptic by offering concrete measures how learners can actively initiate and shape the process of learning. Accordingly, the techniques pursue the particular goal to enable learners to apply deliberately techniques with the intent to become a self-regulated learner (Zimmermann, 1986, p. 308).

The underlying problem statement reads as follows: The competence of learning as such and its application in practice in educational institutions is a mainly cognitive experience (Shuell, 1986, p. 418). Copying the learning behavior as such is therefore more difficult compared to the learning through imitation during childhood, as the cognitive part of learning is not immediately visible for the outstanding person wishing to improve his or her learning competence (Collings, Brown, & Holum, 1991, p. 38). The lack of sufficient and individual training in techniques of strategic learning as such might be one potential reason why learners fail to reach the expected results during their general education at school or vocational qualification (Diseth, 2011, p. 194). The aim of the contribution is to provide insights on how strategic learning techniques could constitute measures enhancing the visibility of the cognitive process of learning.

The selection of techniques of strategic learning elaborated upon in the present contribution is limited in particular to the training of competences that are aimed at learning how to learn in order to participate in educational programs without being in need of additional support being provided in private lessons and revision courses. The present contribution describes how the training of strategic learning techniques as such can constitute a tool which enables learners to become self-regulated and thereby autonomous learners within a society which is nowadays frequently determined by classification into particular levels of educational attainment. After all, the benefit of learning to apply strategic learning techniques is not limited to the school career of the individual. Instead, it aims to empower the learner to be able to use the learned skills also after

having completed school and higher educational training in the sense of life-long-learning (Dignath, Buettner, & Langfeldt, 2008, p. 102). Important to note is that the present contribution does not address specific situations of learner's with an intellectual disability or mental illness, neither does it aim to include those who receive low grades as a result of a lack of motivation to improve.

In light of the aforementioned problem statement, the research questions addressed in this contribution are threefold: Firstly, what could be potential reasons why educational institutions do not or only to a very limited extent educate learners in the techniques of learning? Secondly, why might parents, caretakers and learners tend to prefer private lessons and revision courses instead of investing into the learning competences of the learner as such? Thirdly, what forms of strategic learning techniques are practical to offer learners visible and haptic insights into the cognitive process of learning?

The article commences with a brief overview of potential reasons why the teaching of learning techniques as such can be classified as a subject at the edge of the curriculum in most educational institutions. Subsequently, the contribution looks for potential reasons why parents, caretakers and students might hesitate to invest into the training of strategic learning techniques outside the environment of the educational institution as a consequence of our modern world. Then, the contribution provides a selection of strategic learning techniques that aim to enable the learner to initiate and shape the process of learning deliberately. In addition, three examples from practice are addressed. The examples chosen underline that the training of strategic learning techniques can constitute an alternative to the participation in private lessons and revision courses with a long-term benefit – namely, the strengthening of the autonomy of the learner in the modern world. Finally, the contribution concludes with a call that there is an existential need in our modern world to train learners (irrespective of their particular educational level) in strategic learning techniques instead of continuing to focus predominantly on the transmission of discipline knowledge in educational institutions.

2. Teaching learning competences – a subject at the edge of the curriculum?

While one can find extensive academic literature and practical guides on the advantages of teaching to learners competences of learning as such, it might come as a surprise that this recognition is hardly reflected

in the curricular courses provided for by most educational institutions (Dignath, Buettner, & Langfeldt, 2008; Nisbeth & Shucksmith, 1986). Considering the amount of available literature, it seems that one may not conclude that drafters of educational curricula are simply not aware of the need and effectiveness of teaching and training learning techniques.

Prior to looking for potential reasons why teaching learning competences is often a subject at the edge of educational curricula, it is necessary to pause with the understanding of the term 'learning competence' within the context of the present contribution. The term refers to learning competences in an educational environment in a rather strict sense. Learning competences are understood to be those cognitive abilities which are needed for the successful participation in any form of written or oral examination under any form of educational training (Shuell, 1986, p. 415). Numerous tests are available which enable experts to measure the cognitive ability of students. These tests distinguish mainly between three categories of abilities: verbal, quantitative and non-verbal cognitive abilities (Heller & Perleth, 2000). Irrespective of the scoring of a candidate in these kinds of assessments, it is understood that children, young grown-ups and students undergo periods of learning in order to prepare for examinations of various nature. Accordingly, a general need to possess learning competences, which enable the learner to prepare adequately for these examinations, exists for all types of learners – independent from the particular educational level or cognitive abilities test score.

Bearing in mind the aforementioned, one may point out that success during educational training reflected in satisfactory or even excellent grade-point-averages might be at risk when educational institutions do not provide sufficient training in the competences of learning as such. How, however, is it to be explained that courses teaching and training competences of learning can hardly be found within compulsory curricular activities of educational institutions? The curriculum of various school forms following primary schooling in North-Rhine-Westphalia illustratively explains why the main reason for limited space available for courses teaching learning techniques is the major density of compulsory subjects at school. A regular school week of higher-grade students encompasses 28-34 hours of compulsory courses (Kultusminister, 2013, p. 14). These courses include, for instance, German, foreign languages, mathematics, natural sciences and social sciences. In addition to the compulsory courses, students still have to do homework, revise the materials and prepare for examinations. One may conclude that a school week is comparable with a full-time employment of a 40 hours week. An equal amount of study hours are often requested from students at university level as regards their

compulsory courses each week (Universität Köln, 2017; Schulministerium NRW, 2017). This explains why there is hardly any time left for additional courses. It seems that the overall need for courses teaching discipline or subject knowledge at educational institutions prevails. Skill-based courses, such as the teaching of learning techniques, are hardly, if not even at all, included in the programs as part of the compulsory courses prescribed at the various institutions. Moreover, even if courses addressing the techniques of learning are included, such courses are not provided on a continuing basis throughout the entire educational training. A welcoming development can be found in the curriculum of Concordia University in Montreal. The Canadian University offers – though on a voluntary basis – strategic learning courses in conjunction with selected compulsory courses. These courses train students to interact with the compulsory materials instead of teaching discipline knowledge that will be examined (Concordia University, 2017). Similarly, Berkeley University encourages students to enroll for strategic learning workshops (Berkeley, 2017). Despite the welcoming development that students can voluntarily enroll for strategic learning courses, the fact remains that in relation to the majority of educational institutions, learners are not trained on a compulsory and continuing basis in learning strategies as such.

3. Autonomy of parenting in the modern world – mission impossible when school-life starts?

The 21st century confronts parents and caretakers raising children with challenges of varying nature. Success during school time and vocational training is a commonly shared concern many parents and caretakers have as they wish their children to become autonomous members of our societies (The Guardian, 2016). Today's world mirrors an environment, which recognizes individual success as an important goal to be achieved. Raising up young human beings has therefore often introduced the importance of success into the center of parenting (Oyserman, Brickman, & Rhodes, 2007, p. 480).

Without judging upon the underlying question whether parenting and raising up children should be let by externally determined measurement of success, two aspects cannot be ignored: firstly, educational institutions are in need of determinants for exam grading. In order to ensure that learners are not evaluated based on arbitrariness, criteria and norms have been introduced in order to measure the achievement of the individual learner (Dalbert, Scheindewind, & Saalbach, 2006, p. 412). Secondly,

one cannot ignore the enormous increase of private lessons for pupils but also revision courses for the preparation of university exams. The German-Austrian franchise of “Schülerhilfe” (pupil support), offers private lessons in almost all subjects to pupils (Schülerhilfe – subjects, 2017). It is the biggest market player offering private lessons to pupils in Germany (Schülerhilfe – annual report, 2015). The remarkable and steadily growing market-share of this company illustratively reflects that young learners between the age of 6 and 18 years increasingly attend outside-school educational training programs in order to master school examinations (Schülerhilfe – annual report, 2015). Similarly, private revision courses advertise exam-preparation courses to students of most academic studies (Capita Selecta, 2017). These companies commonly share, that, as within the educational institution, the majority of trainings offered concentrate on the transferal of discipline based that is tested during examinations. Courses are frequently advertised with the slogan that when grades do not improve, participation costs will be reimbursed (Schülerhilfe – advertisement, 2017). Seemingly, the participation in private lessons could potentially solve quickly the problem and risk of low grades. It therefore is understandable, why parents, caretakers and learners are willing to invest in expensive revision courses, if participation is likely to minimize the risk of low grades and failure. It thus does not come as a surprise that the advertisement of nearby success in exams easily convinces parents, caretakers and learners to subscribe to private lessons and revision courses.

The pressure of success being measured in examination results of learners can thus indeed limit the autonomy of parenting in a wider sense as immediate success is often necessary in order to not be excluded from higher education. It is this pressure, which makes parents too easily limit young learners’ free time for play by subscribing their children to private lessons. After all, results below average can be decisive for not being allowed to apply for specific educational levels, such as university studies. Time for an investment into alternatives that are more time consuming, seems to be an even risky investment in today’s world. The case study below aims to illustrate that despite the aforementioned concerns, the investment of time into the training of learning competences might – on a long-term basis – be an attractive alternative to the participation in private lessons and revision courses. In turn, a selected overview of potential strategic learning techniques is given with a focus on those techniques, which could in particular enhance the visibility of the cognitive process of learning.

4. Strategic learning techniques

The Oxford Dictionary of English defines the term learner as ‘a person who is learning a subject or skill’ (Oxford Dictionary, 1998, p. 1048). The definition therefore entails two potential forms of learning. While one may assume that the learning of a subject refers to the theoretical and discipline inherent knowledge, which is provided for in the classical curriculum of educational institutions, the second form of learning is different. The learning of skills seems to refer to the learning in a more practical sense, namely to learn how to do something. Strategic learning techniques have as an objective to educate learners how to actively engage in the process of learning. The training of learning skills is therefore at the heart of strategic learning techniques courses. The aim of training strategic learning techniques is, in particular, to be distinguished from the aim of private lessons and revision courses that have as the core objective to communicate discipline knowledge as a repetition of the information which is taught at an educational institution. Participation in courses that address training strategic learning competences do not intend to communicate discipline knowledge as such. As an alternative, strategic learning techniques wish to enable the individual learner to prepare autonomously for examinations by training techniques that can be applied independent of the concrete subject matter being studied. Consequently, the discipline knowledge that is tested at the educational institution does not constitute the vast majority of information that is transmitted to the participant of strategic learning trainings. In turn, the contribution offers a small selection of those strategic learning techniques which aim to make the cognitive process of learning more visible to learners.

Slow-Motion-Learning:

From an lecturer’s and examiner’s perspective it is stated that one major cause why pupils and students nowadays often receive unsatisfying exam results, is the fact that the process of exam-preparation is undertaken too quickly and suffers from too much digital and non-digital distraction. While the varying reasons for digital and non-digital distraction should generally be identified and controlled, many candidates irrespectively rush through the compulsory materials as they think that they thereby ensure that they cover all topics being examined. This learning technique, however, constitutes an erroneous belief as learners run the risk that they cannot build up a sound and comprehensive knowledge of the entire subject. This is because learners fail to invest

sufficient time in the understanding and revision of the materials. The technique of slow-motion-learning educates learners how they can deliberately slow down their process of learning. Learning through varying manners of repetition is actively stimulated and aimed at strengthening the individual learners' awareness of his or her critical comprehension of the subject. In order to ensure that learners reduce the speed of learning, they learn to divide the compulsory materials into small learning-units or mini-goals and to not proceed with a new unit before they have a comprehensive understanding of the singled out unit. Working with interim-goals has furthermore as an advantage, that learners showing a tendency to procrastinate their learning are confronted with a lower hurdle to commence.

Time-management with a distraction-schedule:

Applying the slow-motion-learning technique without a careful time-management entails the risk that learners will not have completed their learning in time. While it is generally accepted that time-management as such constitutes a useful technique in order to strengthen the effectiveness of learners, time management with a distraction-schedule constitutes a strategic learning technique with the particular objective to tackle the visible and cognitive behavior mirroring the individual's distraction behavior and tendency. The time-management schedule should therefore contain two parts. While the first part contains a daily, weekly or even monthly time-schedule in relation to the materials that need to be studied and goals that need to be achieved, the second part aims to encourage the learner to build up a written record establishing the length and kind of distraction. The distraction-schedule thereby enables the learner to realize to what extent and through which behavior his or her effectiveness of learning is disturbed and thereby adjust his learning behavior actively by avoiding the tackled distraction behavior.

Learning by teaching:

The method of learning by teaching aims to stimulate the learner to learn aloud by teaching the subject matter and thereby become an expert. By actively explaining the compulsory materials aloud, the process of comprehensive understanding is stimulated since the oral formulating and explaining has the effect that the cognitive process of learning is automatically initiated.

Meeting examiner's expectations:

Learners, but also parents and caretakers, frequently raise the concern that they do not understand why examiners gave a particular grade. While reasons for this misunderstanding might be various, a core reason, from an examiner's perspective, why learners received a particular grade is likely to be that the candidates did or did not meet the examiner's expectation being reflected in model-answers. Strategic learning techniques aim to offer insights into the examiner's expectations by explaining to learners *inter alia* the importance of the ability to provide a logical argumentation. After all, examiners of any educational institution are in need of a particular benchmark in which the knowledge of the learner is evaluated. Frequently, this benchmark can be said to be determined by a combination of the discipline knowledge being incorporated in the core set of a logical argumentation – be it in writing or oral. The skill to provide a logical argumentation can be trained by strengthening in particular the analytical competences of the learner. Trainings should in particular strengthen the reading and writing skills of learners, as these two activities constitute the core activities that learners are expected to be able to apply in most educational settings.

5. Examples from practice – how learners learned to learn

Asking learners about their wishes and expectations in relation to learning, it may not come as a surprise that many – irrespective of the concrete age category or educational level – wish to become a good learner in the sense of being an easy learner. Those, who have experienced failure and low grades point out that they frequently feel frustrated and therefore wish to improve their learning techniques. Each of the following three learners, whose names have been altered, underlined that he or she did not know how the process of learning as such could be initiated and processed. In turn, three examples of learners who chose not to participate in private lessons or revision courses but instead wanted to improve their learning competences as such are addressed. The three candidates have in common that strategic learning techniques in relation to exam-management were only rudimentary present when the training commenced. The first two candidates participated in the training for two years. The third candidate was coached for a period of six months.

Dimitri:

At the age of 13 years, Dimitri enrolled in a coaching program aimed at training methods of strategic learning. Until then, Dimitri refused to do any form of homework. He did not prepare for school-exams; school grades were low. Basic knowledge of the main subjects, including languages and mathematics was only rudimentary available. He did not seem to be very interested in any school subjects. Neither was he able to formulate a future perspective in relation to his school career and attainment level to be achieved. During the first months of training, Dimitri continued to refuse to do any homework or exam-training at home. Through weekly appointments in which Dimitri's reflected his school behavior together with a coach, Dimitri discovered that his core difficulty was that he did not know how to organize himself at home in relation to homework and exam preparation. In particular, he did not know how learning as such looked like. After intensive weeks of oral reflection about the purpose of repetition, Dimitri started to apply the technique of learning by teaching. One of the core aims of the weekly appointments was to train Dimitri on how to look for information in relation to subject matters he did not understand at school. He learned in particular to effectively use the world wide web to gather information and explanation for all the questions he had. Furthermore, with the support of the strategic learning coach, Dimitri learned to divide all homework and preparation for school examinations into very small units. Soon, school grades improved in all subjects without the participation in any private lesson. Currently, Dimitri is pursuing the goal to graduate with a junior high degree in order to continue with a vocational training.

Charlotte:

At the age of 20 years, Charlotte was looking for support as she had difficulties in the organization and management of her architecture studies at university. Charlotte graduated from secondary school with average results. From the very beginning of her university studies, she struggled in organizing herself in relation to the enormous amounts of compulsory literature for the exams. Furthermore, she had difficulties to determine which information taught and prescribed for the courses was important or less important. In addition, when more than one exam was scheduled within a short period, she had difficulties to adequately prepare for each of the examinations simultaneously. The participation in the coaching program focused on two core competences: Charlotte learned how to

prepare and comprehend compulsory materials within a strictly prescribed time-schedule through time-management with a distraction-schedule. Furthermore, the techniques trained included slow-motion-learning and the technique of learning by teaching. These techniques were accompanied by the use of varying reading and mind-mapping skills to illustrate theoretical knowledge schematically. Improving her reading skills helped Charlotte in particular to comprehend academic sources quicker – irrespective of the concrete subject which she had to prepare. Strategic listening techniques helped Charlotte to make useful lecture notes. She learned in particular how to not any longer write down summaries of the theoretical information but making strategic notes that reflect the overall systematic of a particular subject.

Titus:

At the age of 18 years, Titus' enrolled to a strategic learning course in order to improve his examination results at school. Titus was about to graduate in the coming six months at a secondary school. His previous grades, however, were of such a low average, that his graduation was at serious risk. Titus was a young grown up who frequently got into critical discussions with numerous teachers concerning the approach and interpretation being taught and presented by teachers in class as he simply enjoyed questioning the information being provided to him. His interpretative skills were of a very high level, each examination showed, however, a major disability to provide a structured and logical argumentation. From the beginning of the coaching, Titus learned to understand and meet the teacher's expectations concerning any form of written or oral argumentation. In addition, he learned how a complex argumentation can be provided by applying the underlying rules of an academic argument. Due to his excellent interpretative skills, the training aimed in particular to enable Titus to combine these skills with the remaining elements of a comprehensive argumentation. Titus managed to apply these techniques in the final exams and successfully graduated within the prescribed period.

6. Final recommendations

The pressure of time and need for immediate success being reflected in good examination results seems to make it rather risky to recommend parents, care-takers and learners to invest into learning competences as such. The need of immediate success seems to make it more attractive

to participate instead in courses which provide a revision of mainly discipline knowledge of a particular subject. Despite the aforementioned, the present contribution argues that such investment does entail long-term benefits compared to knowledge-transferal in private lesson and revision courses. The training of strategic learning techniques as such, however, takes time. The three examples show that the process of reflecting upon, changing previous learning-behavior and applying new techniques is a time-consuming process. It is therefore recommended that learners commence timely with the training of learning competences and not just before an exam. It is widely recognized that learners should engage in such training when they enter school (Dignath, Buettner, & Langfeldt, 2008, p. 103). Definitely both, private lessons, revision courses and trainings in strategic learning techniques aim to help learners to improve their examination results, the training of learning competences has the particular objective to enable candidates to apply the learned techniques to subjects of any nature. In other words, while private lessons and revision courses concentrate on specific subjects and discipline knowledge tested during an examination, the training of strategic learning techniques only uses a concrete subject as a tool to explain and practice learning competences as such. Moreover, it is of central importance that learners realize that the training of learning competences particularly wishes to enable learners to become autonomous learners in relation to any subject being examined in educational institutions.

In order to become capable of applying strategic learning techniques with the aim of improving examination results, it is important to underline the following pre-condition. Without sufficient reflection, self-critical assessment and motivation to change learning behavior of the individual learner, any course focusing on learning competences is not likely to be fruitful. Participating learners have to comprehend that it is not the training as such which enables the learner to improve but that it is the individual effort of the learner, which is decisive for success being reflected in higher grades. It is thus the personal mind-set and ability of self-reflection that constitutes the core condition for an improvement of exam results through the application of strategic learning techniques.

The commencement of school age brings along the call and urge for success being reflected in excellent examination results. One may even argue, that a successful school-career is seen as the upper goal as it potentially ensures that our children will be able to come up for their own life and surviving. Seemingly, in order to become successful, learners and in particular parents of schoolchildren are willing to enroll the young learner in time-consuming private lessons – time, which, however, is therefore not

anymore available for play. The three examples from practice underline that the particular lack of courses offering strategic learning techniques as part of the obligatory curricular subjects throughout the entire period of educational training shows that there might be learners who are likely to show long-term learning difficulties, which exist independent from their relative IQ-test-score. These learners run in particular the risk that they fail to reach educational attainment levels at school, which are the necessary pre-condition for a post-school educational path, such as a university diploma. The pressure of ensuring success at school can therefore lead to the participation of learners in private lessons and revision courses. As participation in these courses mainly focusses on the revision of subject knowledge that is tested in exams, one may argue that these courses only heal the symptoms of disappointing examination results. The cause of low grades, namely the inability to apply adequately learning techniques in order to be able to prepare independently for the examinations is in the main center of attention of strategic learning techniques. The description of strategic learning techniques therefore provided a practical guide to learners who lack the knowledge of how to implement the process of learning. The measures described also aim to constitute an incentive for those who wish to support learners by providing measures enhancing the visibility of the cognitive process of learning. While learners who wish to benefit from strategic learning techniques also pursue the objective to improve their examination results, a major difference exists in relation an investment into private lessons and revision courses. The difference with an investment into the learning of strategic learning techniques is that these have as the primary objective to strengthen the individual learning competences of the learner in order to enable the learner to become an autonomous learner in relation to any subject being tested at an examination.

A welcoming side effect of strengthening the learning competences exists in relation to family life as such. By learning how to learn, learners, in particular young learners are not in need of time-consuming participation in private lessons in order to ensure the achievement of the particular educational attainment level. Instead, free-time for family life and play is regained. Of course, the present contribution does not aim to provide a comprehensive answer to any type of learner who has learning difficulties. It, nevertheless, wishes to point out that to date, educational institutions are in need of reviewing their curricula. It is therefore concluded that the drafters of curricula should reassess whether the major focus on discipline knowledge based subjects being covering the vast majority of curricular obligations is a welcoming development. This development

should consequently critically be reflected and perhaps even changed by introducing compulsory strategic learning courses throughout the educational training of learners.

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