

INNOVET working paper: Slow learners

Slow learners

Generally speaking, *slow learners* are people who encounter difficulties in some or all learning processes and master them less successfully than their peers. As they do not exist in isolation and have to interact with their social, cultural and physical surroundings, in order to understand and support *slow learners* their environment has to be considered as well. This holistic approach necessitates the inclusion of, for instance, their social backgrounds, siblings, sport and social activities as well as their trainer, teacher and out of school settings. These influences on the target group which are not static, can vary according to age and group influences, and are thus constantly changing.

Despite the common denominator, *slow learners* are far from being a homogeneous group. Rather, a wide variety of individuals and groups of people are subsumed under this term. For instance, while some *slow learners* might find reading or writing rather difficult but excel in memorising even the finest details, other *slow learners* might find all stages of any learning process – from acquiring the information needed and applying this knowledge adequately to storing and remembering the information – equally challenging.

Slow learners as a target group can be differentiated as follows:

- Learners with learning disabilities (LLDs)
- Disadvantaged Learners
- Second Language Learners (SLLs)

Learning Disability (LD)

A learning disability is a neurological disorder. It is generally believed that the brain functions differently in a person with a learning disability who may generally have average to above-average intelligence when measured by standardized testing. However, the person's reading, mathematics, or written expression is much lower than expected for age, schooling, and environment. Learning disorders may affect a person's ability to read, write, spell, speak, or perform mathematical problems. Thus, they will have difficulties reading, writing, spelling, or calculating. They may have problems reasoning, recalling and/or organizing information if left to figure things out by themselves or if taught in conventional ways.

A learning disability cannot as such be cured or fixed and is a lifelong issue. With the right support and intervention, however, students with learning disabilities can succeed in school and go on to be successful later in life.

The exact causes of a learning disability are unknown. The way a person's brain works may be the cause of such disabilities which are generally linked to certain biological, genetic, or environmental factors. According to research, more boys than girls are identified as learning disabled; the ratio being about 3:1. This result, however, may be based on the fact that more boys than girls are identified with the condition.¹ Learning disabilities can run in families.

Factors which may contribute to the cause of learning disability include:

- genetics
- injury to the foetus
- medical problems the mother had during pregnancy
- prenatal exposure to drugs, alcohol, nicotine, or other toxic substances
- lead poisoning

¹ The Complete Learning Disabilities Handbook, J.M. Harwell, 2001

- premature birth, low birth weight, or birth trauma
- head injury
- poor nutrition, either the child's or the mother's when she was pregnant
- certain medical problems, such as asthma, allergies, or diabetes.

Learning disabilities should not be confused with other disabilities such as mental retardation, autism, deafness, blindness, and behavioural disorders as none of these conditions are learning disabilities. In addition, they should not be confused with lack of educational opportunities like frequent changes of schools or attendance problems. Also, children who are learning a second language do not necessarily have a learning disability.

Common learning disabilities:

- **Dyslexia** – a language-based disability in which a person has trouble understanding written words. It may also be referred to as reading disability or reading disorder.
- **Dyscalculia** – a mathematical disability in which a person has a difficult time solving arithmetic problems and grasping math concepts.
- **Dysgraphia** – a writing disability in which a person finds it hard to form letters or write within a defined space.
- **Auditory and Visual Processing Disorders** – sensory disabilities in which a person has difficulty understanding language despite normal hearing and vision.
- **Nonverbal Learning Disabilities** – a neurological disorder which originates in the right hemisphere of the brain, causing problems with visual-spatial, intuitive, organizational, evaluative and holistic processing functions.

These learning disabilities comprise some, though by no means all, of the groups of people considered *slow learners*.

Special consideration has also been given to the neuro-behavioural developmental disorder, Attention Deficit Disorder (ADD) and the variety with additional hyperactivity (ADHD). Many students who have difficulties reading, writing and calculating at school often suffer from concentration difficulties. To be able, at an early stage, to recognise attention deficits and learning difficulties in a differentiated manner requires a painstaking and professional analysis of the problem an individual child may have. Attention disorders, such as Attention Deficit/Hyperactivity Disorder (ADHD) and learning disabilities often occur at the same time, but the two disorders are not the same.

As the term, “learning disability”², comprises a multitude of symptom complexes, it would be desirable to give an overview which is differentiated along subclasses of the cognitive causes of low memorising capacity among students with learning disabilities. Although, in the relevant literature there is a distinction made between the mentally disabled, learning disabled, text blindness, hyperactive children etc., there is, however, no precise classification system available which meets adequate consensus.³

Up till today, “despite years of effort and an extraordinary increase in the number of individuals considered as having LD, we continue to grapple with vagaries and inconsistencies in Classifi-

² A person's IQ (in this case, IQ \leq 70) may be an easily quantifiable way to classify learning disability, but there are problems with it. For example, the overall IQ score does not indicate individual strengths or weaknesses (e.g. verbal and motor skills). IQ also varies during development. IQ classification alone does not include the important area of social adaptation and functioning.

³ Compare ZIELINSKI 1980, p.19 ff

cation, definition, and identification. We continue to face critical challenges about "what is LD? ", "who is LD and who isn't LD?" and "how do we know?"⁴

Perceptions

Slow learners are too often interpreted as meaning "being unable to learn". The reasons for *slow learners'* learning difficulties can vary greatly. While in some cases, a person's cognitive abilities or neurological structure might set rather narrow boundaries to his / her learning processes, in another case, a person might experience learning difficulties due to acute but temporary emotional strain or traumata. Thus, learning difficulties are not necessarily a sign of a lower intelligence level – or in other words, *slow learners* are not necessarily less intelligent than other people of their age group, though this is a common assumption.

What, however, being a *slow learner* means is that the student is unable to learn something in the amount of time assigned for the actual learning. The mistaken notion is that the major factors promoting successful learning are beyond the control of the learner and teacher. Teachers, however, can help students improve their rate of retrieval by using instructional strategies that assist the learner's brain in deciding how and where to consolidate the new learning in long-term memory.⁵

The rate at which a student learns depends upon his learning ability. *Slow learners* can remember just as well as fast learners, provided they have learned the material equally well. The reason a bright student may succeed better in examinations is that he/she has learned the subject matter more effectively within the time available. If, however slower students spend enough time on their studies, they can retain just as much as the faster student can. Research shows that both rate of learning and rate of retention can be improved with practice.⁶

Strategic behavioural deficits

Following experiments⁷ made with slow learning and normal control children the conclusion made was that strategic deficits, mainly in their learning behaviour, play a central role in the low memory performance of slow learning students. Strategic learning is here the process of abstracting gist-based concepts from information.

Several information-processing weaknesses have, for instance, been proved to be the cause of reading difficulties in *slow learners* and can include poor language and phonological processing skills as well as poor attention abilities. All are closely interrelated and greatly influence how information is organised for storage, rehearsed and recalled. Reading difficulties may also be related to a lack of skill in metacognition which involves processes such as self-questioning, prediction and monitoring the information in a text while reading.⁸ In general, metacognition is thinking about thinking. More specifically, Taylor (1999) defines metacognition as "an appreciation of what one already knows, together with a correct apprehension of the learning task and what knowledge and skills it requires, combined with the agility to make correct inferences about how to apply one's strategic knowledge to a particular situation, and to do so efficiently and reliably."⁹

⁴ Barbara K. Keogh, Revisiting Classification and Identification, Learning Disability Quarterly, Vol. 28, 2005

⁵ David A. Sousa. How the brain learns, 2005. This updated edition examines new research on brain functioning and translates this information into effective classroom strategies and activities.

⁶ http://www.web-us.com/memory/memory_and_related_learning_prin.htm

⁷ CECI (1983)

⁸ <http://dlibrary.acu.edu.au/digitaltheses/public/adt-acuwp75.29082006/02whole.pdf>

⁹ Taylor, S. Better learning through better thinking: Developing students' metacognitive abilities. Journal of College Reading and Learning, 30(1), 1999 (34ff)

As strategic learning deficits are a significant precondition for poor memory performance in learning-disabled/slow learning students¹⁰, successful learning must mainly be based on metacognitive activities which have to be performed and constantly monitored during learning.

Many learners have difficulties in performing such metacognitive activities spontaneously, and so, it is vital that trainers and teachers bear in mind that cognitive skills are a determining factor of an individual's learning ability, that weak underlying cognitive skills account for the majority of learning difficulties, and that cognitive skills training is the most successful form of intervention.

Besides these cognitive and metacognitive factors, the following features and their interrelations which are part of the learner's structure can, within a class setting, be observed, checked, and managed by the trainer:

- Behaviour
- Motivation
- Knowledge
- Skills.

These four essential aspects can be influenced, can interact with each other and can be improved. Influences may be direct, e.g., rewarding good behaviour or indirect, e.g., a person's feelings which are related to motivation influenced by his/her environment, teachers, tasks, previous night experiences etc., and are therefore often, but by no means always, (pre)manageable.

Finally, when analysing definitions of *slow learners*, learning difficulties and learning disabilities critically, it becomes evident that the criteria they are based on largely originate in formal learning settings. The way people handle informal and non-formal learning situations – and their success and achievements in such settings – find little consideration, and there is a rather strong focus on abstract thinking and highly cognitive learning. This does not only reduce the diagnosis to a very limited scope of learning situations. It is also socially selective as it excludes learning contexts and learning techniques prevalent in some – usually more practice-oriented – segments of society.

Slow learners in the school setting

Slow learners are the students in a classroom environment who through a slow learning pace or through serious language deficits find it difficult to keep up with the average learners in the class and thus, finish school with either a bad school leaving certificate or none at all.

Learning difficulties can, as previously mentioned, be attributed to learning disabilities such as dyslexia and dyscalculia which are manifested in the student having little knowledge of Languages, Mathematics and Science etc., and hence are not “trainable” for companies.

As the objective in the end is to find work for people with limited learning abilities and support them with training, it is vital that appropriate learning concepts and environments are developed.

Slow learners, especially, can only succeed if, among other things, their pace of learning is adapted to their abilities, i.e. slowed down, and they receive social pedagogic support and more practice phases. Very often, the goals of, and the expectations from, their educational institutions are unrealistic and not geared to their pace of learning and disabilities.

In formal learning settings, such as most schools, the following guidelines might be helpful when trying to establish structures that are beneficial to *slow learners*:

¹⁰ Effects of a Metacognitive Support Device in Learning Environments, Chemnitz University of Technology, 2009

- Generally speaking, *slow learners* are more likely to encounter difficulties with learning situations that develop by chance or incidentally.
- *Slow learners* often find it difficult to autonomously create an environment that fosters their learning processes.
- In principle, a clearly structured, well-planned mode of instruction that leaves comparatively little space for spontaneity establishes a helpful framework for *slow learners'* learning processes. Additionally, instruction should be explicit, connected, and promote generalization. It should focus on the experience of learning from the student's perspective. This does not, however, exclude adding variety to the lessons by doing active things and using educational games, and other techniques, such as project work as much as possible. Important is that from the onset, the defined goals are made clear to the learner.

Assessing *slow learner* performance

The issue under consideration is how to assess individual performance accurately but selection-free when correcting either homework, qualifying examinations, and the final apprentice examination.

A problem, as mentioned, for students with limited learning abilities is to deliver a defined task within a scheduled time-frame for their examinations and homework. Thus, thought must be given on how to make the necessary time available without, at the same time, reducing the level of performance which has to be assessed.

When dealing with students with limited learning abilities, it is the achievable level of the lesson which should be assessed in so far as the educational and teaching assignment of the subject concerned is basically achieved. Hence, minimum standards for objectives and expectations should be set, based on what the students can achieve and not necessarily on what they should accomplish for their level. In this way, goals can be reached at every stage, and positive feedback will come naturally. Learners should be informed of the objective (expectancy) in order to provide up front what the projected learning outcomes for the course or module are.

In order to describe individual performance adequately and concretely, additional oral examinations could be taken to balance out marks. There should be longer processing time given for theoretical examinations as well as easier forms of written examination. The practical examination passed should be recognised as partial qualification with a certificate if the trainee does not pass the theoretical examination.

Should any individualisation measures taken deviate from the norm this will be noted down in the certificate. In some special cases, pupils can receive a confirmation of attendance which can be included as a supplement in the certificate.

In Germany, the final apprenticeship examination in partial qualifications can be divided up into components which are examined individually. These can include hard and soft skills such as specialised know-how, general knowledge and independence when performing tasks.

In a VET learning system practical skills have also to be considered, over and above the knowledge input-output system as the learner is sometimes looked on as being. One should consider the bond and interaction between both practical and theoretical skills by providing a variety of alternative materials (multi-media, learning books, short readers with a multitude of recognisable pictures, models, picture colleges etc.), or personal interactions (trainer, team members etc.). These should be well-timed and implemented spot on, and be included in an accompanying assessment process.

Disadvantaged Learners

The term „disadvantaged“ as understood in the German disadvantaged support programme comprises youth and young adults who, without additional support, cannot cope with the demands of modern vocational education and the labour market and who, because of this, receive no vocational qualification. Furthermore, although there is no common definition one can differentiate and apply the term, “disadvantaged” to those young people who find themselves in difficulties because of adverse social living conditions and who need supportive measures to cope with, and succeed in, life. Generally speaking, being disadvantaged has its source in a culmination of problems - whether family, social, environmental, learning-related, or behavioural - while, on the other hand, economic and cyclical conditions can also play a crucial role.¹¹

The learning group in the programmes supporting the disadvantaged are as a rule heterogeneously composed and can include:

- Students from secondary general school or special schools, or
- Youths with migration backgrounds or,
- Youths with socialisation deficits (school drop-outs, young people with health limitations) or,
- Young adults without the chance of a vocational education or job.

As a rule, one can assume major deficits in the learning biographies of these young people who themselves feel that they are either failing, or already failed, students and ascribe their failure to having come about more because of external circumstances rather than from individual failure.¹²

There is a close connection between young untrained adults, who in later life remain vocationally unqualified, and disadvantaged young people who leave school with the prospects of a life without an occupation or a secure future. Both these groups need special attention and special assistance. While the most effective way for young untrained adults to acquire vocational qualification is probably “learning on-the-job as a special element of late vocational training”, better preventive vocational training measures need to be developed in the fore-front for school-leavers in danger of becoming “disadvantaged young people” so that they do not, for instance, drop out in the first place.¹³ This should be a task of the teacher or trainer.

The Second Language Learner (SLL)

This is a member of another group of students with special needs.

Mostly students with migration backgrounds, SL Learners are at a significant disadvantage as they are unfamiliar with the language they have to learn. For many students the language of instruction in educational institutions is often different from the one spoken at home. These students need extra support to master the language of instruction which is the key to success.¹⁴ As with *slow learners*, the SL Learner requires patience on the part of the trainer. However, many SL learners are actually very bright, intelligent and fast learners. It is because of miscommunication that they are often labelled "slow."

¹¹ Kramer, M; Res, M, 2008: Benachteiligtenförderung aus betrieblicher Sicht – Untersuchungsergebnisse einer Befragung betrieblicher Ausbildungsexperten <http://bildungsforschung.bfz.de> Support for the disadvantaged deals with the offers and schemes regarding the vocational and social integration of youths and young adults in difficult circumstances.

¹² Benachteiligtenforschung, Bojanowski, A; Eckardt, P; Raschinski G, from: Rauner, F., Handbuch Berufsbildungsforschung, 2006 p. 397

¹³ http://www.cedefop.europa.eu/etv/Upload/Information_resources/Bookshop/132/6_en_puetz.pdf

¹⁴ <http://www.migrationpolicy.org/pubs/ChristensenEducation091907.pdf>

Situation on the Labour Market for Young People with Learning Difficulties¹⁵

Years of technological development within the working world has led to continuously changing qualification requirements for employees. In the German context, for example, reforms in apprenticed trades (e.g. metal and electro-technical) have led to a restructuring of job specifications which not only hinders young adults with learning disabilities to access many of the once proven and traditional occupations, but also practically excludes them from taking up promising apprenticeships.

On the other hand, before the onset of the current global financial crisis, research showed that there had been a rise in the demand for qualified skilled workers, accompanied by a decreasing number of school leavers. This had led to enterprises increasingly focusing on job applicants with performance deficits. Based on this scenario, and in order to cope with such potential demands, young people with learning difficulties or language deficits, during training, need special support for their development potentials to unfold. Vocational schools and small and medium-sized enterprises often lack both the resources and vocational-pedagogical competence necessary to successfully qualify disadvantaged young people. In addition, relevant institutions should be provided systematic access to information on new occupations and forms of qualifications suitable for young underachievers.

Vocational training for *slow learners* in Germany

In Germany, students with limited learning abilities can receive a regular vocational school certification. In the Dual System of Vocational Training, help is provided and regulated by law (Sozialgesetzbuch III) for young people who have special learning problems or who are socially disadvantaged (e.g. through support in on-the-job training or vocational training in institutions outside the workplace). In 2006, 7 % of some 1.57 million trainees received this help.¹⁶

In recent years, various strategies for the vocational integration of young people have been developed and put into practice. Preparatory vocational measures, training in non-enterprise facilities and coaching parallel to training courses are typical of some of the approaches for which the basic structures have been consolidated.

Consequently, it is suggested, the principal problem is no longer integration as such, but rather the question of curricular input and further development.

When it comes to Bulgaria, the students with learning difficulties, especially those with LD, are not identified in the specific regulations dealing with students with specific training needs, and thus, the main solution lays in the teacher's attitude towards them. Only recently the issue of students with LD was raised for discussions and hopefully in the next few years the state will regulate the training process, and hopefully the community will accept its importance.

The principle of differentiation

Whether the dual system can be maintained and further developed depends on the extent to which it manages to accommodate the diverse groups of young people. On the one hand, it is not just a question of the vocational integration of those young people who, due to their disabilities or other disadvantages, are difficult to integrate in both training and a job. It is also a matter of giving skilled-worker jobs more prestige and providing skilled workers with better career prospects in

¹⁵ http://www.cedefop.europa.eu/etv/Upload/Information_resources/Bookshop/132/6_en_puetz.pdf

¹⁶ http://eacea.ec.europa.eu/ressources/eurydice/pdf/047DN/047_DE_EN.pdf

order to raise the interest in a dual system training for young disadvantaged people. Current experience indicates that the combination of working and learning as well as a structured system of qualification modules are effective in training these groups.

The German Government supports disadvantaged young trainees who need special help because of their poor school performance or social difficulties. Thus, they are enabled to take up, continue and successfully complete vocational training by means of the assistance provided parallel to their training or vocational training. These measures address the trainees' special situation, language and educational deficits and provide social and educational support.

Training slow learners

The consequences for young people without vocational qualification, and the related employment, social and economic risks are serious. In the face of the shrinking demand for unskilled and semi-skilled labour, these problems and their impact will increase unless countermeasures are taken. In Germany, there are programmes in place to assist this particular group of young people acquire training in state-recognised training occupations under the Vocational Training Act. These should be expanded on.

Arguments which support assisted vocational training for slow learners show that lower and intermediate-level vocational training qualifications are better than no qualifications at all. If, indeed, this is the only way to integrate or reintegrate disadvantaged young people into the work force then this support should be reserved for this particular group of young people only. In this context it makes sense to replace the theoretical parts of training and examinations by certification of additional practical training.

At the same time, training occupations which are considered inferior fail to fulfil their integrative function adequately. The danger here is that training courses with less theory will limit occupational mobility and flexibility. Being trained in occupations which are not based primarily on demand but on their learning disabilities may lead to the target group involved, being faced with discrimination. Training occupations with less examinable theory should only be offered to those young people who would not otherwise obtain vocational certification. In this case, it is preferable to have a certificate which is considered inferior rather than being stigmatised as unskilled. New training occupations should be admitted only in areas where the prospects of future job security are at least as good as in the majority of currently recognised training occupations.

There have also been calls for programmes to prepare *slow learners* for more complex occupations with a more theoretical background. Within this type of assisted vocational training, the trainees should be supported in such a way that they also learn to lose their fear of implementing the knowledge and skills acquired in their training. Finally, they should also be motivated to want to do and learn more.