Gavin Reid

LEARNING STYLES
AND
INCLUSION

Dr Gavin Reid is a senior lecturer in Educational studies at the Moray House School of Education, University of Edinburgh in Scotland, UK. He is an experienced author, teacher, educational psychologist, university lecturer and researcher. He has made over 500 conference, seminar and workshop presentations throughout the world. He has also written and edited fourteen books on areas of dyslexia and learning for teachers and parents. He is a director and consultant to the Red Rose School for children with specific learning difficulties in St Annes on Sea, Lancashire, England. He is also a consultant to a number of national and international projects in areas of special needs and learning styles and has appeared on television and radio programmes on educational matters in the UK, Europe, Asia and New Zealand. His web site is www.gavinreid.co.uk.

LEARNING STYLES AND INCLUSION

Gavin Reid

P·C·P

Paul Chapman Publishing

CONTENTS

ACKNOWLEDGEMENTS

INTRODUCTION

This book is about learning styles and inclusion. But essentially it is about learning. How to make learning more effective for all learners. To recognise the needs of learners as well as those of teachers, and at the same time appreciate that the inclusive education environment, irrespective of its' merits, will present barriers for learners, and for teachers. The message in this book is that learning styles can provide teachers with an opportunity to recognise individual needs, and at the same time recognise the needs of all learners in inclusive and diverse learning environments. This book is therefore suitable for professionals and parents in every country.

It is evident that a great number of learners, for whatever reason, under perform in school. In fact there are many examples of some who have succeeded despite school and many only excel after they have left the restrictions of formal education. Surely questions need to be asked about this. As one who left school at fifteen, with no formal qualifications I am too aware of the life-long effects this can have on an individual. I am also aware, as one who developed his own learning strategies, that gaining independence and control over the learning situation is crucial for lifelong learning.

For governments and those with responsibility for education the answer lies in closer monitoring of standards, tighter control over the curriculum and more accountability all round. Yet in all this, in the midst of the debate, we have the learner. The learner is an individual, a recipient of an educational system that values standards and results. Yet many aspects of learning cannot be measured in a formal manner and those learners who do not match up to the benchmarks set by those in power are seen to be 'below standard'. Strangely not too many studies actually ask learners why they perform 'below standard'. Why they are failing and how they would like to learn. This is what learning styles is about. It is about recognising the preferences individuals have for learning and in collaboration with learners developing appropriate learning tools, strategies methods and materials to help them succeed.

The first chapter of this book focuses on learning and differentiates between learning and performing. It is important that young people are able to utilise the skills they acquire in learning and that they are equipped to use these skills when they leave formal education. One of the benefits of learning styles is that it can reverse the cycle of 'perceived' failure experienced by students with special educational needs. Often through the use of learning styles such students can become more effective learners and come to a realisation that their 'difficulties' are in fact 'differences'. These points are developed in Chapter 2 of this book which centres around conditions such as Attention Difficulties, Dyslexia, Developmental Co-ordination Disorders, number difficulties and children within the autistic spectrum.

In Chapter 3 the important aspect of the environment is the focus. The learning environment can facilitate learning to a great extent and it is important that more attention is paid to

environmental factors in learning. Chapter 4 provides a background to the often complex picture of the different learning styles and models currently in existence. This is important because teachers can easily become confused with the range of models of learning styles and need to be clear about which approach they wish to embark on. There are many different methods of identifying learning styles and Chapter 5 contains details of some of these methods. There are also examples of observation assessment as well as student and teacher instruments co-developed by myself and colleagues. The following chapter, Chapter 6, provides examples of approaches that can be used in the classroom and reference is made to the curriculum as it is important that learning styles are set in context. The important aspect of matching teaching with learning styles is also discussed in this chapter. The book is set against the need to help students perform and fulfil their potential in an inclusive education setting. Chapter 7 provides some commentary on inclusion and identifies the key features of inclusion and its' relevance to learning styles. This is developed further in Chapter 8 where some of the key issues in developing and implementing approaches on learning styles in the classrooms are considered. Examples are provided of learning frameworks and suggestions for implementing learning styles in an inclusive classroom are provided. This chapter also considers differentiation in combination with learning styles. One of the key points here is that learning styles is more effective when implemented on a whole school basis. This point is reinforced in Chapter 9 which is on promoting effective learning. This chapter highlights how learning styles can be considered in the planning and learning process and examples are given of a range of motivating strategies for students and teachers.

Chapter 10 continues with the theme of learning strategies and also provides some personal insights from learners on how they have utilised their own learning style and strategies. This chapter also identifies the barriers that have to be overcome in order to implement learning styles in schools. The final chapter reports on the extensive range of resources, books, materials and web sites that can be accessed to help support learning in school.

I started by suggesting this book is about learning and it is important to separate learning from performance. Too often these become intermingled and the result is that learners can perform and achieve, but have little idea how they did it. Yet an awareness of learning is so important for developing life long learning skills when individuals are faced with new learning situations, and often without the support of teachers, or school. That is why this book is so important. Learning styles can enable students to become effective and efficient learners. This book will provide teachers with the knowledge and understanding of the importance of learning and learning styles. In the climate of inclusion an understanding of how children learn, and of learning styles, is not only desirable, but essential.

HOW CHILDREN LEARN

Learning Models and the Learning Cycle

Outline of chapter and key points

This chapter

- provides an overview of the different stages in the learning cycle – input, cognition and output
- examines the learning needs of students
- discusses factors relating to learning models
- discusses the rationale for learning styles and inclusion.

Key points

- Distinction between learning and performance – they are not the same.
- The process of learning is important.
- It is important to identify the student's learning needs.
- One of the goals of learning is to help the student achieve autonomy in learning.
- It is crucial to ensure that the learner is presented with tasks within their Zone of Proximal Development.
- This can be achieved through the process called scaffolding.
- Awareness of learning theories such as behaviourism, cognitive theories and metacognitive theories can enhance understanding of the learning process.
- A positive self-esteem is crucial for successful learning.
- Inclusion is a process that needs to begin as early as possible and must embrace the whole community.

Education is about learning; qualifications are by-products of that learning. Yet often the reverse is the case. A school may pride itself by referring to the number of students obtaining high grades in national examinations, but that in itself is not evidence that these students have become effective and autonomous learners. Learning is a science (and an art), and yet aspects relating to how children learn, and how learning can be used in school, beyond school and in adulthood are often relegated to a less important role in education today. MacGilchrist et al.

(2004) distinguish between learning and performance. In this context learning relates to thinking and resolving problems, while performance relates to achievement. But the skills needed for flexibility in learning and in resolving new problems may not always be evident, even among learners who have performed well. It might be suggested that performance is about the 'here and now' while learning is about the past, present and the future. In other words, effective learning will provide the learner with skills to resolve problems in new and future learning based on their previous learning experiences.

Effective learning has much to do with risk-taking. Developing new skills and new learning involves some risk on the part of the learner. Many learners are unwilling or unable to take these risks and this can result in a negative and static pattern in their learning behaviours. Watkins et al. (2002) suggest that this can form part of the learner's 'self-beliefs' on their learning abilities. They distinguish between a 'learning orientation' and a 'performance orientation' and suggest that students with a 'learning orientation' have a belief in their ability to improve and learn, have a preference for challenging tasks and develop problem-solving skills and skills in self-instruction when engaged in a task. On the other hand, a 'performance orientation' involves a need to be judged by performances, a satisfaction from doing better than others, and when the task is difficult there may be a tendency to self-evaluate negatively. Watkins et al. suggest that a 'learning orientation' is represented by a positive pattern while a 'performance orientation' can be represented by a negative pattern. The problem for schools and for learners in relation to a 'performance orientation' is that it will only be successful if the learner can actually succeed with the task. It may not be successful in dealing with new and challenging learning, unless the learner has acquired the learning skills to utilise previous learning (metacognitive skills) and to resolve the challenges inherent in new learning. This has considerable implications for learners with any form of special educational need. Often children with such needs may not have the same degree of versatility and flexibility in learning as some other children. For them it is crucial to consider the learning process and to ensure that they gain maximum benefit from this process. This theme will be developed in Chapter 2.

The performance orientation discussed by Watkins et al. underpins many aspects of the school curriculum and the examination system. The main objective within a 'content-driven curriculum' appears to be the need to obtain paper qualifications. This can relegate the learning orientation to a lesser role. In this case learning becomes a product and not a process. It is crucial, however, to consider the process of learning as well as the product, and to give serious consideration to how children learn and, specifically, how they can learn more effectively.

This chapter will therefore provide some insights into how children learn from both theoretical and practical perspectives and provide an overview of the different stages in the learning cycle – input, cognition and output. These factors will be set against the background literature on the science of learning and this will be related to classroom practice.

Learning theory – some issues

There are many theoretical perspectives on how children learn and there are many complementary and sometimes conflicting views on learning strategies. There are however some points of general importance and consensus. These include the following:

- learning is a process

- learning requires a period of consolidation

- learning is more effective when the content is familiar

- using the material to be learnt in different contexts and over time enhances the chances of retention and understanding

- intrinsic (within child) factors as well as extrinsic (environmental) factors can influence learning

- learning is life-long.

Yet despite these general points there are many areas of uncertainty and controversy about learning. These include for example the view that:

- specific styles are more effective for certain types of learning

- each person has their own style – their own 'learning fingerprint'

- learning occurs in age-related stages

- the role of environment is less important than the individual's cognitive ability to learn

- learning should be differentiated for children of differing abilities

- intelligence is closely related to ability to learn.

The points above are controversial and each has been the subject of various comment and investigation by researchers and by practitioners. This chapter, in providing an overview of the learning process, will comment on these points.

Learning needs

Before effective learning can take place it is necessary for the learner to:

- **read** the requirements of the task

- **understand** the task/information being presented

- **recognise** what the task, or the information is suggesting

- **identify** the key points in the task/information

- **implement** the task/use the information

- **become 'efficient'** in accessing the information and carrying out the task

- **be able to transfer** the new learning to other learning tasks.

In the identification and assessment process that takes place in classrooms it is important to focus not necessarily on the learning difficulties, but the learning needs. Often the assessment of learning difficulties takes place outside of the context of the curriculum and sometimes the classroom. It is crucial that the purpose of any assessment is seen in terms of identifying learner's needs and these should be seen in conjunction with the task that is to be undertaken. The learner therefore may have difficulty in one or all of the key points indicated above. An assessment therefore can focus on the key issues of **reading, understanding, recognising, identifying, implementing, skill development and independence in learning and transferring learning**. The situation can arise where the learner may be able to understand the task, but not be able to identify the key points, or transfer the learning that has been acquired to new learning. The learning needs that stem from this would mean that the focus of teaching would need to be on the identification of key points, summarising information and how this can be used in other contexts and subjects. The key issue is that the identification of learning needs must always be undertaken within the context of the task, focusing on the student's learning experiences with that task.

Efficient and autonomous learning

The autonomous stage of learning is extremely important and can be seen as a measure of how successfully the individual has understood the information that has been learnt. Fitts and Posner (1967) suggest that the autonomous stage of learning occurs only after extensive practice. This practice involves the learner using the information and through this, he/she develops 'automaticity' in undertaking the task. At this autonomous stage the learner often loses conscious awareness of how the task is done and it is carried out without too much conscious thought. An example would be unlocking one's house door with a key. This task can be carried out many thousands of times, and will be done autonomously without giving too much thought to it. If a person was given the key to a friend's house with a different type of lock, however, then he/she would need to give at least some thought on how to insert and use the key. That person would still have the 'learnt skill' of using a key, but because of the differences in locks he/she may have to consciously focus more when unlocking the door. The important point is that because the individual has automaticity in using a key, he/she is able to transfer these skills to a less familiar situation. Competent learners therefore have the ability to transfer skills to new learning situations. A crucial index of learning achievement is the extent of the individual's ability to transfer learnt skills.

Nicolson and Fawcett (2004) suggest that this highlights the difference between 'controlled processing', which requires attentional control and uses up working memory capacity, and 'automatic processing, which, once learned in long-term memory, operates independently of the individual's control and uses no working memory resources. Because the learner has control over the process, the learner can be coached and trained to use this process more effectively. Almost everyone has the potential to be trained to become an efficient learner. This is one of the principal messages of this book and suggests that focusing on the learning process can help the individual gain more control over the learning experience and adopt and adapt the strategies, styles and techniques with which he/she feels most comfortable.

Conditions for learning

It is important to give some thought to the actual conditions that can enhance learning. Environmental factors are important and these will be discussed later in this and in subsequent chapters. Other conditions can include the learner's mood, self-esteem, motivation, teaching style, materials and supports available and whether the task, or the information, is within the grasp of the learner, given his/her current level of knowledge in the area. A number of theorists have put forward ideas on the conditions for enhancing learning. Among the most well known of these ideas in terms of education is Vygotsky's 'Zone of Proximal Development'. The factors that can have an effect on learning are shown below.

Factors that condition learning

- environment

- mood

- self-esteem

- motivation

- teaching style

- learning style

- task/task expectations

- materials

- supports.

Zone of Proximal Development

Vygotsky (1962, 1978) suggested that there can be a significant difference, at any stage in learning, between what a learner can achieve unaided, compared to the situation where there is an instructor/teacher present and interacting with the learner. Vygotsky suggested that at any moment there are some skills/knowledge that are attainable, given the learner's current knowledge at that time. At the same time some skills/knowledge cannot be accessed by the learner because he/she is not at a stage of preparedness to understand/absorb/implement these new skills or knowledge. The set of skills that are currently attainable according to Vygotsky can be described as the 'Zone of Proximal Development' (ZPD). This means that one of the key aspects of effective teaching is to ensure that the learner is presented with tasks within his/her ZPD.

Developing ZPD

For teachers the crucial question is how a child's ZPD can be developed and extended so that new information can be absorbed and then located within the ZPD. One of the starting points is to ensure that learners are introduced to the task so that they have a clear understanding of

what the task is about. Importantly the teacher needs to be aware of the learner's previous knowledge within the area to be tackled. One way to obtain this is through the procedure called scaffolding. The process of scaffolding is like a series of steps that help the learner reach the ZPD needed in order to tackle the task effectively. An example of how a learner can access ZPD through scaffolding is shown below:

Accessing ZPD through scaffolding

■ Learning aim – understanding the implications of global warming

■ ZPD – Need to know the learner's previous knowledge and current skills such as:

  ■ reading level

  ■ ability to locate informational text

  ■ knowledge of

    ■ the location of countries with hot and cold climates

    ■ factors that influence the weather

    ■ industrial pollutants

    ■ factors relating to structure of the universe.

Scaffolds

■ materials that focus on the above – maps, group work, teacher questioning, fieldwork and discussion to ensure that learning has taken place so the learner can use this for new learning. The use of reciprocal question-and-answer technique with the student. Ensure that the student has the same understanding of the task and the concepts involved as the teacher.

The important point in relation to scaffolding is the language of the shared communication. Essentially scaffolding involves a more skilled individual trying to impart knowledge to a less skilled person through the use of language exchange. The idea is to arrive at a shared understanding through the use of language. This is why Vygotsky suggested that the role of language is crucial to learning and to cognitive development.

Learning theories

There are quite a number of theories of learning and these usually focus on different elements of the learning, retention and recall process. Although there can be some disagreement on theoretical perspectives on learning, there is a general agreement that children are capable of learning to a greater degree than perhaps they are credited with. Much learning is unseen and untested. The skill in learning, however, is being able to utilise learn-

ing to resolve and to illuminate current and future problems. It might be argued that the examination system can actually inhibit and restrict learning. It is important therefore to use the knowledge obtained from learning theories to assist in the planning and developing of learning plans for the classroom.

Behaviourism

Behaviourism in relation to learning implies that learning is a behaviour that can be influenced and enhanced by other behaviours. This can be achieved through utilising 'behavioural' principles of reward and re-enforcement. Learning programmes based on behavioural principles are characterised by goals, rewards and targets. Precision learning is an example of a learning programme based on behavioural principles. This type of programme can be very useful for learners who need tasks broken down into small steps and require continual re-enforcement. The theory is that successfully completing small tasks will maintain the motivation of the learner and make the overall task more manageable. Similarly, analysing disruptive behaviour in class can be carried out using behavioural principles. This can be done in terms of antecedents, behaviour and consequences and it is hoped this type of behavioural analysis will explain the reasons for the behaviour and the possible solution.

However, there are two factors that are overlooked using these principles. These are the 'deep understanding' of the task and the individual 'learning style' of the learner.

Deep understanding

In order for learning to be effective it is crucial that the learner obtains a deep understanding of the material to be learnt. A deep understanding will ensure that the concepts relating to the material to be learnt are fully understood and this will help comprehension and the transfer of learning to other areas and to future learning problems. Behaviourist learning models may not be able to capitalise on the deep aspects of learning and rather may provide the learner with a superficial learning experience. At the same time behaviourist principles can be used to ensure that the learner is experiencing some retention of the information and once this has been achieved further interaction can take place to ensure that deeper learning occurs.

It is worth noting that precision learning techniques and behaviourist approaches will not be suitable for all learning styles. This will be developed in more detail in further chapters but those learners who require explanations, or perhaps those who prefer to pace their own learning, may not respond well to a behaviourist model of learning.

Cognitive theories

Cognitive theories place heavy emphasis on the processes involved in learning specific tasks. This implies that different types of tasks will incur different cognitive processes. For example, learning to read will require different processes from learning to spell, and cognitive psychologists would suggest that an understanding of these processes is crucial to understanding how the learner engages in the learning process and, more importantly, how the learning process can be made more effective for learners. This aspect within the field of psychology has had