

TRANSFER OF LEARNING

Tuntufye Selemani Mwamwenda

University of Mpumalanga, Nelspruit, South Africa

Correspondence Address: Professor TS Mwamwenda

50 Holzner Road, Pinetkown 3610,

South Africa

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ABSTRACT: The goal of education goes beyond mere learning and retention – learners are expected to use their acquired newly acquired knowledge outside the school environment. Learning is said to have been transferred when material learnt in one situation is applied to a related, though different situation. A theory known as faculty psychology or the doctrine of formal discipline, identified four faculties of the mind, namely will, reason, judgement and memory that could be improved by studying difficult subjects. This theory is no longer supported by most psychologists and educators. Instead, the emphasis is on the transfer potential of what has been learned. For example, knowledge of mathematics facilitates one's understanding of physics, chemistry and other mathematical-based subjects. Teachers should emphasise on transfer potential of what they teach, either in terms of further classwork or in terms of application to real life. This can be achieved through a variety of methods, such as drawing learners' attention to the transfer potential of what they are studying, asking a variety of questions; asking learners to work on assignments based on what they have studied, and teaching from their point of view (empathy). This in short is what this Paper is about and seeks to achieve.

KEYWORDS: Faculty psychology, learning, transfer of learning, teacher's role, application of learning, new view of learning

I. INTRODUCTION AND DISCOURSE

The goal of education goes beyond mere learning and retention – learners are expected to use their acquired newly acquired knowledge outside the school environment. For example, what is learned in school is intended for: personal accomplishment; professional skills, social adjustment and to facilitate subsequent learning (Mwamwenda, 2020, 2004, 1995). In this context, Reilly & Lewis 1983:180) state: "The hope that what is learned in the classroom will transfer to life outside the classroom is basic in teaching, for if we could not demonstrate transfer, we would be unable to justify school at all"

II. THE DOCTRINE OF FORMAL DISCIPLINE

Many years ago, psychologists and educators supported a theory known as "formal discipline" or "mental discipline" or "faculty psychology", which argued that the mind has distinct faculties namely memory, reason, will and judgement (Mwamwenda, 2020). It stated that just as muscles are strengthened by exercise, so are these faculties strengthened and the intellect sharpened by being faced with difficult subjects, such as Latin, Greek, mathematics and logic. For example, it was thought that mathematics was for developing children's logic and science facilitated the ability to observe. Learning Latin and history or geography was considered useful to facilitate one's capacity to remember (memory (Mwamwenda, 2020).

The doctrine of formal discipline developed, as a result of observation that learners taking Latin, geometry and Greek performed better on other subjects than those not taking Latin, geometry and Greek. In 1912 and 1913, Thorndike challenged the concept of formal discipline, by comparing the gains in IQ scores of those studying the difficult subjects with those studying vocation-oriented subjects, such as bookkeeping. It was predicted that if indeed the more difficult subjects improve one's intellect, then those studying such subjects should gain more IQ than others. No difference was observed. What was obvious, however, was that the more intelligent students took difficult subjects, which is different from saying that they were intelligent, because they took difficult subjects (Mwamwenda, 2020, 2004)

As teachers we ought to guard against producing learners who can only solve problems that, they have encountered in the past, or those who can solve problems by applying skills and knowledge very similar to problems they have addressed before (Mwamwenda, 2020; Phillips & Soltis 2009).

What transfer of learning must and ought to be, learners must apply application to situation that a new altogether yet can be solved on the basis of principles of transfer of learning acquired (Mwamwenda, 2020). This is especially so, given that the problems encountered in school may vastly be different from those problems that graduates face long after they will have completed their formal education (Mwamwenda, 2020, 2004).

Teachers want their students to:

show evidence of transfer” in a variety of situations. “From one problem to another within a course from one course To another, from one school year to the next, and from their years in school To their years in the workplace (Bransford & Schwartz 1999:61).

The concept of transfer of learning by no means is a new one, as it has been in existence for years (Mwamwenda, 1989, 1995, 2004).

Plato in his book *The Republic* expressed the view that those who would play a role in governance known as guardians who would apply the knowledge they had been exposed to in preparation to solve various problems that, they would come across in their governance, thus transferring learning to real situation in society (Mwamwenda, 2020; Phillip & Soltis 2009).

In transfer of learning, there are two concepts considered rather important, namely mental and faculty discipline. The education provided to the guardians also known as the philosopher rulers consisted of mathematical disciplines and philosophy. Such subjects were thought to be valuable for the training of the faculty with the purpose of guardians being good at their governance, as they applied acquired knowledge and skills to their work (Mwamwenda, 2020).

According to Plato, every person has faculty that such faculty must be sharpened and intellectually made superior, following the study of mathematics and philosophy in its various rigorous forms.

For transfer of learning to occur, it is vital that mastery of subject must have been gained for the transfer of learning to take place for related context inside from what it is being applied to. Moreover, for transfer of learning to occur, it is important that the following factors be taken into consideration (Mwamwenda, 2020):

- 1 Original learning must have been adequately learned and mastered.
- 2 The more easily the learned information can be retrieved from memory, The faster it will be for the occurrence of transfer of learning.
- 3 Active learning lends itself to transfer of learning.
- 4 Learning that is based on clarity and understanding is more receptive to Transfer of learning than learning based on rote learning.
- 5 Learning based on concrete material use is likely to transfer more easily.
- 6 Taking time to think about what has been learned at a rather deep level of abstraction facilitates transfer of learning.
- 7 Learners monitoring various aspects of learning in the form of

Metacognition aligns itself to transfer of learning.

(Mwamwenda, 2020; Leberman, McDonald & Doyle,2006) advance the definition that transfer of learning to mean the extent to which, what has been learned in one text being applied to another related situation in problem solving. In a teaching context, teachers engage in teaching on the understanding that what learners learn will be used for understanding further learning, as well as using it outside the school, applying to real life experience in life and society (Mwamwenda, 2020). They further argue that the importance of transfer of learning is based on the fact that all learning is provided with the primary objective of seeing that it is made use of in further learning whose outcome is enabling a person to live in harmony with what has been learned, in whatever context the person may find herself or himself in (Leberman et al. 2006). Haskell (2001:xiii) sums it all as follows: “ Our use of past learning when learning something new and the application of that learning to both similar and new situation”

There are a number of transfer of learning taking or not taking place following the phase of learning which educational psychologists have identified (Mwamwenda 20020; Woolfolk 2007; Leberman et al. 2006).

1 Positive transfer is when what has been learned in one context enhances learning or performance in another learning or performance in another context.

2 Negative transfer means what has been learned does not facilitate, but hinders effective learning in a new situation.

3 Simple transfer means there is little, or no need for the use of what been learned to be used for transfer purpose in what is to be learned anew.

4 Complex transfer means what has been learned has to be examined in-depth and analysed very carefully to be transferred to another context.

5 **Near transfer** is concerned with how close the learned information is to the task to which transfer of learning is expected, such as what it learned at school and what the learner has to apply it home.

6 Far transfer means what has been learned in school being put in a rather complex situation in a work place. Whatever has been learned in theory is supposed to be applied in a work situation, or marital inter personal relationship.

7 **Automatic transfer** involves a spontaneous application of what has been learned to a new learning on account of the two situations being very similar in nature.

8 **Mindful transfer** means the learned and the transfer are significantly not that closely to engage in some deep thinking and analysis to allow the transfer of learning to be realised.

9 **Zero transfer** means what is learned in situation A does not affect what is learned in situation B_ the two learning situations are unrelated. For example, being good at history does not guarantee that a person will be good at mathematics, or vice versa. Zero transfer also relates to learners who do not transfer what they have learnt to other learning situations, whether these are real life situations or involve school learning.

10 **Vertical transfer** means learning a certain body of skills or information facilitates one’s understanding of complex and advanced skills in a related field. For example, knowing how to add facilitates being able to multiply.

11 **Lateral transfer** means as a result of having learned certain information, one is able to solve a problem of a similar nature in a different context.

III. FACILITATING TRANSFER IN THE CLASSROOM

As has been pointed out, a core teaching objective is to ensure that what is taught in the classroom has some relevance to subsequent learning, or can be applied outside the school. Some ways in which this objective can be achieved are discussed here (Mwamwenda, 2020):

1 As teachers proceed with their lesson, they should pause every now and then to point out the relevance of what is being studied. In other words, how it will transfer to other lessons, or to life in general. For example, primary

school learners who are learning to spell can be told that a mastery of spelling will enhance their performance now, and at the secondary level in reading and writing (Mwamwenda, 2020).

2 As far as possible, relate what is being taught to a real-life situation. For example, give learners mathematics problems that are based on real-life experience, or when teaching sentence structure and grammar, tell learners that such knowledge will be useful to them in public speaking and in writing letters and essays. Have home economics learners prepare meals for special occasion organised by the school, such as fare well or graduation parties, and thereby put what they have learned to use (Mwamwenda, 2020).

3 Where there is possibility of negative transfer, emphasise the differences between various types of learning, or learning situations and have the learners practise what they learn. For example, children who have just started school may have problems differentiating the letter “b” from “d”. Draw their attention to the perceptual difference between the letters and give them practice in writing the two letters. Better still, if they master the letter “b” before proceeding to the letter “d”, the effect of negative transfer will be minimised.

4 Give learners adequate opportunity to practise what they have learned, with as many problems as you consider necessary. Instead of only one way of transferring what has been learned, the learners should be presented with a number of possible ways of using the same information in different ways. For example, in the case of “b” and “d”, learners can be asked to print big “Bs” and little “bs”, black “bs” and white “bs” and be exposed to words beginning with the letter “b”. Or, if learners have been taught to find the area of a square, they should be given the appropriate formulae and also be asked to find the area of a triangle, rectangle and a circle.

5 Foster transfer by drawing the learners’ attention to the relationship between what is known and what is unknown in terms of similarity and continuity. This makes learning a little easier, since the learners become aware of how the two sets of learning are inter-related and impinge on each other. Projects and games that are fun for children can be used to foster transfer. Other instruments of transfer are homework, guest speakers and demonstrations.

6 Encourage learners to ask questions about and comment on, the material covered. This gives teachers an idea of how well the subject has been understood and can transfer to other situations, and also provides them with an opportunity to explain further, where the material has not been grasped adequately. The tests set by the teacher should aim partly at finding out how well the learners can transfer what they have learned. This will encourage learners to relate what they have studied to real-life situations or other learning experiences, which assists them to engage in meaningful learning, as opposed to rote learning.

7 Try to understand how the learner perceives the possibility of transfer (empathy). Teachers teach material that they have prepared and organised. They should try to see things from the learners’ point of view, the teacher will capitalise on the learn

IV. SUMMARY

Learning is said to have been transferred when material learnt in one situation is applied to a related, though different situation. A theory known as faculty psychology or the doctrine of formal discipline, identified four faculties of the mind, namely will, reason, judgement and memory that could be improved by studying difficult subjects. This theory is no longer supported by most psychologists and educators.

Instead, the emphasis is on the transfer potential of what has been learned. For example, knowledge of mathematics facilitates one’s understanding of physics, chemistry and other mathematical-based subjects. Teachers should emphasise on transfer potential of what they teach, either in terms of further classwork or in terms of application to real life. This can be achieved through a variety of methods, such as drawing learners’ attention to the transfer potential of what they are studying, asking a variety of questions; asking learners to work on assignments based on what they have studied, and teaching from their point of view (empathy).

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