

# TÜNDE TASKÓ

## LEARNING FACTORS OF ACADEMIC UNDERACHIEVEMENT

### Summary

There is a growing body of research indicating that students who have learning problems like lack of effective learning techniques, strategies and adequate learning habits can become underachievers.

The Department of Psychology of Eszterházy Károly College took part in an international research project (Comenius 3.1) on academic underachievement. The main purpose of the project was to reveal the most important factors in the background of academic underachievement regarding teachers and students. The methods we used were questionnaires and interviews.

On the bases of the results of this research it became clear that a pregnant part of the reasons attached to learning problems were lack of effective learning techniques and methods and the problem of adequate learning habits. Based on these findings and the related literature we developed a Likert-type scale (5 point) to study academic underachievement in connection with learning of 12-13-year-old primary school students. 456 students (241 male, 212 female) filled in the scale.

On the basis of a statistical analysis of the data we managed to distinguish four factors: learning habits, metacognition, self-regulation and the fourth factor was called anxiety.

We are in the beginning of the present research. In future, we intend to complete our research with an IQ test and the EPQ questionnaire to separate students with high level school achievement from students with low level school achievement and to try to find the main differences in learning habits of the two groups.

### Introduction

The causes of academic underachievement are complex, multi-faceted and difficult to identify (Tóth, 2000). Many works in connection with this problem emphasize social, emotional, motivational, familial and cultural

factors with little attention to cognitive contributors (Geffert, 1996). The relevant literature shows that underachievement should best be regarded as a symptom of more basic problems that are related to the child-family-school interaction system. The most frequently studied part of this interaction system is the student. It is not rare that the pupil himself is considered as merely responsible for her/his poor school performance. This latter way of thinking about underachieving pupils is reflected in the fact that the treatment of the problem of academic underachievement rarely involves parents and teachers (Taskó, Estefán, Varga, 2000).

To determine the definition of underachievement is a very complex issue. At the beginning of the research of underachievement almost all the researchers agreed that underachievement is due to a significant discrepancy between measures of intelligence and academic achievement (Gallagher, 1985). Thorndike criticized this definition because it neglects the regression-effect and leads to a wrong a classification of subjects. Other researchers stated that defining underachievers by means of a simple difference or even by a difference between predicted and observed scores leads to an investigation that is impractical because the group of underachieving students is too heterogeneous (Tóth, 2000). We tried to take the above mentioned research results into account in our own research. In the preliminary phase we defined underachievers by differentiating them from children with learning disabilities (usually called partial learning disabilities, where the difficulties are manifested in one or another specific area). Underachievement is content- and situation specific. It shows that finding the appropriate definition of underachievement is very difficult. The best way to define underachievement is by considering the various components.

We accepted the following definition at the initial stage of our research: underachievers are pupils whose expected and actual school-performance shows some discrepancy. The discrepancy could not be the result of a disorder in intellectual or physical conditions. This discrepancy could not be restricted to one learning subject and could not be the consequence of a conscious choice of the pupil.

The last sentence of the definition means that we do not consider pupils who make a conscious choice for poorer school performance underachievers because they want to do other important things like playing music, doing sports, etc. As an example, gifted children who do not succeed in school are often successful outside school. Even a student who does not do well in most school subjects may display talent or interest in at least one school subject.

On the other hand, we think it is necessary to make a distinction between underachievement and learning disabilities as mentioned above. In view of the fact that many specific learning difficulties are due to a lag in cognitive

development, we can add to our definition that underachievement is not a consequence of a lag in cognitive development. It is important to point to another aspect of underachievement: every underachieving child has at least average intelligence score. We are conducting our research on underachievement using this definition.

### **The background of our present research**

Our research, which was part of an international research program (Comenius 3.1), intended to investigate and provide more insight in the reasons and factors of underachievement considering teachers and students. This Comenius 3.1 project was started in 1998 and has been conducted by the University of Cambridge, Katholieke Hogeschool Brussels and Eszterházy Károly College in Eger. We have done the research in three schools in each country. The aim of this research was to identify and describe patterns of underachievement among fourteen-year-old students. Our research team developed an in-service teacher program in connection with school underachievement to help teachers deal with underachieving pupils and to prevent this problem.

The next phase of our work was to find the right methods for getting information and describe the pattern of underachievement in each country. Based on these data we determined the similarities and differences of the problem of school underachievement in the three countries. Finally, we decided to develop a questionnaire about underachievement for teachers and another one for pupils. We wanted to know how teachers and pupils thought about underachievement in the three different countries with different social and cultural backgrounds and, quite naturally, with different school systems. It was an essential and important starting point of our research on underachievement to know and understand how and what pupils and teachers think about their roles and their schools' role related to the problem of underachievement.

### **Method**

The teachers' questionnaires consist of two main parts: the causes of underachievement associated with pupils and the causes of underachievement associated with teachers and schools.

The pupils' questionnaires consist of the following dimensions: satisfaction with school, degree of interest, learning problems, personal problems, the image of a supportive and a less supportive teacher, attitude to learning and learning habits. We used the same questionnaires in each country. In this study we only present the Hungarian data and results.

## **Participants and procedure**

Participating students came from primary (state) schools in Eger. Students participating in the research were 14 years old. We asked not only underachieving students to take part in the research. Fourteen-year-old students are in the puberty, which can have many consequences and influences on learning performance. A range of different factors, such as emotional problems, identity crisis, conflict with their parents, etc., may account for a student's failing school performance. Another problem of this age group is that students enter a new school level (secondary school) a few months after leaving primary school. We must not forget about these circumstances, which could also stand in the background of school underachievement. In view of these facts we can state that underachievement is determined by several factors. The students' questionnaires were filled in by 233 pupils (female: 52 %. male: 48 %.) from the three schools.

The teachers' questionnaires were filled in by 103 teachers from three schools of Eger. We spoke to the teachers about the definition of underachievement before administering the questionnaires.

## **Results of Comenius 3.1 research**

The results of the questionnaires from the three different schools were analyzed together. The evaluation is based on correlation matrix and frequency distribution.

At the beginning of the questionnaires we asked pupils to give us their school grades, which was necessary because we wanted to know how pupils judged their school performance. According to the frequency distribution more than one third of pupils thought they would be able to improve their performance at school.

We asked teachers as well what they thought about their pupils' achievements on the basis of definition. According to their answers they thought that 38 % of their pupils were underachievers.

## **The students' satisfaction with school**

More than 50% of the pupils were highly satisfied with their school. According to the correlation matrix, school satisfaction correlates with school grades and with how sympathetic the teachers are. Pupils consider those teachers sympathetic who accept and respect them and give pupils a lot of freedom. Most of the pupils do not feel accepted by the teachers and do not think that teachers treat them with respect and give them a lot of freedom.

We consider that teachers with good social skills are able to create a good emotional atmosphere at schools where pupils feel safe, and in our opinion, this is a very important aspect of school performance. A good school atmosphere can help pupils feel satisfied with their school and concentrate on their studies. Improving social skills of teachers can be an important part of an in-service program.

### **Learning problems**

The frequency distribution shows that most of the pupils do not ask anybody for help if they have learning problems. Pupils never ask the director and the vice director for help and they never go to ask the Educational Council Service for help, which is an independent institute and not part of the school. Pupils sometimes ask one of their teachers or their headmaster for help with their learning problems. Mostly, it is the mother and the father who help their children with their learning problems.

These results show that there are no competent persons at schools who can help pupils with learning and its reason can be that pupils have difficulties in their relationships at school.

### **Personal problems**

In this case we came to the same conclusions as in the case of learning problems. Pupils turn to their mothers or their friends with their personal problems.

### **Learning attitude and learning habits**

Pupils who like going to school like learning and learning is important in their opinion. They are active in the lessons and like the way they are taught, which helps them to improve their knowledge at home. The repetition of the learning material showed high correlation with the acceptance of the statement "I like learning".

### **The result of the teachers' questionnaire**

Our main aim with this questionnaire was to get answers to the following questions: What do teachers consider the reasons of underachievement on behalf of pupils and teachers? What roles do they have in connection with underachievement?

We analysed the acceptance of positive statements related to underachievement.

According to the results of the first part of the questionnaire, the most important reasons of underachievement on the side of pupils according to their teachers were as follows:

1. They do not study at home to improve their knowledge
2. Their learning methods are not sufficiently appropriate
3. They have personal problems
4. They have disadvantageous family background
5. They cannot follow the lessons
6. They have difficulties understanding the subject matter
7. The pupils are not sufficiently motivated
8. They have no self-confidence

This order shows that teachers think pupils underachieve because they do not study at home. It means that teachers find studying at home at least as important as learning at school. They think the main task of teaching is giving their pupils knowledge and developing learning abilities and learning methods, although they think both are important factors of school performance.

We found it interesting that among teachers' answers, motivation and self-confidence are in the last two places, although, according to the relevant literature, these factors are very common causes of underachievement.

In the second part of the questionnaire of teachers, they were asked to choose all the positive statements as typical features of the school where they worked. We made an order based on the answers, as follows:

- The teachers are well-qualified
- The teachers are patient
- The teachers focus on developing pupils' skills
- The teachers prepare pupils for studying at home
- Education is important
- The teachers are prepared to treat pupils individually
- The way of teaching is interesting

According to this order, teachers think that an interesting way of teaching is a factor of inferior significance in affecting underachievement. It means this aspect is missing in connection with lesson plans. In our opinion, we can help teachers by giving them ideas to make their lessons more interesting.

These results can be the starting point of a more thorough and more detailed research, completed with psychological tests, interviews, etc.

## **Present research**

The present study's final goal is to examine the differences between underachieving and well achieving students in learning habits, metacognition, self-regulation and anxiety. We are at the beginning of our research. By now, we have worked out a 5-point Likert-type scale to investigate learning, and we managed to uncover four factors by means of statistical factor analysis.

There is a growing body of research indicating that students who have learning problems like lack of effective learning techniques, strategies and adequate learning habits can become underachievers. Rimm (1984), studying the school career of underachievers, emphasizes that their learning habits are often deliberately not suitable. He also emphasizes good academic achievement at the very start of school, studying irregularly for the lessons, disregarding and disorganising tasks and thinking about school that is boring and unnecessary. In connection with the school career of students who have discrepancy between their intellectual abilities and their preceding and present academic performance, Gefferth (1989) found that one of the reasons in the background of underachievement is lack of elementary learning skills, and that unattended learning disorders can cause secondary symptoms like school failure. One of our results of Comenius 3.1 research was that the most frequent cause of academic underachievement was inappropriate learning techniques, methods and habits (Dávid, Estefán, Taskó, 2004).

Consequently, one of the most important goals of education has become to help students to improve their learning skills and to prepare them to continue their education after compulsory schooling has been completed. We think it is very important to identify the main learning characteristics of academic underachievers to help them learn to learn, to learn better and not to waste their potentials.

The aims of our research were to work out a questionnaire based on the results of Comenius 3.1 and the related literature to identify learning characteristics and factors of academic underachievement. We know there could be many causes in the background of this problem as it is very complex and multi-causal. In our research we focused on the cognitive aspects of school functioning.

## **Participants**

Participants included 456 primary (state) school students (241 males and 215 females), from the age of 12 to 13. 226 students came from villages and 230 students were from towns. Students took part in this study voluntarily.

## Method

We worked out a 5-point Liker type scale to examine learning characteristics like learning habits, learning techniques, strategies, knowledge about their own learning and control of learning, etc. The experience and results of Comenius 3.1 research and the literature of academic underachievement helped us to work out and develop the scale. The scale consists of 60 items in connection with learning. During developing the scale, we focused on academic underachievement. Students had to decide to what extent they agreed with the statements in a 5-point scale.

We used factor analysis to identify the main factors of the scale.

## The results

Four factors were uncovered by factor analysis. The table below shows the factors and a few items of each factor:

Factors	Items
Metacognition	I could achieve a better scholastic record. I would be able to achieve better. According to my teachers I could do better. I dabble at preparing for the lessons. My school achievement is uncertain. My learning methods are poor.
Learning habits	I lay out my learning in advance. I put off learning. I correct the completed tasks. My attention strays during learning. I attend the lessons without preparing for them.
Self-regulation	I interrupt learning. I study quickly and don't think about it. During learning time I can't finish my homework. In my opinion homework is unnecessary. I begin to learn because my parents push me to.
Anxiety	I am afraid of verbal tests. I am afraid of written tests. I am very nervous when we are writing test papers. I get nervous by repetition.

We gave the following names to them: metacognition factor, learning habits factor, self-regulation factor and anxiety factor. We examined the inner coherence of these factors: metacognition (Cronbach-alpha: 0.779), learning habits (Cronbach-alpha: 0.495), self-regulation (Cronbach-alpha:



0.843) and anxiety (Cronbach-alpha: 0.588). These results show that we need to revise the learning habits factor, because of its low Cronbach-value. We think these factors could be very importantly related to academic underachievement. Our hypothesis for further research is that there are differences between academic underachievers and well achievers in the four factors.

The concept of life-long learning has recently become a hot issue in education. Acquiring and applying the growing body of information requires continuing self-directed learning and more knowledge about our learning across the lifespan (Nota, Soresi, Zimmerman, 2004). To find which learning factors need to be improved to achieve better is very important. Metacognition and self-regulation is essential to improve learning techniques and strategies.

Cognitive and learning aspects of academic underachievement are less examined, therefore we need to give more attention to this problem.

### **Further steps of the research**

These findings of this phase of the research suggest that we need to revise our factors of our questionnaire, especially the learning habits factor, and we need further statistical analysis as well. Furthermore, we need to choose the appropriate test battery to separate the experimental group (underachievers) and the control group (not underachievers). It is necessary to complete our investigation with an IQ test, and EPQ test as well. We suppose we will manage to find and identify the differences between underachievers (experimental group) and not underachievers (control group) in the four factors, with the help of our scale completed with IQ test and EPQ.

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